The environmental conditions of the Canadian Arctic, coupled with poor accessibility and a small and scattered population, has traditionally limited the North’s perceived significance as a border region. The melting of the northern sea ice, however, is enabling new commercial and tourist activity in this region of Canada and that of its Arctic neighbours. Government and other expert assessments predict that this activity will generate increasing safety and security concerns, largely related to immigration, criminal activity, fishing, environmental protection, and maritime accidents. In addition, Canada faces a few long-standing border and jurisdictional disputes that, despite being well-managed, require ongoing maintenance and attention. The Canadian Arctic is a region in flux owing to environmental, economic, transportation, and social changes occurring in complex and unpredictable ways. Managing this emerging borderland will require a nimble and comprehensive response from across the governance and defence spectrum. This will also have to be a response in depth, with monitoring, enforcement, and response capability established across the Arctic since a “defence” of the Arctic borders at the border will be impossible.
Introduction

The Canadian Arctic has long been perceived as a region apart from the rest of the world, isolated by geography, climate, its vast frozen approaches, and (during the Cold War) superpower politics. As one Canadian Army officer quipped about the region in the 1940s: “there’s nowhere to go and nothing to do once you get there.”1 As such, the region has never served as a major point of ingress:2 the maritime and land borders are vast and lightly-guarded, and international trade has been confined to a single port (Churchill) and a small number of exporting mines.3 Across much of the Canadian Arctic the concept of a border has been, and remains, variable. While the Yukon shares a 1,210 km land boundary with Alaska, across which there are four official border crossings, international access to the rest of the Arctic is only by sea or air. Because of this, controlling access has long been a question of monitoring air space and the maritime approaches (both surface and subsurface). Given this situation, the task of aerospace and maritime domain awareness has typically fallen the Canadian military rather than the police or border services. This has been a natural response given that, since the start of the Cold War, the most likely trespassers into the region were Soviet aircraft or submarines.4

In the twenty-first century this pattern has shifted from military incursion to encompass a broad range of unconventional threats. Melting sea-ice has begun to open the

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2 The one great exception was the mass entry of American miners entering the Yukon from Alaska during the Yukon gold rush (1897-99)
3 The port of Churchill, MA serves primarily to export grain produced in the Canadian prairies.
4 American submarines were also frequently in the Arctic waters, however they operated within the confines of joint Canadian-American defence arrangements. For more see: Adam Lajeunesse, *Lock, Stock, and Icebergs: The Evolution of Canada's Arctic Maritime Sovereignty* (Vancouver: University of British Columbia Press, 2016).
region to shipping (overwhelmingly destinational rather than transit shipping), and experts expect that this trend will accelerate. While the ultimate consequences of this melt are debated and indeed unknowable owing to the complicated dynamics at play, commentators and government analysts have almost universally predicted a significant increase in foreign commercial and pleasure vessels entering Canada’s Arctic waters. As a result, Canada anticipates more immigration, smuggling, criminal, and search and rescue issues as a natural consequence of this activity.\(^5\) Since no single agency has the capacity or mandate to manage these emerging threats, a broad whole-of-government response is required. This approach combines the strengths and assets of the military, law enforcement agencies, the Canadian Coast Guard, and other government departments to leverage capabilities and streamline national responses to safety and security scenarios.

With the obvious exception of Canada’s western crossings, between Yukon and Alaska, the ‘defence’ of the border will also have to take place far from the actual border in a layered approach. Since most of the approaches to the Canadian Arctic are maritime – and because Canada’s lack of infrastructure in the region precludes a continuous presence in many areas – border security will often take the form of monitoring, reporting, and responding to a myriad of incidents and threats inside Canadian territory. A small ship, for instance, may enter the Northwest Passage unnoticed, only to deposit men in a small community. The RCMP, border services, and other departments and agencies would then have to respond in a coordinated manner anywhere accessible by sea.

On the international level, Canada also faces modest border disputes or unresolved boundary delimitation issues which will require continued government attention to resolve or manage. Although these issues generated significant hyperbole in the mid-2000s around the

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idea that Canada’s “sovereignty is on thinning ice” and aroused fears of armed conflict – narratives that continued to echo in some media coverage – all official assessments emphasized that these issues are highly unlikely to devolve into military confrontation. Indeed, two of these disputes – over Hans Island and the Beaufort Sea maritime boundary -- are between Canada and its close allies. The third involves the delimitation of the continental shelf, with every indication that this process will continue to unfold within the confines of international maritime law.

Nevertheless, Canada is expected to face increased pressure to monitor and police its Arctic borderlands in the decades ahead. Maritime traffic from outside of Canada will increase and new immigration and policing procedures will have to be put in place to manage pleasure craft, commercial traffic, and migratory workers. New infrastructure will be likely be needed to underpin the government’s push towards greater mobility and improved logistics in the region, as well as buttressing its ability to respond to any safety or security situations that may emerge. Continued whole-of-government exercises are, likewise, required to develop that response capacity. The Arctic is unique amongst Canada’s border regions in the sense that so many of the threats facing it are hypothetical or potential rather than actual or immediate. Nevertheless, all signs point to an opening of the Arctic and the emergence of a “new” border region to which the Government of Canada, for the first time in its history, will have to devote significant all-domain military and civilian resources to monitor, police, and protect.

**Operationalizing Concepts of Security**

In the twenty-first century, Arctic security has emerged as an important policy issue – highlighted in the 2005 International and Defence Policy Statements produced by the
short-lived Liberal government of Paul Martin and subsequently elevated to a keystone issue by Stephen Harper’s Conservative government from 2006-15. The nature of Arctic security, and how best to defend it has, however, remained contested.

Traditionally, the concept of Arctic security was tied to military threats. This simple framework dominated during the Cold War when the Arctic emerged as a strategic theatre owing to the geographical reality that it represented the shortest route between the Soviet Union and the United States. Beginning in the 1970s, however, the Department of National Defence began to expand the parameters of its anticipated contributions to focus on pan-government obligations in the North. It now stressed the need for military activities “to ensure the maintenance of Canada’s territorial integrity, jurisdictional authority and sovereign interests against challenges or threats other than those of armed attack by the forces of a foreign country [emphasis added].” To do so, planners would have to devise “suitable military capabilities” to enable the Canadian Armed Forces both to “support the civilian departments and agencies of government in the discharge of their responsibilities to carry out surveillance and to exercise supervision and control over Canadian territory, territorial waters and airspace and Canadian jurisdiction over the seabed, the continental shelf and in the sea areas adjacent to Canada within the limits established by international agreements or by government policy and Canadian legislation; [and] to carry out surveillance and to provide means to exercise supervision and control in those areas not covered by the civil departments and agencies of government or in which the capabilities provided by the latter in the discharge of their normal responsibilities are inadequate to provide full protection of Canadian interests.”

The nature of new “Northern targets” were

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substantively different, according to the commander of Northern Region Headquarters (NRHQ) in 1970, than they had been in the past. Furthermore, by assigning the military a perceived role in national development, ranging from northern environmental protection to community relations, the government insisted that traditional, military-based security needs had to be balanced with socially- and environmentally-responsible programs.

By directly mobilizing Northern indigenous peoples’ historic occupancy and use to bolster Canada’s sovereignty position in the mid-1980s, the federal government also raised legal, moral and practical reasons to encourage direct indigenous input into defence and security activities. Indeed, security and sovereignty discussions became intertwined with broader themes of militarization and indigenous survival. Low-level flying controversies, persistent environmental concerns and public appeals by Aboriginal leaders to demilitarise the region transcended traditional, realist understandings of state-centred security and sovereignty. For example, Inuit Circumpolar Conference President Mary Simon stressed that military activities “justified by the government on the basis of defence and military considerations … often serve to promote our insecurity.” Inuit ties to the environment and a collective social order meant that, for them, “Arctic security includes environmental, economic and cultural, as well as defence, aspects.”

A broadened definition of Arctic security that incorporated environmental and human dimensions took hold in the post-Cold War era. The Arctic states created new international fora to embed Russia in circumpolar cooperation and deal with trans-national pollutants and


other environmental concerns, beginning with the Arctic Environmental Protection Strategy and culminating with the creation of the Arctic Council in 1996. As Rob Huebert noted, this “transformed” the way that decision-makers conceptualized Arctic security issues.\textsuperscript{9} Although the Arctic Council’s mandate explicitly excludes “military security” issues, its environmental and sustainable development pillars do accommodate research and cooperation on a wide range of “soft” environmental and human security issues. Two of the four main pillars of \textit{The Northern Dimension of Canada’s Foreign Policy}, released in 2000, committed “to enhance the security and prosperity of Canadians, especially northerners and Aboriginal peoples,” and “to promote the \textit{human security of northerners} [emphasis added] and the sustainable development of the Arctic.”\textsuperscript{10} Since that time, Arctic “security” has expanded to include a broad array of threats and hazards, from the potential risk associated with the build-up of military capabilities amongst the Arctic states\textsuperscript{11} to issues such as commercial shipping, search and rescue, the lack of housing and basic infrastructure in Northern indigenous communities, food security, and cultural security.\textsuperscript{12} The primary driver behind most of these “new” security threats is climate change.


\textsuperscript{10} Department of Foreign Affairs and International Trade (DFAIT), \textit{The Northern Dimension of Canada’s Foreign Policy} (Ottawa: DFAIT, 2000).


Security Threats

Militarization and the Race for Resources

Over the past fifteen years, commentators have offered different opinions as to the nature of the threats facing the Canadian Arctic and the measures needed to defend against them. The perception of an “Arctic arms race” was given popular credence by Russian explorer Artur Chilingarov’s planting of a flag at the North Pole in 2007, the same year when the sea ice in the Arctic basin declined to its lowest extent on record. This symbolic action by a Russian was accorded added weight by that country’s rapid remilitarization, which has included new Arctic bases, deployments, and capabilities. In popular discussions, promised Canadian investments in new Arctic capabilities have often been linked to such conventional military threats as well as to the sovereignty issues associated with boundary disputes, the uncertain limits of the polar continental shelf, the changing environment, and a theoretical competition for resources.

This fear that Arctic security might be compromised by a race for resources was exacerbated in 2008 when the US Geological Survey released a report estimating that the Arctic held approximately ninety billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, and that eighty-four percent of these

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undiscovered deposits were located offshore. Coupled with the region’s vast mineral reserves and the high prices then commanded by all of these commodities, various commentators assumed that states might be willing to use military force to coerce favorable boundary agreements, if not outright seize any disputed resources.

**Unconventional Threats Dominate Policy**

While this hard military conceptualization of security was articulated in various government pronouncements (such as Prime Minister Harper’s oft-quoted 2005 statement that Canada needs “forces on the ground [and] ships in the sea” to defend its sovereignty), this military framework has never dominated official Government of Canada or Department of National Defence policy. Instead, officials recognize that Canada’s Arctic faces (and will continue to face) unconventional security risks and “threats.” Strategic and operational-level documents guiding the military’s northern planning, such as the *Arctic Integrating Concept*, specify that these threats include:

- law enforcement challenges by various state and non-state actors (i.e. foreign fishing fleets);
- Environmental threats such as the impact of climate change, earthquakes, floods, and other such naturally occurring events that may or may not be a result of human activity;
- Although unlikely, domestic or internationally based terrorists of various motivations willing to use whatever means possible to achieve their goals;
- Domestic or internationally based organized criminal elements primarily motivated by potential financial gain;
- Adversary or potential adversary (state or non-state) intelligence gathering operations;
- Adversary or potential adversary (state or non-state) counterintelligence operations attempting to disrupt Canadian or allied intelligence operations;
- Attacks on critical physical/terrestrial, space and information/cyber infrastructure by adversary or potential; and
- Increase in the potential for pandemics.

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As such, the Canadian Armed Forces (CAF) has focused its capital budget and training efforts on building up a small but rapid response capacity designed to work with local first-responders and other federal and territorial departments. This approach is articulated in official policy documents and operational guidance papers, and is clearly visible in Canada’s largest Arctic training exercise (the annual Operation Nanook) which is organized around developing Whole-of-Government relationships and response capabilities.

Perceptions and Presumptions

The Canadian Government’s focus on unconventional security threats is premised on a reasonable assessment of probabilities. As economic activity increases in the Arctic, and the number of ships passing through Canada’s Arctic waters (the Northwest Passage) grows with the region’s declining ice-cover, responsibilities surrounding law-enforcement, pollution control, immigration, and public safety will increase. This view is, however, premised on the understanding that Arctic shipping is primed to grow exponentially while Arctic resource extraction will, likewise, expand dramatically. In 2016, however, several of these core assumptions may be out of date. The long-anticipated increase in transit shipping
(direct transit through the Northwest Passage) has not materialized, with only fourteen complete transits of the Northwest Passage in 2015 (compared to twelve in 2014 and twenty-two in 2013). In fact, the number of transit voyages through Canada’s Arctic waters has not materially increased since 2008. Furthermore, the most in-depth work on this subject, by geographer Frédéric Lasserre, has uncovered no serious interest from the world’s major shipping companies for new or increased Arctic activity.

Security threats surrounding offshore oil and gas development and onshore mining have, likewise, been downgraded by the collapse of global commodity prices since 2014. Chinese mining company MMG has put its major Izok Lake mine in the Northwest Territories on hold, Baffinland has scaled down its Mary River mine in Nunavut, and three of Yukon’s mines have closed in response to this low price environment. While this slowdown in activity may only be temporary, the reduction in activity will inevitably reduce the safety and security threats that the CAF, Border Services, the RCMP, and other government departments and agencies (OGDAs) have anticipated.

**Infrastructure and Border Security**

There is little danger to the safety of northern Canadian infrastructure from outside actors. The region has few airports, harbours, or ports and no major pipelines – apart from a single oil line running south to Alberta from Norman Wells (NWT). In several important respects, however, this lack of infrastructure itself may constitute a security concern.

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19 These being the Minto Mine, the Wolverine Mine, and the Bellekeno Mine.
Decades of CAF and other government activity in the Arctic have demonstrated the crucial role played by transportation infrastructure in rapid response to a myriad of security threats, including trespassing and criminal infiltration. The dearth of suitable harbours and airstrips across much of the Canadian Arctic (and particularly in Nunavut) lengthens deployment and response times and increases the cost of any endeavour.

Search and rescue capabilities are also extremely limited in the North compared to the rest of Canada. As maritime activity increases – with cruise ships and commercial vessels moving across the border in increasing numbers – SAR capabilities will need to be augmented. In 2011, the Standing Senate Committee on National Defence conducted a special study on sovereignty and security in Canada’s Arctic which resulted in two basic observations about SAR in the region. First, the requirement for the capability is on the rise. Second, it found that current response times are too slow. The principal reason for this slow response reflects the decision to base Canada’s aerial SAR capability in three southern locations: Trenton, Victoria, and Halifax.

**Canadian SAR Regions**

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Commentators have suggested repeatedly that the government should permanently base aeronautical SAR assets in the North, but this option has been rejected owing to the relatively modest number of incidents in the Territorial North and the need allocate resources through a national lens. Only one percent of all SAR incidents (typically under sixty cases per year) occur north of 60°N. This lack of SAR infrastructure constitutes a safety threat (rather than a security threat) and will likely remain unresolved until northern activity increases to such an extent as the statistics warrant the added expense of improved SAR infrastructure.

Infrastructure deficits of all sorts exist at the territorial level. Apart from the major centres along the northern sea routes (Inuvik and Iqaluit) most communities have only basic infrastructure and equipment for responding to local emergencies – such as the grounding of a cruise ship or an oil spill from a transiting vessel. If transportation or

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23 See for instance Michael Byers in: Michelle Zilio, “Botched Contract Helicopter Rescue Highlights Gap in Canada’s Arctic SAR Abilities: Critics,” iPolitics (January 10, 2013). Basing SAR assets farther north has also been recommended by government committees, see for instance: Standing Senate Committee on Fisheries and Oceans, Standing Senate Committee on Fisheries and Oceans (April, 2009).
logistical supply lines are interrupted during such an event, local capacities will be
overwhelmed. In his analysis on the subject for the Munk-Gordon Foundation, Bernard
Funston concludes that Canada’s broader emergency response networks are now equipped to
deal with this type of disaster, originating from outside the region.²⁶

**Border Security**

*Illegal Immigration and Criminal Infiltration*

Canada has two terrestrial borders with neighbouring countries in the North. To the
east, Nunavut lies across Baffin Bay from Greenland, which is part of the Kingdom of
Denmark). There are historical examples of illegal immigration and criminal infiltration
from Greenland (or staged out of it) into Nunavut, but these instances are exceptional and
small-scale. Given the concentration of population and infrastructure in Nunavut into a small
number of hamlets and towns sprinkled across a vast territory, such infiltrations are also easy
to detect and counter given that new people or strange ships are conspicuous in small
communities.

To the west, there are four border crossings across the 1,210 km boundary between
Yukon and Alaska (the United States). In addition, there are cross-border hiking trails (such
as the Chilkoot) which are lightly monitored and with no permanent state presence at the
border itself. This relatively unsecured border has never presented a substantive security
threat to either country. Given the close relationship between Canada and the United States,
and the rigorous customs procedures undertaken for visitors entering Alaska from overseas,
there is little likelihood that border security in this region will emerge as a major concern in
the foreseeable future.

²⁶ Ibid, 21.
## Non-State Intrusions into the Canadian Arctic\textsuperscript{27}

<table>
<thead>
<tr>
<th>Date</th>
<th>Perpetrators</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Al Qaeda</td>
<td>An aircraft allegedly purchased by Al-Qaeda operatives made a stop-over in Iqaluit on its way to the Middle East as a rest-stop to fuel the aircraft.</td>
</tr>
<tr>
<td>2006</td>
<td>Deported Romanian</td>
<td>Romanian national Florin Fodor, who had previously been removed from Canada on a series of criminal charges in 2000, re-entered the country on a six-metre motorboat travelling from Greenland to Grise Fiord. Fodor was apprehended by RCMP upon arrival and pleaded guilty to immigration charges. Although he was apprehended by the appropriate authorities, reports indicate that Fodor was met at Grise Fiord by curious Inuit prior to encountering the RCMP.</td>
</tr>
<tr>
<td>2006</td>
<td>Turkish Sailors</td>
<td>Two Turkish sailors jumped ship in Churchill in order to avoid apprehension by Canadian authorities. Upon landing, they purchased train tickets to Winnipeg, but were apprehended by a rail ticket clerk, after which they tried to claim refugee status.</td>
</tr>
<tr>
<td>2007</td>
<td>Berserk II Crew</td>
<td>Led by Jarle Andhoy, this five crew of the Berserk II intended to transit the Northwest Passage. The group was arrested in Cambridge Bay after Andhoy attempted to land two crew members, that had previously been expelled from Canada, outside of town to avoid detection by the RCMP.</td>
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Increases in cruise ship activity along the Northwest Passage in recent years has also generated some commentaries about the potential risk of illegal immigration through small Arctic hamlets which those ships frequently visit. Beginning in 2005, Canada has seen a

\textsuperscript{27} Based on Nancy Teeple “A Brief History of Intrusions into the Canadian Arctic,” *Canadian Army Journal* 12:3 (Winter 2010).
large increase in the number of tourists and cruise vessels visiting the Arctic, lured to the region by the decreasing sea-ice and a growing international interest in the Arctic environment. The number of transits levelled off after 2008, however, and has remained relatively steady ever since. Examining this market’s potential, geographers Frédéric Lasserre and Pierre-Louis Têtu conducted a broad survey of cruise ship operators to gauge their future interest in the region. The results countered the prevalent view that cruise tourism is expanding exponentially, instead indicating a tepid interest in expanding what are already high-end, niche operations. Nevertheless, the number of voyages is likely to remain steady and the region may attract larger vessels as “last chance tourism” continues to grow in popularity.

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<td>11</td>
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<tr>
<td>Voyages</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>20</td>
<td>11</td>
<td>18</td>
<td>10</td>
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</tr>
</tbody>
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While speculative, it is safe to assume that further melting of the Arctic ice will lead to more cruise ship operations in the future. The continued reduction in the extent and age of sea ice will likely extend the window of navigability, thus enabling more reliable scheduling. In addition, the construction of Arctic shipping infrastructure and the continued hydrographic mapping of safe sea-routes should lower insurance premiums and allow for more diverse itineraries. As a result, the Canada’s Arctic will likely see increased maritime

29 Harvey Lemelin, Jackie Dawson, and Emma J. Stewart, eds., Last Chance Tourism: Adapting Tourism Opportunities in a Changing World (Routledge, 2013). The Crystal Serenity, a vessel capable of carrying 1,000 passengers is scheduled to transit in August 2016.
activity moving in and out of the Northwest Passage and, in many cases, depositing tourists and workers into the Arctic.

**Conceptualizing Security**

Public opinion on northern security and border disputes is difficult to quantify, and Arctic analysts have often relied on popular media representations as a gauge for broader sentiment. However measured, it is clear that Canadian identity is tied to its Arctic or “Northern” character and, consequently, questions of sovereignty and security have traditionally evoked considerable concern. The most detailed and useful assessment of public opinion in recent years has come from the Walter and Duncan Gordon Foundation (using Ekos Research) which published two opinion polls (*Rethinking the Top of the World*) in 2010 and 2015. These surveys provide a general sense of how Northern and Southern Canadian sentiment on Arctic security and the safety of Canada’s northern borders. They demonstrate a deep interest and concern over the status of Canada northern boundaries, as well as a broader understanding of Arctic security priorities and threats than popular media portrayals of these issues might imply.

While the majority of media coverage on northern sovereignty centres around conventional military security – namely the threat to Canadian boundaries from state adversaries – the 2010 Gordon survey places such threats in fourth place on Northerners’ list of priorities and second in the South (after the environment). Likewise, “national security” – the protection from threats posed by other countries – was ranked fourth by Southerners (after environmental, social, and economic security) and fifth by Northerners (after cultural security as well). Nevertheless, a majority of Canadians from both the North and the South felt that conventional security was still important in the Arctic and that Canada should invest
more resources into this area. This perception decreased modestly from 2010-15, with the number of Canadians supporting a stronger military presence in the region declining from 52% to 45% amongst Northerners and from 60% to 49% amongst Southerners.

Chart 1

Environmental Scan

From an environmental perspective, the circumpolar Arctic is a single, connected region. Its seas are connected by currents which circulate pollutants while airborne particulate matter travels the breadth of the region, often being deposited thousands of kilometres away. This ecosystem, therefore, requires a circumpolar approach to environmental health and sustainability.

Oil

One of the most sought after Arctic resources is oil. Unfortunately, it is also one of the most potentially dangerous transboundary pollutants. As the 2010 Deepwater Horizon spill demonstrated, a major offshore disaster can send millions of barrels of oil into a fragile
The Deepwater Horizon spill released 4.9 million barrels into the Gulf of Mexico over three months. This particular spill also occurred in a region with the highest concentration of oil infrastructure and offshore support ships in the world, in stark contrast to the limited assets available to kill any similar, out-of-control well in the Arctic. A significant oil spill anywhere in the circumpolar region would, therefore, almost certainly move over maritime boundaries and into the waters of neighbouring states. Greenlandic oil exploration, for instance, has been centred on the Davis Strait/Baffin Bay area – directly across from Baffin Island. Likewise, any American or Canadian production in the Beaufort Sea would be short distance from the territorial waters of the other.

In recognition of these dangers, the Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States) signed the Agreement on Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic in 2013.

This Agreement seeks to strengthen emergency cooperation and coordination of Arctic oil spill response, to provide mutual assistance in the event of a spill, to promote joint training and information sharing, and to monitor producing assets for spills.

In 2016, the price of oil has fallen well below the point where Arctic operations can be undertaken economically. As such, concerns over oil spill response remain largely academic. Over the medium term, however, should the price rebound and industry return to the region, transboundary spill prevention and mitigation will become one of the most important environmental issues facing Canada and the Arctic nations.

**Persistent Organic Pollutants**

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30 The Deepwater Horizon spill released 4.9 million barrels into the Gulf of Mexico over three months.
31 “Agreement on Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic,” signed by the governments of Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States on May 15, 2013 at Kiruna, Sweden.
Industrial and agricultural chemicals known as Persistent Organic Pollutants (POPs) are organic chemical substances that accumulate in the fatty tissue of living organisms. They are some of the most mobile contaminants in the world and have proven particularly problematic in the Arctic. They are transported to the Arctic from southern industry via the atmosphere where they enter the food chain and, ultimately, people. Studies conducted under the Northern Contaminants Program in the late 1990s concerning contaminant levels in blood of Inuit women across the North indicated that 40-65% of female participants had levels up to five times above the values used by Health Canada and the territorial governments to identify a level of concern. Levels in the breast milk of Inuit women were among the highest recorded in the world, owing to the high levels of marine mammal fat consumed as part of the Inuit diet.\(^\text{32}\)

In an effort to address this global issue, 152 nations signed the *Stockholm Convention on Persistent Organic Pollutants* in May 2001. Under the treaty, countries agreed to reduce or eliminate the production, use, and/or release of twelve key POPs, Although most developed nations have taken strong action to control POPs, a great number of developing nations have only fairly recently begun to restrict their production, use, and release. As such these chemicals remain a serious problem for northern residents and continued global action will be necessary to mitigate the damage.\(^\text{33}\)

**Invasive Species and Biodiversity**

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Wherever ships travel they carry sea life and various organisms with them. By filling and discharging ballast tanks, organisms are sucked in and transported while other creatures can cling to the bottom of the ship’s hull. Increased shipping will inevitably lead to more species migration to the Arctic. This trend will also be facilitated by the warming of the region’s waters, a shift that will enable warmer-water species to survive and multiply in the Arctic.

The combined effects of invasive species and climate change on biodiversity and ecosystem function can be far reaching, altering food-chains, destroying local species, and changing the regional ecosystem.\(^{34}\) The impacts of invasive species are also not limited to ecological harm. A subset of just sixteen of Canada’s over 1,400 identified invasive species has had an estimated annual economic impact of $13-34 billion.\(^{35}\) In the United States, economic impacts of invasive species have been estimated to be in excess of $138 billion USD per year.\(^{36}\)

From a cultural and local sustainability perspective, invasive species risk damaging the Arctic food chain which has sustained Canadian Inuit for millenia. Local traditional knowledge has also been developed based on a deep understanding of the local ecosystem; including migration patterns and fish spawning habitats. If these patterns are upset, traditional knowledge will have to be adapted – a slow process during which hunting and harvesting would likely suffer.\(^{37}\)

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\(^{35}\) Ibid.

\(^{36}\) Ibid.

\(^{37}\) Ibid.
International efforts are being made to mitigate this potential damage. The newly-signed Polar Code take measures to prevent species travelling to the Arctic waters through ships’ ballast tanks, though the code still fails to prevent greywater discharges. As shipping increases Canada may also seek to strengthen its domestic regulations through an amendment to the Arctic Waters Pollution Prevention Act or the Canada Shipping Act.

Horizon Scan

Several evolving factors will shape Canada’s future Arctic safety and security requirements. The shipping and resource development industries in particular represent the anticipated drivers of northern activity and, as such, the most likely sources of illegal entry, criminal activity, and safety or security violations.

Resource Development

Since the early 2000s, there has been widespread expectation that Canada was on the verge of an Arctic resource boom. High commodity prices, coupled with increasingly accessible deposits, and foreign investor interest created the impression that workers might soon be flooding into the region. The potential security dimensions of this boom were obvious. An influx of workers meant more safety concerns, more activity at regional transportation hubs, and more crime and smuggling.

These projections, however, must be re-evaluated in light of the crash in commodity prices in 2015. As mentioned earlier, the pace of exploration and resource development has slowed dramatically. As such, the anticipated influx of new workers and shipping has, likewise, diminished. Nevertheless, the resource industry is a cyclical one and prices are likely to rise in the future. This reversal of fortunes may bring new investment that kick-
starts many of the region’s mothballed projects. If this occurs, Canada will see more ships traveling into the region and, potentially, foreign workers imported to augment local workforces. The practice of importing labour has been hotly contested in neighbouring Greenland, and many of Canada’s largest Arctic mines are already authorized to bring in workers. How quickly this happens and on what scale will, in large measure, determine the challenges that Canada will face in managing its border, screening foreign workers, and ensuring that development takes place safely.

Shipping

In October 2013, the Danish bulk carrier Nordic Orion completed the first successful commercial transit of the Northwest Passage. By avoiding the Panama Canal, the ship saved a week of travel time, tens of thousands of dollars in canal fees, and $80,000 in fuel costs. Optimistic commentators hailed the voyage as the beginning of a new era of Arctic commercial activity, and analysts confidently predicted that more ships, following in the Nordic Orion’s wake, would take advantage of the Arctic’s melting ice. In the two years since, however, there has only been one more commercial transit, belying the assumption that a surge of activity was imminent.

Although the Arctic ice cover has shrunk dramatically over the past decade, confirming a clear trend line towards less and thinner ice across the region as a whole, the process has been anything but linear, consistent, or predictable from an operator’s

39 This practice was considered in the Greenlandic mining sector. See for instance: Tim Boersma and Kevin Foley, “Dark Clouds over Greenland’s Mining Ambitions,” Brookings Institute (January 16, 2015).
40 These companies include mining giants Diavik and BHP Billiton.
43 That voyage was by the Nunavik, which carried nickel concentrate to China.
standpoint. Scheduling a transit through specific waters of the Canadian Arctic remains both difficult and dangerous. Winds and currents shift the ice constantly, often clogging channels that had been clear the week, or even day, before. Annual variability is also significant, rendering it impossible to accurately predict shipping conditions for the next season.

Optimistic forecasts at the end of 2013 for the next shipping season proved ephemeral as the sea-ice in 2014 rebounded to average 6.22 million square kilometers – well above the August 2012 average of 4.71 million square kilometers.44

Thus, while it is almost universally agreed that the Arctic waters will see more activity in the next two decades,45 most systematic, empirical studies predict that the Arctic shipping – particularly in Canadian waters – will consist of *destinational* shipping, comprised of resource carriers, service ships, resupply vessels, and cruise liners.46 This destinational shipping will largely be tied to the pace of resource extraction, since more activity in that sector will necessitate more resupply activity and more export capacity.

While the currently depressed state of the resource industry suggests that such activity is likely to remain minimal, over the longer term the potential for large-scale destinational shipping is very real.

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Fortunately, Canada is unlikely to have any serious difficulty exercising control over destinational shipping. Because ships involved in this activity move in or out of Canadian ports and harbours, they are easy to track and regulate. Ships will report into Canada’s northern vessel reporting system (NORDREG) and comply with Canadian environmental and shipping regulations – such as the Arctic Waters Pollution Prevention Act (AWPPA) – or risk damage to their business interests in Canada.47

Transboundary Cooperation

Canada-US cooperation along the Yukon-Alaska border is an example of deep and friendly operations. In 2012 the state/territorial leaders signed the Alaska-Yukon Intergovernmental Relations Accord, pledging to work together on issues of common concern, to share information, and coordinate on cross-border issues.48 The two countries’ Coast Guards conduct joint exercises, operations, planning and delivery of services, and work together on various public safety, law enforcement, search and rescue, research, and environmental preparedness and response activities.49 Alaska also represents a key partner for Canada in terms of Northern economic and resource development, as well as related security, transportation, and environmental issues. The construction of the Alaska Highway during the Second World War exemplified the tightening security relationship between

49 For more on this theme, see P. Whitney Lackenbauer and Rob Huebert, “Premier Partners: Canada, the United States and Arctic Security,” Canadian Foreign Policy Journal 20:3 (2014). For example, the US Navy Arctic Roadmap highlights the fact that: “for decades, Canada and the U.S. have been partners in the defense of North America, cooperating within the framework of such instruments as the NATO and NORAD” and describes homeland defense and security as “top priorities for the governments of Canada and the United States,” noting that “the Navy will work with the Royal Canadian Navy to ensure common Arctic Region interests are addressed in a complementary manner.” United States, Department of the Navy, US Navy Arctic Roadmap 2014-2030 (2014).
Alaska and Northwestern Canada, as did the building of the Canol pipeline to ensure energy security. Canadian military personnel are stationed with the Alaskan NORAD region in Anchorage, and U.S. Coast Guard units based in that state work closely with their Canadian Coast Guard counterparts on Arctic science, search and rescue, and fisheries patrols (in the North Pacific, as there are currently no fisheries in the Beaufort Sea). Yukon and the Northwest Territories both cooperate closely with Alaska through bilateral intergovernmental accords and through the Pacific Northwest Economic Region (PNWER) Arctic caucus, which include transportation, resource development, and infrastructure considerations. Linkages between the Alaskan and Albertan oil and gas sectors remain strong, and state representatives strongly supported Canada’s Arctic Council Chairmanship priorities (particularly the emphasis on economic development for Northerners) from 2013-15.

Canada considers the Arctic Council as the leading international body for circumpolar cooperation. Canada led in the establishment of the Council in 1996, which has remained a consensus-based, high-level intergovernmental forum that promotes environmental, social and economic aspects of sustainable development and environmental protection in the Arctic region. As a “soft law” body, the Council can only provide Arctic states with non-binding guidelines and it has no power to enact or enforce binding treaties. Furthermore, its mandate (as per the 1996 Ottawa Declaration) explicitly precludes it from dealing with “matters related to military security.”

from considering nearly every other international human and environmental issue related to the Arctic.

An illustrative case of the Arctic Council’s engagement with “soft security” issues is the landmark Arctic Marine Shipping Assessment (AMSA), carried out by the Council’s Protection of the Marine Environment (PAME) Working Group and co-led by Canada, the United States and Finland. Released in April 2009, the AMSA report contained important findings related to maritime activities (interpreted holistically) and seventeen concrete recommendations, all of which were agreed to by the Arctic Council member states. In addition to remaining an authoritative text on circum-Arctic shipping activity and the bar against which the success of other Arctic Council projects is often measured, the AMSA recommendations have provided a blueprint for subsequent activities undertaken within the six Arctic Council Working Groups, for the negotiation of binding agreements, for relationship-building, and for several initiatives related to “safe shipping” that Canada included in its chairmanship priorities.51 For example, one of its recommendations led to the Arctic Search and Rescue Agreement, signed by the eight Arctic states in May 2011, which represented the first legally-binding agreement negotiated under the auspices of the Arctic Council. While modest in that it builds upon previous UN and other agreements, this agreement recognizes the unique challenges of the Arctic environment and facilitates improved cooperation and coordination between Arctic states in preparing for and responding to incidents in the North.52 By bringing Arctic state military officials into constructive dialogue on SAR issues,

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52 The negotiators of the SAR Treaty included military officials in light of the important role that Defence ministries play in support of Arctic Council-led public safety efforts. For example, given the Department of
the agreement also spurred the meetings of the Senior Military Representatives of the Arctic states (usually Chiefs of the Defence staff) in 2012 and 2013. These meetings occurred outside the confines of the Arctic Council, but its deliberations laid the foundations for strengthening international cooperation and encouraging the exchange of information more broadly. Other environmental security measures encouraged by the AMSA report include the Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (MOPPR) Agreement signed in 2013, guidelines for Arctic tourism and cruise ship operators, and the development of a risk-based, mandatory International Code for Ships Operating in Polar Waters (Polar Code).

Canada also works through multilateral institutions with direct mandates or competencies that bear on Arctic security (broadly defined). For example, the United Nations Convention on the Law of the Sea is considered the global “constitution of the oceans,” setting the basic rules of ocean governance, including maritime sovereignty and boundaries. This provides the essential international legal framework for Canada to assert and exercise its sovereignty and sovereign rights in the maritime Arctic. Furthermore, Canada supports the establishment of strong mandatory international regulations for Arctic

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National Defence’s responsibilities for Search and Rescue, it served as Canada’s lead for the negotiation of the Arctic SAR Agreement. Furthermore, the Canadian Armed Forces hosted a successful first event to operationalize the Arctic SAR agreement through a table-top exercise in Whitehorse in October 2011 that included participation by all the Arctic states. Canada participated alongside four other Arctic countries in the follow-on live SAR Exercises (SAREX) Greenland Sea 12 and Greenland Sea 13 which recreated a maritime disaster and response scenario.

53 See Piotr Graczyk and Timo Koivurova, “The Arctic Council,” in Handbook of the Politics of the Arctic, Leif Christian Jensen and Geir Honneland eds. (Cheltenham, UK: Edward Elgar, 2015), 314-15. In April 2012, the Canadian Chief of the Defence Staff, General Walt Natynczyk, hosted the first ever meeting of Northern Chiefs of Defence (CHODs) from the eight Arctic states in Goose Bay. In June 2013, he participated in the second annual Northern CHODs meeting hosted in Ilulissat, Greenland, which decided that the main purpose of the forum is to facilitate the mutual exchange of information to better enable military support to civilian authorities; respective forces would continue to work together to develop a Common Operating Picture; and opportunities for joint training and exercises should continue to be identified. The CHODs meeting planned for Iceland in 2014 was cancelled owing to Russian aggression in the Ukraine, and one has not been held since that time.
shipping, particularly those that will decrease the risk of pollution and the need for search and rescue missions. A prime example is the Polar Code, which Canada played a leading role in developing through the International Maritime Organization (IMO).\textsuperscript{54} This mandatory Code, which “covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles,” will enter into force on 1 January 2017.\textsuperscript{55} Similarly, the UN Framework Convention on Climate Change, as well as many global conventions relating to transboundary pollutants, biodiversity, containments, and cultural and political rights, contribute to the institutional complexity of Arctic governance, with human and environmental security dimensions.\textsuperscript{56} Furthermore, transnational declarations such as the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Inuit Circumpolar Council’s \textit{A Circumpolar Inuit Declaration on Sovereignty in the Arctic} (2009)\textsuperscript{57} contain elements that relate to Arctic security.

\section*{Policy Case Studies}

\subsection*{The Voyage of the \textit{Berserk II}}

On 22 June 2007, the Norwegian pleasure craft \textit{Berserk II} pulled into Halifax Harbour. At that time, one crew member was denied admission to Canada based on his


\textsuperscript{55} The Polar Code and International Convention for the Safety of Life at Sea (SOLAS) amendments were adopted during the 94\textsuperscript{th} session of the IMO’s Maritime Safety Committee (MSC) in November 2014; the environmental provisions and International Convention for the Prevention of Pollution from Ships (MARPOL) amendments were adopted during the 68\textsuperscript{th} session of the Marine Environment Protection Committee (MEPC) in May 2015. See IMO, “Shipping in Polar Waters,” http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx.

\textsuperscript{56} On this theme see: Olav Schram Stokke, “Institutional Complexity in Arctic Governance: Curse or Blessing?” in \textit{Handbook of the Politics of the Arctic}, 328-51. For a list of international treaties related to the Arctic, see: http://arcticportal.org/arctic-governance/international-agreements

\textsuperscript{57} Inuit Circumpolar Council, \textit{A Circumpolar Inuit Declaration on Sovereignty in the Arctic} (2009).
membership in a criminal organization while another withdrew his application after he
learning that his previous convictions for drug smuggling and assaulting a police officer
(outside of Canada) prevented his entry. Both were deported. The ship then left Halifax for
Hvalsey, Greenland, where it took on new crew members – one new member (with an
extensive criminal history) and one of the previously deported crewmen. From Greenland,
the vessel proceeded west into Canadian Arctic waters.58

Canada’s Arctic vessel reporting system (NORDREG) does not require that craft
under 500 tons report in, but coming ashore requires foreigners to report to authorities. This
became an issue on 22 August when the Berserk II landed at Gjoa Haven, Nunavut, and
failed to contact the Canada Border Services Agency or the RCMP.59 The captain of
the Berserk II later told the Gjoa Haven RCMP detachment that he thought it was
unnecessary to report to the Canada Border Services Agency or the RCMP, claiming that he
had never left Canadian waters.60

Before the local police learned of the crew’s ineligibility to enter Canada, the vessel
had departed for Cambridge Bay, Nunavut. The RCMP alerted their counterparts in that
community, who prepared to meet the ship. Prior to docking in Cambridge Bay, however,
the captain gave firearms to the two crewmembers with criminal records and put them
ashore outside of town. The ship’s crew was arrested upon arrival in the hamlet, but the two
men who had disembarked earlier were loose on the sparsely-populated (and dangerous)

58 Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division,
Northern Ontario Region, Canada Border Services Agency, Proceedings of the Standing Senate Committee on
Fisheries and Oceans, November 5, 2009.
59 The RCMP has the delegated authority to enforce the Immigration and Refugee Protection Act as well as
the Customs Act in the North where there is no Canada Border Services Agency presence.
60 Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division,
Northern Ontario Region, Canada Border Services Agency, Proceedings of the Standing Senate Committee on
Fisheries and Oceans, November 5, 2009.
Victoria Island. What had begun as a law enforcement and border services issue thus became a search and rescue mission as well.\textsuperscript{61}

The RCMP lack air SAR capability but faced hundreds of kilometres of barren coastline in the area around Cambridge Bay. Accordingly, they requested assistance from the Coast Guard vessel CCGS \textit{Sir Wilfrid Laurier}, which offered its helicopter for the search. The search took five days and, after waiting by their tent in vain for their shipmates to return, the pair of criminals had only some soup and bread left. With wolves nearby, they seemed relieved to be found and arrested on 29 August.\textsuperscript{62} Ultimately, all five crew members were removed from Canada: three of the crew under deportation order relating to their criminality, and two under exclusion orders for failing to report to the Canadian Border Services Agency under the \textit{Immigration and Refugee Protection Act}. Charges for failing to report to the CBSA were withdrawn in return for their immediate departure to their countries of origin.

This incident was a very unusual occurrence, and hardly reflects the normal duties of northern police and border officers. Nevertheless, it illustrates many of the potential dangers surrounding illegal immigration or criminal infiltration into the region, and the safety and security concerns inherent to an increasingly accessible Arctic. Because border services are so dispersed across the North, it is easier to move undetected into the Canadian Arctic than it would be to infiltrate most southern waters. A 2010 intelligence assessment by the Integrated Threat Assessment Centre (ITAC) – which includes the Canadian Security Intelligence Service (CSIS), the RCMP, and other law enforcement agencies – raised the spectre of the North as a conduit for international or domestic radicals. “In recent years” the report noted, “vessels with links to human smuggling, drug trafficking, and organized crime have

\textsuperscript{61} Eric W. Manchester, “Berserk in the Arctic,” \textit{Canadian Aviator} (July/August, 2008), 27
\textsuperscript{62} Ibid.
attempted to access the Canadian Arctic.” Canadian security agencies are, therefore, aware of threats of infiltration along the lines of the Berserk II.

Still, this remains a potential threat. As the incident demonstrated, the vessel was easily identified in Gjoa Haven and its crew arrested in Cambridge Bay. Had the crew had attempted to escape either by sea or by land there would have been few places to go. The dearth of refueling points along the Northwest Passage would require a vessel to stop in at a Canadian settlement, while secretly moving into the Canadian Arctic would be a dangerous proposition. Decades of Canadian Armed Forces exercises have demonstrated how difficult it is to survive and move in the Arctic – even with heavy logistical support. Criminals or illegal immigrants seeking to move into the South in this manner would certainly face dangers far out of proportion to the gains of potentially avoiding Canadian customs. Accordingly, it would be appropriate for both CBSA and the RCMP to await more evidence that a serious threat along these lines has materialized before devoting significant new resources (or redeploying these from other parts of Canada) to address it.

Main Actors and Stakeholders in Arctic Security

Territorial Governments

The Governments of Yukon, Northwest Territories, and Nunavut are responsible for emergency management within their borders, as well as SAR response on their lands and inland waters. Each of the three territories has its own approach to emergency preparedness and response at the community level and considerable efforts have been 63 “Arctic Terror Threats Real: Security Agencies,” CBC News (November 10, 2010), http://cradpdf.drdc-rddc.gc.ca/PDFS/unc125/p535156_A1b.pdf 64 Adam Lajeunesse and P. Whitney Lackenbauer, Canadian Armed Forces Arctic Operations, 1941-2015: Historical and Contemporary Lessons Learned. 65 This section is derived from Arctic Integrating Concept, 53-60; CJOC Plan for the North, 19-23; and various federal departmental websites.
made by territorial governments to assist communities with their emergency planning and preparedness responsibilities. For emergencies exceeding local capacity, CAF or other federal agencies may be called in to assist.

**Federal Agencies and Departments**

The **Canadian Armed Forces (CAF)** are responsible for the defence of Canadian territory and maritime space and play a central role in northern security. The Government of Canada’s *Northern Strategy* provides the overarching framework that guides federal policy in the region. The military contributes this strategy primarily by “exercising sovereignty” through the implementation of the *Canada First Defence Strategy* (CFDS). The latter document directs the CAF to “demonstrate a visible presence in the region,” exercise control over and defend our Arctic territory, and provide assistance to other government departments and agencies when called upon to respond to “any threats that may arise” in the region (as well as having the capacity to conduct daily domestic and continental operations). In practice, these duties have led the CAF to devote considerable resources towards a more robust Arctic operating capability – both in the land and in the northern waters. The Forces regularly train small, specialized Arctic ground forces (such as the Canadian Rangers and the Arctic Response Company Groups) in exercises such as the annual Operation Nanook, Nunalivut, and Nunakput. These exercises, which normally include Air Force and Navy participation, generally focus on unconventional security scenarios such as environmental or criminal situations requiring CAF support to civilian agencies.

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66 Funston, 14.
Joint Task Force North (JTFN), based in Yellowknife, Northwest Territories, is the military command responsible for all Canadian Forces operations across Canada’s three northern territories: the Yukon, Northwest Territories and Nunavut. It commands and supports joint, integrated and combined safety, security and defence operations in the Canadian North, and liaises with the territorial governments and people of the North. Its area of responsibility covers the three northern territories, encompassing approximately four million square kilometres or 40 percent of Canada’s land mass (and 75 percent of its coastal regions), and its activities are supported by 440 (Transport) Squadron with four CC-138 Twin Otter aircraft based in Yellowknife, and 1st Canadian Ranger Patrol Group with 60 patrols across the North.

**Indigenous and Northern Affairs Canada (INAC)** is the lead government agency for activities in the North and supports Northern Canadians in their efforts to improve social and economic well-being to develop healthier, more sustainable communities and to participate more fully in Canada's political, social and economic development. The Department's mandate in the North is significant and far-reaching including resource, land and environmental management responsibilities. INAC leads federal efforts and coordinates partnerships under Canada's Northern Strategy, which informs the Department's key priorities and work in the North. It chairs various interdepartmental committees, including the Ad Hoc Deputy Minister’s Committee on the Arctic and the Assistant Deputy Minister (ADM) Coordinating Committee on the Northern Strategy. INAC is responsible for the negotiation of comprehensive claims and self-government agreements on behalf of the Government of Canada and oversees the implementation of negotiated agreements.
As the lead for emergency management for the Government of Canada, **Public Safety Canada** plays a significant overarching role in the response to natural and human-made disasters across the North. In addition, the CAF may be called upon to provide assistance to law enforcement and border security tasks which also fall under Public Safety Canada's mandate. It does this by working with other levels of government, first responders, community groups, the private sector and other nations. PS also works with partners and stakeholders in the provinces and territories to develop and implement programs that target specific crime issues in regions and communities. To this end, they contribute funds for policing services in First Nations and Inuit communities in partnership with the provincial and territorial governments.

The **Royal Canadian Mounted Police (RCMP)** provides police services to the territories under the provisions of their territorial policing agreements. As a result, the RCMP maintains 57 detachments consisting of about 380 people in the three territories, divided administratively into “M” division (Yukon), “G” division (Northwest Territories), and “V” division (Nunavut). The RCMP's program for the North includes monitoring organized crime activity related to the diamond industry, drug awareness programs, search and rescue activities, and aboriginal programs.

The **Department of Fisheries and Oceans (DFO)** has well-established partnerships with northern co-management boards which bring together local hunters and fishers, government agencies, public management boards and committees to share management responsibility for
aquatic resources. When enforcing the *Fisheries Act*, Fisheries Officers are Peace Officers under the Criminal Code of Canada, and are responsible for taking the appropriate actions to deal with criminal activity when encountered. This is a shared responsibility requiring consultation with the police agency of jurisdiction.

As a Special Operating Agency of the Department of Fisheries and Oceans Canada (DFO), the **Canadian Coast Guard (CCG)** helps DFO meet its responsibility to ensure safe and accessible waterways for Canadians. The CCG also plays a key role in ensuring the sustainable use and development of Canada's oceans and waterways. Its responsibilities include aids to navigation; coordination of sealift services in the eastern Arctic; marine communications and traffic management services through the Northern Canada traffic regulation system (NORDREG); icebreaking and ice-management services (including vessel support to OGDs); channel maintenance; and marine search and rescue. The CCG is considered a key participant within the interdepartmental Marine Security Operation Centres (MSOCs) that operate on the East and West coasts, and provide vessel traffic management information in support of the preparation of a recognized Maritime Picture of Canada’s coasts.

**Transport Canada (TC)** works to ensure that ship voyages are conducted in a safe and efficient manner and in conformity with the bilateral Canada-US Agreement on Arctic Cooperation and Canada’s other legislation, including the *Arctic Waters Pollution Prevention Act*. TC also seeks to ensure that small communities continue to enjoy reliable air service and that northern airports remain safe and viable. Its activities involve minimizing
the risk of environmental damage from transportation accidents, and promoting environmentally-friendly operations in the transportation sector within the context of the federal interdepartmental sustainable development strategy.

**Natural Resources Canada (NRCAN)** is a science-based department that works to enhance the responsible development and use of Canada's natural resources and the competitiveness of Canada’s natural resources products. Many initiatives have a Northern focus in the areas of innovative technologies and infrastructure, energy, and geoscience. NRCan’s Polar Continental shelf Program (PCSP) was created in 1958 to provide logistics support to researchers and to help Canada exercise sovereignty over its Arctic territory, and has close working relationships with various federal departments and other research agencies working in the Canadian North. Under an arrangement with DND, PCSP provides accommodations and logistical support in Resolute Bay in support of the CF High Arctic training Centre. In relation to the ongoing work to delineate the continental shelf, NRCan, together with DFO, is responsible for the scientific work necessary for the submission to the United Nations Commission on the Limits of the Continental shelf. DFATD has the overall responsibility for the preparation and presentation of Canada’s submission to the Commission.

The **Global Affairs Canada (GAC)** is the lead department in the implementation of Canada's Arctic Foreign Policy. GAC therefore leads on international Arctic issues, including participation in the Arctic Council, under the direction of Canada's Senior Arctic Official. From 2013-15, Canada assumed the Chairmanship of the Arctic Council with the overriding them of "Development for the People of the North" with three sub-themes: 1.
Responsible Arctic Resource Development; 2. Safe Arctic Shipping; and 3. Sustainable Circumpolar Communities.

**Citizenship and Immigration Canada (CIC)** has one full-time employee in Yellowknife, and immigration services in Iqaluit are provided by Canada Customs. CIC conducts security and intelligence through its security and review division, which liaises with DND (among other departments) on relevant issues.

**Canadian Security and Intelligence Service (CSIS)** – CSIS has no assets in the North, but the agency carries out security clearances for federal employees in the region.

**Canada Border Services Agency (CBSA)** monitors, investigates, detains and removes people or goods in violation of relevant laws. The North is covered by two CBSA districts: the Northwest Territories, with offices in Yellowknife, Inuvik, and Tuktoyaktuk; and Nunavut, with an office in Iqaluit. Various Northern communities have become destinations for air travelers and cruise ship passengers.

The **Public Health Agency of Canada's (PHAC)** role is to help protect the health and safety of all Canadians. Its activities focus on preventing chronic diseases, preventing injuries and responding to public health emergencies and infectious disease outbreaks, including in Canada's North.
The **National Search and Rescue Secretariat (NSS)** is the lead agency for search and rescue in Canada. Its role is to coordinate all SAR activities, including in the North. Territorial government Emergency Measures Organizations shares responsibilities with the RCMP for ground searches in the Yukon, Northwest Territories and Nunavut.

**Environment Canada (EC)** is responsible for ensuring the preservation and enhancement of Canada's natural environment, renewable and water resources, forecasting the weather and environmental change, ensuring rules concerning water boundaries are followed, and harmonizing federal environmental policies and programs. The department conducts science and technology in the North to support evidence-based decision-making in policy, program, regulatory and service elements of this mandate. The department also carries out risk assessments, regulatory activities, data collection, environmental monitoring, and preparations for environmental emergencies. To fulfill their mandate they possess various vehicles, boats, snowmobiles, and storage facilities. 

**Parks Canada (PC)** is the largest federal landholder is the face of the federal government in many northern communities, bringing infrastructure, staff, contracts, natural and cultural research and monitoring capacity, SAR capability within National Park boundaries, tourism opportunities and other economic benefits. PC staff are trained and involved in cultural and natural resource management, public safety (search and rescue, mountaineering, and advanced First Aid), law enforcement, wilderness land and water travel skills, and communications and community liaison.
The **Canadian Space Agency (CSA)** is the lead agency for RADARSAT-2 and the RADARSAT Constellation Mission (RCM). The RCM maritime surveillance requirements are demanding in terms of mission and system requirements. DND is responsible for covering three zones extending up to 1000 nautical miles from the coast, while TC has requirements to detect ships four days before they enter Canadian waters, which involves voluntary disclosure out to 2000 nm and imaging out to 1200 nm.

**Alliances and International Organizations**

As a member of the **North Atlantic Treaty Organization (NATO)**, Canadian territory falls under the defence umbrella of the world’s largest military alliance.

The most important bilateral defence arrangement in the Arctic is the **North American Aerospace Defense Command (NORAD)**. This defence treaty manages aerospace warning and aerospace control for North America, with a traditional focus on the Arctic. NORAD monitors Canada’s northern airspace and dispatches fighters to intercept potential threats. In 2006, NORAD also gained a maritime warning function though this component has not played a large role in the organisation’s activity since that time.

The **Arctic Council** is the leading intergovernmental forum through which Canada advances its Arctic foreign policy and promotes Canadian Northern interests internationally. Canada led in the establishment of the Arctic Council in 1996, with the Ottawa Declaration explicitly stating that the Council’s mandate excluded “military security” issues. There are eight Arctic Council States (Canada, Denmark, Finland, Iceland, Norway, the Russian Federation,
Sweden and the United States of America) with voting membership. The Arctic Council also actively involves indigenous people who participate as Permanent Participants: Arctic Athabaskan Council (AAC), Gwich’in Council International (GCI), Inuit Circumpolar Council (ICC), Aleut International Association (AIA), Saami Council, and the Russian Arctic Indigenous Peoples of the North (RAIPON). The Council does not, and cannot, implement or enforce its guidelines, assessments or recommendations – that is the responsibility of each individual Arctic State. All decisions of the Arctic Council are taken by consensus among the eight Arctic Council States, including decisions taken at meetings of ministers, held every two years. This means that all of the Council’s initiatives must be supported by all Arctic Council States.

The Council concerns itself with circumpolar issues—that is, issues of importance to all eight states – including “soft security” issues related to human and environmental security. The practical work of the Council is carried out by six Working Groups with specific mandates that address a range of issues, including sustainable development, emergency response, pollution, oceans, and biodiversity conservation. Working Groups typically include representatives of governmental agencies of Arctic Council States, and Permanent Participants.