

CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Arctic Perils: Emerging Threats in the Arctic Maritime Environment

by Adam Lajeunesse

November 2022

POLICY PAPER

ARCTIC PERILS: EMERGING THREATS IN THE ARCTIC MARITIME ENVIRONMENT

by Adam Lajeunesse

CGAI Fellow
November 2022



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Prepared for the Canadian Global Affairs Institute
1800, 150 – 9th Avenue S.W., Calgary, AB T2P 3H9
www.cgai.ca

©2022 Canadian Global Affairs Institute
ISBN: 978-1-77397-262-6

When Russian tanks crossed the Ukrainian border in February 2022, the Western world's perception of great-power conflict changed overnight. Formerly a competitor, Russia had unambiguously transformed itself into an enemy – one sitting perilously close to Canada, on the far side of the Arctic Ocean. The premiers of the three northern territories declared this a "wake-up call"[1] while security experts called for Canada to "rethink its entire understanding of Arctic security."[2] Minister of National Defence Anita Anand responded in June 2022, with a pledge to update NORAD systems against that crystallizing threat of Russian missiles and bombers using the North as an avenue of attack.

The expanded invasion of Ukraine (from a war Russia began in 2014) certainly brought the conventional threats to Canada through the Arctic into stark relief. These are the hypersonic weapons and advanced capabilities that NORAD has been monitoring and planning to deter or defeat for years, and to which the Canadian and American governments are now paying closer attention.[3] What has received less attention in recent years are threats to the Arctic itself, and specifically those in the maritime environment. In his framing of the Arctic security dynamic, Whitney Lackenbauer defines those threats as "those that emanate from outside of the region [which] affect the region itself."[4] This category extends to a wide array of emerging, non-military threats – from state and quasi-state actors to private adventurers and environmental dangers tied to the region's increasingly busy waterways. While the dramatic new (or renewed) state-based military threats – like submarines, bombers and cruise missiles – have made headlines, it is the threats to those quasi-state-based fishery operations, surveillance and dual-use marine scientific research expeditions that will probably develop into persistent challenges requiring constant attention and regular management. These threats are often more opaque and harder to define, sometimes difficult to tie directly to an adversary government, yet still indirectly linked to state actors with malign intent.

This is not to say that the emerging military threats from Russia, and even China, in the Arctic can be ignored, but rather that these should be considered continental or even global challenges, rather than Arctic-specific dangers requiring a greater military presence and response capability in the region.[5] The nature of the emerging military threats points to a growing need for surveillance and detection and, when necessary, interdiction by assets based further south. Responding to real or perceived adversarial threats with a greater allied combat capability in the Arctic itself would represent an overinvestment and misunderstanding of these emerging threats. While the emerging security dynamic demands new platforms and capabilities, these will be most effective when geared to the constabulary end of the defence spectrum. Deterrence and defence

[1] Kristin Rushowy, "Arctic Security Must Be a Top Priority for Canada, Northern Premiers Say," *Toronto Star*, July 12, 2022.
[2] Rob Huebert, "Arctic Security Is Being Transformed by Ukrainian-Russian War," ToryMedia, July 14, 2022.
[3] For the best description of these threats see: Terrence J. O'Shaughnessy and Peter M. Fesler, "Hardening the Shield: A Credible Deterrent & Capable Defense for North America," The Canada Institute, Wilson Centre, September 2020.
[4] On the "in, to, through" conceptual framework see: P. Whitney Lackenbauer, "Threats Through, To, and In the Arctic: A Framework for Analysis," NAADSN Policy Brief, March 23, 2021.
[5] Ibid.

will also mean more than new ships and technologies; it will require a consistent presence, improved situational awareness and the ability to scale our national and international response to a wide range of both obvious and nebulous threats. This paper is an overview of that evolving threat environment and how Canada might respond.

The Threats

Conventional Military Threats

Barring a dramatic shift in Russian leadership and foreign policy, the threat of a Russian conventional attack on North America through the Canadian Arctic will continue for years to come. Indeed, any hopes that Russian President Vladimir Putin may choose to de-escalate tensions with the West were dashed by his September 30 speech announcing the farcically illegal annexation of four Ukrainian oblasts. There, Putin painted this conflict as an existential battle against the West, leaving little room for rapprochement.[6]

While the Russian military threat to the North American Arctic has long been defined by bombers and cruise missiles, the Russian navy plays an important role in delivering those effects. For operations in the Polar Basin and the North American Arctic, that means Russian nuclear submarines, many of which are being equipped with increasingly capable long-range cruise missiles designed to defeat air defence systems. The submarine-launched KH-101/102, which has seen widespread use in Ukraine, has a range of 2,500 km, which puts critical infrastructure and command-and-control assets across North America in range of firing locations in the Beaufort Sea or Baffin Bay. In their 2020 assessment of this threat, Generals Terrence J. O'Shaughnessy and Peter M. Fesler noted that Russia's newest submarines are now rehearsing these attacks with increased frequency and seriousness.[7] In March 2021, the Russians sent this message very publicly, releasing images of nuclear ballistic missile submarines (SSBN) surfacing through the Arctic ice north of Franz Josef Land.

The Russian danger to the region is well understood; indeed, the present cruise missile threat is an evolution of perils dating back to the Soviets' deployment of the SS-NX-24 on Yankee-class SSBNs in the late 1980s. Today, Russia has elevated its nuclear rhetoric to a point not seen since the Cuban missile crisis, with many commentators pointing to nuclear escalation as the only viable means of halting Ukraine's dramatic success on the battlefield. While this conversation centres on low-yield tactical weapons, that escalation could, in theory, spiral out of control to strategic attacks which would invariably transit the Arctic.

More novel is the emergence of new state actors with an Arctic interest, particularly in China. While the Chinese Navy (PLAN) has never operated a warship in the Arctic Ocean, its rapid

[6] "Vladimir Putin Officially Annexing Four Ukrainian Regions at Moscow Ceremony," YouTube, https://www.youtube.com/watch?v=XDdHRGcbffo&ab_channel=TheTelegraph.
[7] O'Shaughnessy and Fesler, 5.

expansion and global ambitions have led the U.S. to extrapolate potential interest in the North.[8] These concerns were voiced by then-secretary of state Mike Pompeo at the 2019 Arctic Council meeting in Rovaniemi. Pence decried China's "pattern of aggressive behavior" around the world, suggesting that Beijing may seek a military presence in the Arctic, highlighting the particular danger of PLAN submarines operating under the ice cap.[9] This assessment was echoed by the U.S. Department of Defense (DoD), which warned that the PLAN may begin deploying SSBNs under the Arctic ice, within easy reach of Europe and North America,[10] a point reiterated by the U.S. Navy's 2021 Arctic strategy.[11]

Hybrid Threats

While Chinese and Russian submarines and aerospace assets are increasingly being held up as conventional threats, that threat environment becomes more complex when civilian or quasi-state actors intertwine with evolving great-power competition. This breakdown between the defence and security distinction is most apparent in China – a self-described "Near Arctic State" with clear ambitions in the region.[12] In the South China Sea, Beijing has put ostensibly civilian craft at the tip of its spear, using a maritime militia to harass foreign ships and dominate an ocean space it illegally claims as its own. The need to protect those "patriotic" fishing vessels is frequently used as a justification to deploy the Coast Guard, with the PLAN left in the background as an implicit threat.

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.[13] 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 cable cutters.[14]

Fisheries are an area of particular long-term concern in the Arctic. Warming waters are drawing new fish to the North at the same time as many of the world's fisheries are being depleted.[15] 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 record of being the world's worst offender of illegal, unreported and unregulated (IUU) fishing.[16] Tracking and regulating these ships is both

[8] For a fuller analysis of China's potential submarine interests in the Arctic see: Adam Lajeunesse and Tim Choi, "Here There Be Dragons? Chinese Submarine Options in the Arctic," *Journal of Strategic Studies*, July 2021.
[9] Mike Pompeo, "Looking North: Sharpening America's Arctic Focus," Speech to the Arctic Council, Rovaniemi, Finland, May 6, 2019.
[10] DoD, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019," May 2019.
[11] U.S. Navy, "A Blue Arctic: A Strategic Blueprint for the Arctic," January 2021: 8.
[12] The State Council Information Office of the People's Republic of China, "China's Arctic Policy," January 2018.
[13] Rebecca Pincus and Walter A. Berbrick, "Gray Zones in a Blue Arctic: Grappling with China's Growing Influence," War on the Rocks, October 24, 2018.
[14] On the danger of China's fishing fleets see: Colin Barnard, "Why NATO Needs a Standing Maritime Group in the Arctic," Centre for International Maritime Security, May 15, 2020 and William Woityra, "China Can't Be Trusted in the Arctic," *Proceedings* 145:12/1,402, December 2019.
[15] M. Fossheim et al. "Climate Change Is Pushing Boreal Fish Northwards to the Arctic," in M.O. Jeffries, J. Richter Menge and J. E. Overland, Arctic Report Card: Update for 2015.
[16] Graeme Macfadyen et al., "The Illegal, Unreported and Unregulated Fishing Index," (Geneva: Poseidon Aquatic Resource Management Limited and the Global Initiative Against Transnational Organized Crime, 2019), 27.

legally and practically complex, as coastal states have discovered during China's fishing activities in African, South American and South Asian waters.

For Canada, the regulation of foreign fishing fleets in the Arctic would be extraordinarily difficult. Examples of large-scale Chinese fishing deployments from the Galapagos and elsewhere have seen hundreds of ships without AIS transponders straddling the EEZ (and occasionally crossing into it). This pattern of behaviour takes on a geopolitical edge when the coastal state is willing to push back against environmentally rapacious behaviour. Canada fought this kind of hybrid war against the Spanish over turbot stocks from 1994 to 1996, which turned into a bitter contest, even when mitigated by the fact that Canada and Spain are friends and allies. It is not inconceivable that a similar scenario might play out in the Arctic. While China is a signatory of the 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, which prevents commercial fishing until at least 2034, Beijing clearly understands that agreement to be a step towards opening Arctic fisheries, rather than an outright ban as many Western observers perceive it.[17]

Another of the more opaque threat vectors to the region comes from Chinese scientific research. Over the past 20 years, China has undertaken extensive marine scientific research in the Arctic Ocean and adjacent seas. China classifies this work as environmental research with purely scientific intent. In spite of this, AIS tracking of the Chinese icebreakers Xue Long and Xue Long 2 demonstrate a deep interest in resource mapping and deep seabed mining – with a particular focus on Northwind Ridge and the Chukchi Plateau on the American continental shelf.

While marine scientific research (MSR) is governed by the UN Convention on the Law of the Sea, the definition of "research" is ambiguous, as is the precise nature of the coastal states' rights to permit or deny access to the EEZ. This is important considering that Chinese scientific work across the Arctic has been accused of dual-use military-civilian intent. While China's research is civilian and is clearly geared towards the natural sciences, there is also a long history of those civilian endeavours connecting to the state security apparatus. In the Arctic, China has spent a decade testing its sensing and detection systems, including unmanned ice stations, anchored submersibles, autonomous gliders and helicopter-dropped sea ice drift buoys.[18] Likewise, its Arctic operations have supported the development of the BeiDou global positioning system, high-latitude communications technologies and data-transmission systems. All of these systems are ostensibly civilian, though with clear military utility.

Arctic states have already begun to take note of these activities. In 2020, the U.S. government altered its longstanding position on MSR, which now requires advance permission for foreign vessels before entering and operating within the American EEZ or continental shelf.[19] In 2021, Russia amended its extended continental shelf claim to include Gakkel Ridge, immediately after China identified that area as the target of its Arctic expedition for the year. Clearly, both Moscow and Washington perceive these icebreaker operations as something more than pure research.

[17] See section IV:4(3) of China's Arctic Policy.
[18] "The Xuelong Returns from Breaking Ice," Xinhua, September 27, 2018 and "China's Ninth Arctic Research Team Concludes Ice Station Operations," Xinhua, August 26, 2018.
[19] U.S. Federal Register, "Revision to United States Marine Scientific Research Policy," September 18, 2020.

While Chinese (and potentially other state) MSR in the Arctic has attracted little public attention so far, these activities could create a significant political and security crisis. As China's relationship with Canada and the U.S. further degrades, and its Arctic presence grows with its icebreaker fleet, the nature and permissibility of China's MSR will likely be called into question.[20] This will present a vexing conundrum as Canada and its allies attempt to navigate their rights and obligations under the law of the sea, while enforcing coastal state jurisdiction against a Chinese government that is adamant about its right to conduct research.[21]

In addition to organizations and industries conducting commerce, fisheries or scientific work in the Arctic, Canada will have to pay increasingly close attention to individual proxies of state policy. These actors represent a potentially insidious threat, giving a state plausible deniability while allowing it to challenge Canada or send a message without clear lines of responsibility. Canada's sensitivity over the status of the Northwest Passage represents a particular point of vulnerability to such activities.

While Canada's legal position in the North is strong, the country's perennial insecurity provides an opening. For decades, scholars have warned of threats to Canadian sovereignty. These threats have always been seen as coming from the United States. During the Cold War, the Soviet Union's own Arctic claims even made it an informal Canadian ally on that narrow issue. By the 2010s, however, China's growing merchant marine and Arctic interests were generating concerns that Beijing may pose a threat. The 2016 publication of the Chinese Arctic Navigation Guide for the Northwest Passage certainly accelerated these fears.[22] The problem with a formal Chinese state challenge to Canadian sovereignty, however, is that it opens up some of China's own (if totally dissimilar) contested maritime claims, while further souring Canadian public opinion on China in a manner which may push Canadian foreign policy even further away from China. The solution for a Chinese government looking to send a message or otherwise punish Canada, while remaining conveniently aloof, would be to employ a proxy actor to press this sensitive point.

But for harsh ice conditions, this might have been the case in the summer of 2021. With Meng Wanzhou still in Canadian custody, Chinese sailor Zhai Mo attempted to circumnavigate the Arctic Ocean aboard his sailboat. While officially a private citizen, Zhai had a unique history of asserting Chinese state sovereignty in disputed areas – essentially performing his own private freedom-of-navigation voyages.[23] Zhai's voyage around the Arctic was sponsored by state-owned China Global Television Network (CGTN) and received extensive coverage in English-language Chinese media. Over the course of his voyage, Zhai was told repeatedly not to enter Canadian waters and the day before his planned entrance to the Northwest Passage, he proclaimed that "the international community views the passage as a sea route for international navigation."[24] Publicly, Zhai was turned around by order of Transport Canada. CGTN reported that the ship had been

[20] China has a third icebreaker planned which may be nuclear powered.
[21] China's right to conduct Arctic research is emphasized in the country's 2018 Arctic Policy, where the term "research" is mentioned 41 times.
[22] Nathan Vanderklippe, "China Reveals Plans to Ship Cargo across Canada's Northwest Passage," *Globe and Mail*, April 20, 2016.
[23] In 2013, escorted by the Chinese coast guard, he sailed to contested waters in the East China Sea and planted 100 Chinese flags offshore of the disputed Senkaku/Daiyou Islands. "Even though we were just a few people on a sailboat, we voiced our opinions to the people of Japan and other countries," China's *Global Times* quoted Zhai as saying. "We got there and we claimed our sovereignty." Zhang Zhilong, "Chinese Boating Extraordinaire Sets Sail to Mark Claim over Disputed Islands," *Global Times*, August 16, 2013.
[24] Trym Eiterjord, "How a Chinese Sailboat Became a Microcosm for Arctic Geopolitics," *The Diplomat*, October 18, 2021.

"illegally stopped," citing the right of innocent passage.[25] In reality, the ice was simply too thick to permit transit and, apparently, the sailor was convinced to abandon his transit when Transport Canada pointed out how embarrassing it would be for him to have to rely on a Canadian rescue.[26]

Whether or not there were political motivations for the transit, the use of arms-length proxies could challenge Canada in the future. While an unauthorized voyage would not have any impact on Canada's legal sovereignty, it would be a powerful political weapon. With Zhai for instance, permitting transit while the region was closed by COVID protocols would have been an embarrassment; arresting him would have risked the same diplomatic backlash as Meng's seizure in 2018.

Safety Threats

Related to growing hybrid security threats are the safety considerations of an increasingly busy Arctic. As climate change gradually reduces ice cover along the Northwest Passage, shipping activity has been increasing, with a particular boom in pleasure craft.[27] For the first time, large passenger ships are travelling through these sometimes poorly charted waters, creating new safety risks. In 2017, the cruise ship Crystal Serenity (68,870 tonnes) brought 1,500 passengers and crew to the region while The World (43,188 tonnes) transited with roughly 500 people in 2012 and again in 2019. While large ships like these are generally well managed and safely operated, a grounding would be a disaster. Indeed, there have been several near-disasters. In 1996, MS Hanseatic went aground on a sandbar near Gjoa Haven, MV Clipper Adventurer ran into an underwater ledge near Kugluktuk in 2010 and Akademik Ioffe grounded near Kugaaruk in 2018. In each case, a crisis was averted; however, it could have been far worse. With a speed of roughly six knots and fuel for four hours, cruise ship lifeboats can travel approximately 40-50 km (or less if towing inflatable rafts). If a ship were to sink more than 50 km from a community, hundreds or thousands of passengers would need to be rescued from the open ocean or the barren coastline.

Cruise ships represent the most dramatic potential calamities; however, the region is seeing an increase in fishing, cargo and other maritime activity as well. All of this requires monitoring and, potentially, action in the event of an accident, spill or illegal activity. These safety and security requirements are well known and have been the focus of decades of Canadian Armed Forces and government planning and preparation. Yet, the necessary response capabilities are still lacking. Indicative of a broader lack of capacity in the region was a recent SAR exercise in Greenland which rehearsed a 500-person ship capsizing. When an academic at the Danish tabletop noted the presence of a 1,500-person ship in Nuuk harbour at that moment, the organizers pointed out that 500 was a better number to practise on, since any exercise assuming 1,500 passengers guaranteed failure.[28] Canadian response capabilities are no better than Denmark/Greenland's and its waters far more treacherous.

[25] Xu Fanyi, "Canada Stops Chinese Sailboat to Finish Circumnavigate the Arctic," CGTN, September 16, 2021.
[26] This story comes from private conversation with a Transport Canada official.
[27] Z. Kochanowicz, J. Dawson and O. Mussells, "Shipping Trends in Tallurutiup Imanga (Lancaster Sound), Nunavut from 1990 to 2018," 2020: 9-11.
[28] This anecdote was relayed by a Danish academic present at the meeting.

Canada's Response

Preparing for an Arctic that is both more active and increasingly tied to global great-power competition requires new investments and strengthened partnerships. It also requires a degree of restraint and the ability to place the region within the broader strategic picture. While much of the present media and political attention to the Arctic is linked to the conventional military threat Russia poses, that danger is not acute in the Arctic itself. While enhancing NORAD's aerospace detection capabilities remains an important consideration, deploying high-end military response assets into the region would be an inefficient use of those resources. Conflict with Russia or China would be a global struggle and the Arctic is not Canada's centre of gravity.

Fears of a growing Chinese presence are even less reason to focus on conventional military conflict in the region. Whitney Lackenbauer and Ryan Dean highlighted the danger of overreaction in a 2020 article, arguing convincingly that "the Arctic may present an enticing opportunity for China to feign strategic interest and bait Arctic states to over-invest in or over-commit capabilities to that region rather than elsewhere in the world." From the Chinese perspective, that prospect has seen some discussion. In his 2018 book, Zuo Pengfei – a lecturer at China's National Defense University – wrote: "once [Chinese] forces normalize their presence in this region, they will not only be able to effectively pin down great powers like the U.S. and Russia; they will greatly reduce pressure from primary opponents in our other strategic directions." Any increased physical presence in the Arctic draws from allied resources elsewhere and should therefore be carefully calibrated to meet specific requirements without stripping more vital areas. Rachael Gosnell describes this footprint as "a limited – but capable – security presence … providing deterrence while demonstrating strategic prioritization and recognition of greater global threats." A reaction to any increasing Chinese or Russian conventional presence may be necessary but an overreaction – in the form of significant conventional military assets to address what is more likely to be a hybrid threat – would be a wasteful diversion. A frigate is not needed to monitor illegal fishing or ELINT assets.

Instead, Canada's northern maritime focus should prioritize these far more likely unconventional safety, security and hybrid threats. These investments should include significant improvements in situational awareness, presence and constabulary capability. Addressing nearly all of these future threats starts with the ability to find them. The dangers posed by fishing fleets, proxy actors, ships in distress and unauthorized transits are magnified by their ability to operate sight unseen. Tracking Arctic activity has long been a central focus of Canada's northern security efforts, but a broader co-operative approach is now needed. Maritime activity crosses jurisdictional boundaries, meaning that a comprehensive picture must include American (and possibly Danish/Greenlandic) partnerships. As Canada and the U.S. renew and recapitalize NORAD, more attention should be placed on the organization's chronically underappreciated maritime role. NORAD's vision of a networked ecosystem, incorporating military and civilian sensors feeding into a central command-and-control apparatus should be the focus in the Arctic, where Canadian and American militaries will have to work with coast guards, civilian agencies and commercial and community actors. This kind of data fusion is already undertaken by Canada's Marine Security Operations Centres (MSOCs) and U.S. Naval Forces Northern Command and funnelled

into NORAD's bi-national command to create a common operational picture.[29] As Arctic activity increases, these capabilities will have to expand, with new satellite and terrestrial surveillance systems working with a growing number of allied platforms.

The next step is also a joint response capability. Canada and the U.S. share a common operational picture, but each state responds to threats independently. The tyranny of distance and deficiencies in infrastructure which define the Arctic security environment mean that an effective response capability in the Arctic should be joint. As NORAD controls North American airspace, so too should icebreakers and patrol ships be formally co-ordinated in the maritime environment, able to respond to threats without consideration of national boundaries and jurisdiction. This kind of co-ordination would allow more efficient bi-national deployments, basing, infrastructure sharing and interdiction. Canada has long resisted greater operational integration in the North, both because it hasn't been necessary and because of the political optics. In the future, those politics will have to be overcome as regional threats will require regional response capability.

Canada and the U.S. will also require a significant expansion to their Arctic fleets. Thankfully, this is well underway. Canada is launching at least one Arctic and offshore patrol ship (AOPS) every year (six for the navy and two for the Coast Guard), with a significant icebreaker building program planned for the Coast Guard. The U.S. Coast Guard, meanwhile, plans to receive the first of six new icebreakers in 2025.[30] These growing fleets will provide not only surveillance capabilities but a crucial response capacity. This not only enables Canada to enforce its jurisdiction but serves as a deterrent.

With respect to maritime militias and illegal fishing fleets, the pattern has been one of operations in areas where response capabilities are limited and the costs of misbehaviour low. The ability to enforce Canadian law and regulation in the Arctic will show that there is no vacuum in the region to exploit and that any attempt to do so will entail risks and political costs exceeding potential gain, going a long way towards preventing the need to conduct that enforcement. In the South China Sea and other waters closer to home, China has proven itself willing to accept some risk of pushback against its quasi-state fishing fleets or maritime militia; these being ostensibly civilian ships supported, funded or directed by the government. This is founded on a clear power imbalance and the proximity of the PLAN, sitting just over the horizon. In the Arctic, that power imbalance is reversed, where PLAN deployments would place Chinese ships at the end of precarious supply lines and surrounded by Canadian and U.S. forces. Demonstrating the ability to respond forcefully to Chinese (or other state) hybrid threats therefore places the onus of escalation on those states and, while China has been willing to escalate closer to home, circumstances in the Arctic will mitigate against it.

The growing North American constabulary fleet is the best response to the kinds of safety and law enforcement concerns that will be increasingly important. The AOPS, for instance, are large and versatile ships with an onboard clinic and space to respond to major disasters. Onboard sea containers can store pollution response equipment or supplies for community emergencies. While

[29] Andrea Charron and Jim Fergusson, "NORAD's Maritime Warning Role: Origins and Future," *Canadian Naval Review* 17:2, 2021.
[30] Three of these are to be heavy icebreakers, while three are intended to be medium icebreakers.

the Canadian navy has no regulatory or law enforcement mandate, its expanding presence will support those who do. In the Arctic, that is of particular importance, given how few government resources are available to cover so vast a space. The importance of that kind of support was demonstrated in the fall of 2015 when 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. In recalling that story, one Transport Canada official noted that being hailed by a warship (even an unarmed one) generated what he described as a "pucker factor." This presence led to immediate compliance.[31]

Most of the time, the presence of a warship will encourage that voluntary compliance; however, if that fails, the AOPS and the new American icebreakers are designed to go further. While not heavily armed, the ships can carry RCMP detachments for enforcing Canadian law, Department of Fisheries and Oceans teams to enforce fisheries regulations, Transport Canada or Coast Guard officials for pollution prevention or even the Maritime Tactical Operations Group if serious boarding operations are needed.[32] This capacity is more than sufficient to manage the kinds of unconventional threats most likely to arise, while also deterring most hybrid activity. Most importantly, this constabulary capability is also far cheaper to build and maintain than a high-end warship or northern, ground-based military assets.

Conclusion

Maritime activity in the Arctic is increasing and new security threats are emerging across the safety, security and defence spectrum. That threat environment could increase in complexity as great-power competition spreads into the region. While much attention has been paid to the emerging military threats posed by submarines and hypersonic systems, that competition is more likely to manifest as hybrid threats. While not existential risks, these are the threats that will occupy Canada on a day-to-day basis. Canada's response to this evolving security dynamic should be carefully calibrated to not over-invest in local military response capabilities, focusing instead on the constabulary forces and surveillance assets needed to monitor the region and enforce national jurisdiction. Doing so across an area as vast as the North American Arctic means expanding Canada's partnerships with the United States and building a joint response capability backed by more shared information and infrastructure. Deepening that partnership may tweak the occasional sovereignty sensitivity but closer integration will become increasingly essential as Arctic activity grows. Predicting the future of the Arctic maritime environment is no easier than it is anywhere else, but all trend lines point to an increasingly complex security situation. Canada should be prepared for the unexpected.

[31] This story was relayed to the author in 2018 by a Transport Canada official during a government working group.
[32] Marcello Sukhdeo, "The Future HMCS Harry DeWolf," *Vanguard* ,March 2019, 15.

About the Author

***Adam Lajeunesse**, PhD is an Assistant Professor at St. Francis Xavier University, where he holds the Irving Shipbuilding Chair in Arctic Marine Security. He is also a research associate at the Centre for Military, Strategic, and Security Studies and the Arctic Institute of North America – both at the University of Calgary, and a fellow with the Centre on Foreign Policy and Federalism at the University of Waterloo. He is a regular lecturer at the NATO Defence College (Rome) and the Canadian Forces College (Toronto) as well as a frequent speaker on northern security issues for academic, government, and military audiences.*

Dr. Lajeunesse is the author of Lock, Stock and Icebergs – a history of Canada's Arctic maritime sovereignty focused on the interplay between American security concerns and Canadian sovereignty requirements. He has also co-authored books on China's Arctic interests and the evolution of northern military operations, as well as numerous articles and publications on northern defence, development, shipping, governance, and maritime policy.

Canadian Global Affairs Institute

The Canadian Global Affairs Institute focuses on the entire range of Canada's international relations in all its forms including trade investment and international capacity building. Successor to the Canadian Defence and Foreign Affairs Institute (CDFAI, which was established in 2001), the Institute works to inform Canadians about the importance of having a respected and influential voice in those parts of the globe where Canada has significant interests due to trade and investment, origins of Canada's population, geographic security (and especially security of North America in conjunction with the United States), social development, or the peace and freedom of allied nations. The Institute aims to demonstrate to Canadians the importance of comprehensive foreign, defence and trade policies which both express our values and represent our interests.

The Institute was created to bridge the gap between what Canadians need to know about Canadian international activities and what they do know. Historically Canadians have tended to look abroad out of a search for markets because Canada depends heavily on foreign trade. In the modern post-Cold War world, however, global security and stability have become the bedrocks of global commerce and the free movement of people, goods and ideas across international boundaries. Canada has striven to open the world since the 1930s and was a driving factor behind the adoption of the main structures which underpin globalization such as the International Monetary Fund, the World Bank, the World Trade Organization and emerging free trade networks connecting dozens of international economies. The Canadian Global Affairs Institute recognizes Canada's contribution to a globalized world and aims to inform Canadians about Canada's role in that process and the connection between globalization and security.

In all its activities the Institute is a charitable, non-partisan, non-advocacy organization that provides a platform for a variety of viewpoints. It is supported financially by the contributions of individuals, foundations, and corporations. Conclusions or opinions expressed in Institute publications and programs are those of the author(s) and do not necessarily reflect the views of Institute staff, fellows, directors, advisors or any individuals or organizations that provide financial support to, or collaborate with, the Institute.