5 Years of True North in Canadian Public Policy

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Commentary

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Toward a New Polar Partnership

A Framework for Canadian-Australian Cooperation

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Introduction

Canada and Australia have much in common. Operating within federal parliamentary systems, both countries have a shared British legal and cultural heritage. Throughout their histories both have fought in UK- and US-led military campaigns, from the South African War of 1899–1902 to today's conflict against the Islamic State. As major commodity exporters with relatively small populations distributed across large landmasses, Canberra and Ottawa have adopted remarkably similar global outlooks and policy challenges.

The emergence of a multipolar world, increasing resource competition, and the effects of climate change have exponentially increased the challenges to Canada's and Australia's longstanding claims and influence over the Arctic and Antarctic respectively. To help develop respective capabilities and maintain influence over these regions, we recommend Canada and Australia build upon their commonalities and cooperate in the polar regions along three key themes: personnel exchanges; joint procurement of equipment; and mutual recognition of territorial claims.[1]

Geopolitical Context

For the first half of the 20th century, geopolitical competition over the polar regions was a low order priority. Harsh and inhospitable climates limited exploration and investment in infrastructure. It was only six decades after humans reached the North Pole that man first stepped on the moon. Before the Cold War and the advent of military competition in the Arctic, polar expeditions tended to have a scientific emphasis, with national prestige often more important than hard strategic calculations except during periods of major rivalry. When competition did occur around the Arctic, it was focused on air defence infrastructure and testing monitoring and surveillance in remote areas.

In the early part of the 2010s, the security architecture that evolved over 70 years began to show signs of weakening. Not since 1991 has there been the potential for a rapid evolution of state structures, national boundaries, and spheres of influence. Emerging powers, such as China, are considering alternative governance structures to familiar post-Second World War institutions, such as the United Nations, World Bank, and International Monetary Fund. The US is in relative decline, and the European effort to unify and centralize power in Brussels appears to have passed its apex. In a period of flux, strategic competition could accelerate. Expanding Asian powers, like China and India, are beginning to face the same dilemmas of European powers in Africa during the 1880s. Fast growing economies, a desire for resource independence, and an expansive grand strategy suggest that Chinese naval bases in Africa may morph into something larger. The January 2016 agreement for a Chinese military base to be hosted in Djibouti is the beginning of this trend. A greater involvement or heavier footprint will at some point be needed to maintain the internal stability of fragile states, creating a more permanent presence, followed by indirect or direct governance. These may not be called colonial possessions and the maps will not necessarily change, but the outcome will be familiar.

The Arctic and especially Antarctica are part of the calculations for expanding powers who may not be wedded to the current system of governance. The structures and modalities – such as the Antarctic Treaty and consensus for scientific endeavours – in polar regions during the 20th century were effective in encouraging multilateralism, but how long will this last? The proliferation of long range stealth capabilities, such as submarines, new technologies, and communication tools, has lowered the costs of creating a physical presence in these regions. Furthermore, ambitious powers may view the existing claims as weak, due to small populations and human presence, and lack of forward deployed defence assets to indicate commitment to the territory. This may run against the sentiments and perceptions of those favouring negotiated, multilateral arrangements. However, the 21st century will not necessarily be decided by discussions at the United Nations or in European capitals. These new realities must be considered by analysts when presenting options to decision makers.

Common Problems, Common Challenges

For Canada, the possibility of resource riches and an opening of the fabled Northwest Passage sea route between the Atlantic and Pacific Oceans offers an opportunity to boost the country's economy. However, challenges remain. The 2014–2015 collapse of oil prices has, at least for the time being, weakened the economic rationale for developing the Arctic's resources. Meanwhile, the Northern Sea Route through Russian-claimed waters is seen as a preferred route in some corners given that it is roughly 400 kilometres shorter than the Northwest Passage and features supporting navigational infrastructure and access to Russia's five icebreakers. However, Moscow's antagonism in the Ukraine and Middle East may have deterred foreign cooperation in this area for the foreseeable future (Waldie 2014). For Australia, maintaining its pre-eminent position in Antarctica will become more difficult; as will ensuring that the continent does not become a contested southern flank. A number of nations are establishing a presence, including China, which in February 2016 signalled it was setting up an Antarctic air squadron.

That being said, a change to the status quo and increased competition within polar regions would represent a significant challenge to Ottawa and Canberra, but it is also an opportunity for both to be proactive and create a framework for cooperation. Both Canada and Australia must plan for all contingencies, especially resource competition as well as potential militarization of these zones. There is already much shared common ground to build upon for polar cooperation. For one, Canada and Australia are active participants in the Commonwealth, WTO, G20, OECD, and APEC. Likewise, a 1986 Canada-Australia Consular Services Sharing agreement sees the sharing of diplomatic posts in Africa and the Pacific; a 2011 Memorandum of Understanding similarly established a cooperative framework in the area of international aid. In terms of security, there are already some 500 high-level and working-level visits per year between the two militaries plus a longstanding participation in the "Five Eyes" intelligence sharing agreement with New Zealand, the UK, and the US. At the United Nations, an informal arrangement exists whereby Australia, New Zealand, and Canada support each other's respective bids for a non-permanent seat on the Security Council. This policy paper seeks to analyse the common challenges and provide a framework by exploring areas of cooperation.

Canada's Arctic Context

The Government of Canada designates territory situated north of 60° N latitude as the Arctic. At 3.8 million square kilometres, the Canadian Arctic encompasses the Yukon, the Northwest Territories, Nunavut, a portion of northern Quebec, and the northern tip of Labrador. This equates to almost 40 percent of Canada's landmass and contains roughly 100,000 inhabitants. The vastness of Canada's Arctic, in combination with the sparse population, presents a unique challenge to both securing the region and guaranteeing Canadian sovereignty.

Map 1: Canada and the Arctic

Source: CIA World Fact Book

Australia's Antarctic Context

Australian Antarctic Territory (AAT) consists of all islands and territories south of 60° S latitude and between longitudes 45° and 160° E with the exception of the French sector of Terre Adélie (between longitudes 136° and 142° E). The AAT covers 5.9 million square kilometres and represents around 42 percent of the total landmass. There are three year-round stations (Mawson, Davis, and Casey) administered by the Australian Antarctic Division, which is part of the Australian Government's Department of the Environment.

Map 2: Antarctic territorial claims

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Source: CIA World Fact Book

Early History and Second World War Legacy

During the years following Canada's Confederation in 1867, and up until 1939, the Arctic remained largely uncontested due to its harsh environment. However, during the Second World War, the region began to emerge as a potential military theatre, especially after the Japanese occupation of a number of islands within the Alaskan Aleutian chain.

A 1938 agreement made with the US saw Canada pledge not to let its territory become host to threats to the contiguous US. In return, Washington agreed to protect Canada from the ambitions of great powers. Following the US entry into war in December 1941, Washington took the lead in securing the northern half of the continent, most notably by building the Alaskan Highway from British Columbia to Alaska (Huebert 2011, 812). Once the war concluded it was discovered that German U-boats had constructed secret weather stations in Labrador and Greenland. With similar expansionist and strategic calculations in the southern hemisphere, prior to the outbreak of hostilities in 1939, Germany sent an expedition to the Antarctic. This was motivated by energy security concerns over whale oil, which prior to this time was purchased from Norway. Germany also claimed a portion of Antarctica, known as New Swabia. There is evidence that Germany considered establishing naval bases around the area of the Drake Passage to control movement between the Pacific and Atlantic Oceans at the southern tip of South America.

The Cold War

With the US providing global leadership as well as coordinating North American continental efforts, Canadian attention turned northwards again with the onset of the Cold War in the early 1950s. When Moscow positioned its nuclear bomber forces and eventually intercontinental ballistic missiles towards North America, it transformed the Arctic into the only region in the world where the two superpowers directly faced each other (Huebert 2011, 813). In response, the US constructed a series of early warning radar lines to detect any incoming Soviet bombers and missiles.

While largely funded by Washington, these radar lines – known as the Distant Early Warning (DEW) line, the Pinetree Line, and the Mid-Canada Line respectively – were also manned by Canadian military personnel. Today, the existing and sole remaining line, the North Warning System, is unmanned, the result of an upgrade to the DEW system in the mid 1980s. Importantly, these radars continue to operate under the aegis of the binational North American Aerospace Defense command (NORAD). NORAD is the eyes and ears of both the Pentagon and Canada's Department of National Defence: it provides an "early warning of imminent threats". An amendment to the NORAD agreement in 2006 saw the command take on early maritime warning (Charron 2015, 217–218; 224).

The Cold War experience in Antarctica was quite different to the Arctic. During the 1950s the basis for the Antarctic Treaty System was established. Signed in 1959, the framers of the Antarctic Treaty sought to guarantee that "Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord." As a result, the existing claims were "frozen" with the US and Soviet Union (and then Russia) maintaining the right to make claims. While the Soviets built strategically located bases around Antarctica, competition in the continent during the Cold War was largely absent.

Canada's Security-Sovereignty Paradox

The experience of the Cold War, in which Canada relied on the US for security, created a paradox: while Washington's security assistance in the Arctic is seen as necessary, it also simultaneously challenges Canada's

sovereignty. This tension between security and sovereignty has been at the heart of Canada's defence and foreign policies in the Arctic ever since.

In one sense, Canada has simply lacked the political will to commit the necessary financial resources to develop an independent military presence sufficient to secure its Arctic territory. This is largely the result of the US security umbrella provided by NORAD, which helps reduce Canada's own defence costs and provides a relationship with the world's preeminent military power. This theoretically leaves Canadian territory secure from great power threats, but also facing a control issue concerning its sovereignty. This issue is especially relevant to the waters comprising the Northwest Passage, which the United States does not recognise as Canadian sovereignty; something that became acute in the *SS Manhattan* and US Coast Guard Cutter *Polar Sea* incidents in 1969–70 and 1985, respectively. Given such US refusal, with any clash between competing national interests there is not a full guarantee that Canada's territorial and resource concerns will not be sacrificed at the expense of Washington's priorities.

The Rise of Multilateralism

After the Cold War, both polar regions increased their focus on consensus and multilateralism. The lack of great power competition, low resource prices, and continuing logistics challenges meant that collaboration was the logical approach.

In 1989 Ottawa turned to multilateralism, helping create the Arctic Council in 1996. The Council is composed of those eight states with Arctic territory: the US, Russia, Canada, Denmark (Greenland), Iceland, Norway, Sweden, and Finland. Representatives from the region's various Indigenous peoples also sit as Permanent Participants with the Council. A dozen other states, as varied as China, Italy, Japan, Germany, France, India, and South Korea, sit as Observers on the Council. The Council meets biannually and generally focuses on settling matters related to "sustainable development and environmental issues in the North" (Plouffe 2014). Issues related to security generally remain the prerogative of each state. Of note, 11 foreign governments, including Singapore, Poland, and Spain, have also appointed Arctic Ambassadors to both demonstrate their interest in the region and to ensure their parochial interests are reflected in Arctic discussions.

For Australia, the end of the Cold War did not mark a significant departure from existing modalities. On October 3, 1991, the Protocol on Environmental Protection to the Antarctic Treaty was signed in Madrid, Spain, and entered into force in 1998. The Madrid Protocol establishes Antarctica as a "natural reserve, devoted to peace and science" and sets out basic principles for human activities, which specifically prohibits all activities related to mineral resources. These developments occurred at a similar time that the ozone layer and ecological issues were entering into public consciousness. As a result, sentiment surrounding the Antarctic within Australia was based on environmental and climate debates, with mining and security matters not considered suitable for this pristine continent.

A New World?

The agreements and collective approaches underpinning the polar regimes were remarkably successful, with a heavy emphasis on science and collaboration. It appeared that it was the "end of history" and geopolitical competition had passed. While the September 11, 2001 terrorist attacks on New York and Washington had no real impact on the polar regions, it did mark the beginning of a new era. From around 2003, the size and growth rate of the Chinese economy started to have a significant impact on the structure and orientation of the world economy. China's construction-intensive period of growth started to put pressure on a number of commodity markets, and economic trends began to deviate from their historic norms. This supply shock saw

energy and strategic commodities, such as iron-ore, reach record high prices. The post-Soviet Russian state, buoyed with revenue from high energy prices, started to reassert itself. As China expanded its economy, its international and security interests began to take on regional and global aspirations. US global prestige and interest in power projection diminished after long and draining involvement in Afghanistan and Iraq.

With a vastly different international security environment, the first decade of the 21st century saw the divergence between a camp of largely Western nations who viewed polar regions as a site of scientific and environmental collaboration, and an alternate group that simply saw the regions as empty geography that could be controlled and exploited. Russia was in the latter group and sought to insert itself in both polar regions. While Western leaders were focused on the "peace dividend" and the "end of history", Russia remained focused on traditional realpolitik. This included projecting power and signalling intent to control areas of strategic importance. In the case of the Crimea, this included a military component. While Russia's polar presence has been peaceful, there is no mistake in the signal it has sent in terms of a desire to be a player in the evolution of both the Arctic and Antarctica.

In 2001, it was reported that a Russian prospecting vessel collected data on oil and gas reserves in Antarctica. In that same year Russia made an official submission to the UN that proposed to establish new outer limits of the continental shelf in the Arctic beyond the previous 200 nautical mile zone. In 2007 Russia conducted the first-ever crewed decent to the sea floor below the North Pole and planted a flag in the ground.

The response to Russia's activities in the Western press was a mix of outrage and mocking. This belies the very different world views and strategic drivers for asserting sovereignty. Russia's economy subsequently weakened due to lower oil prices, and so too the ability and interest of Russia to follow up these actions with force appears limited. In the immediate future, it appears Russia will be focused on the evolving power struggle within the Middle East, which may shift from a proxy battle to a more direct confrontation between major powers, and the crisis in eastern Ukraine. Other areas remain strategically important to Russia in the longer-term, but the volatility of the Middle East, viewed in Russia as its southern flank, is a current focal point for the Kremlin.

In terms of global strategy, Russian actions have signalled the end of taboos over challenging the status quo in the polar regions. We believe this means that Russia will be significantly involved in any future geopolitical competition within polar zones. While it may not end up dominating these regions, it has indicated that it will be an active player. This is an ongoing matter of debate within the strategic studies community that has rarely looked at the polar zones as a contested space. In any outlook, it is difficult to predict particular pathways. However, in security and intelligence analysis, it is necessary to consider and speculate on future tensions and conflict. This differs from international relations scholars who tend to look backwards and seek theoretical models to describe current events.

In Antarctica, there are a range of countries that have expressed interest in the mineral and energy riches. This includes Russia, India, and Iran. It also appears that China is undertaking a concerted, long-term effort to create a presence in Antarctica, which has been documented in a forthcoming book, *China as a Polar Great Power* by Anne-Marie Brady. Ms Brady notes: "I have been researching Chinese polar interests since 2008 and the Chinese language materials are very, very clear about China's interest in Antarctic minerals" (Atkin 2015).

In a world where existing norms over scientific and environmental priorities for the Arctic and Antarctic diminish, Canada and Australia need to be ready.

Canada's Arctic Issues: Challenges

THE NORTHWEST PASSAGE AND RESOURCE POTENTIAL

A 2008 US geological survey (U.S. Department of the Interior) estimates that the entire Arctic region holds some 30 percent of the world's undiscovered natural gas, 20 percent of undiscovered natural gas liquids, and 90 billion barrels of oil. Growing world powers like China and India desire more energy resources to satisfy their expanding middle classes and industrial ambitions. Shell's withdrawal from its Arctic projects in 2015 is a decision governed by commercial drivers, namely low oil prices, rather than a permanent abandonment of the plan to unlock resources in the region. Unfortunately for Canada, its ability to exhibit a degree of control over some of these resources is inhibited by the fact that no other state recognizes Ottawa's longstanding claims to ownership over the Arctic waterways comprising the Northwest Passage. The Passage is seen by Ottawa to represent internal waters and is therefore subject to Canadian law and regulation. Others, like the United States, China, and the European Union, regard the waters as an international strait and thus permeable for their vessels without Ottawa's permission. Meanwhile, Russia, which similarly claims the Northern Sea Route as internal waters, has not explicitly opposed or supported Canada's claims (Byers 2009).

For the Americans, this is an issue of precedent; if Washington concedes to Ottawa then its claims for unimpeded access in other global strategic straits – such as Gibraltar, Malacca, the South China Sea, and Hormuz – could be jeopardized. For the European Union, home to some of the world's largest commercial shipping firms, it is about gaining unimpeded access to a possible gateway to East Asia. For China, it is about both commercial shipping and future access to resource exploitation.

The Chinese have been investing much effort in their attempt to be a viewed as a "near-Arctic" state. Between 1985 and 2012, Beijing launched five Arctic and 28 Antarctic expeditions, spending some $60 million on polar research and establishing a China-Nordic Arctic Research Centre in Shanghai. Having achieved official observer status with the Arctic Council in 2013, the Chinese have been building a relationship with Iceland, signing a free trade agreement with Reykjavik the same year. Beijing used its financial weight to negotiate a $406 million currency swap with Iceland amidst the latter's fight with the European Union. In turn, Iceland is seeking to develop a major logistics hub in the hope of positioning the country as a key base for commercial shipping between Asia and Europe (Guschin 2013; Guschin 2015).

Any possibility of the Northwest Passage becoming a viable transit way – whether as an international strait or as internal Canadian waters – depends on the degree to which the region is accessible. Even with thinning ice the region remains an expensive logistical and navigational challenge given the lack of port facilities and a limited ice-free season (Charron 2015, 220). As a testament to these challenges, a *Globe and Mail* report notes that in 2013 just 22 vessels went through the Northwest Passage, up from 3 vessels in 1983 (Chase 2014).

EXISTING DISPUTES AND FLASHPOINTS

In terms of land, Canada faces one minor claim dispute with Denmark over Hans Island. At 1.3 square kilometres, Hans Island is situated between Ellesmere Island and Greenland. While being uninhabited, it was visited by military personnel from both countries in the early 2000s. A 1973 agreement failed to resolve the question of ownership, though, currently, the dispute remains more of an irritant rather than one of great diplomatic importance (Carnaghan and Goody 2006, 5).

In addition to the Northwest Passage, Canada has maritime boundary disputes with the US and Denmark, respectively, over the Beaufort and Lincoln Seas. Of the two, the Beaufort is the most important given the potential for oil and gas deposits. The Lincoln Sea dispute concerns just two small parcels of water.

Canada has sought to resolve the Beaufort dispute and its additional claims to the Arctic seabed through the United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS allows a country to claim control of the seabed, beyond the existing and recognized 200 nautical mile limit, if it can prove that "the seabed is an extension of its continental shelf." Canada spent an estimated $200 million mapping the seabed over a 10-year period, gathering scientific evidence for its 2013 submission to the UN's Commission on the Limits of the Continental Shelf. It will take many years before all the submissions can be verified, however, media reports have indicated that Canada's submission included a claim to the geographic North Pole given the presence of the nearby Lomonosov Ridge. The Ridge is thought to be a source of minerals and oil and is also claimed by Russia (Chase 2013).

SECURITY IMPORTANCE

Canada, by even the Canadian Forces' estimation, does not face a major military threat in the Arctic. The 2008 *Canada First Defence Strategy* identifies illegal activity in the form of pollution and criminality, in addition to increased shipping, as the main security concerns ongoing in the region. Hence, the primary goal of the Canadian Armed Forces will be to obtain "the capacity to exercise control over and defend Canada's sovereignty in the Arctic" (National Defence and the Canadian Armed Forces 2008).

Sabre rattling by Russia, with routine Bear bomber flights and the undertaking of a major Arctic military exercise in their own territory in March 2015, remains a concern but does not pose a threat to Canadian territory (Associated Press 2015).[2] Given the expense and immense logistical challenges involved in Arctic military operations, Russian activities are seen more as exercises aimed at intelligence gathering and testing NORAD response times. That being said, many of the Arctic states have begun military buildups since the mid 2000s, though this has largely been done to demonstrate an ability to exercise control over each states' territorial claims (Howlett and Kinney 2014).

For all of the wrangling over procurement woes and defence budget cuts, the Canadian Armed Forces has taken steps to be better prepared to confront these security and sovereignty challenges. In 2014 the military began measures to establish equipment hubs at four locations throughout the region: Iqaluit, Yellowknife, Resolute Bay, and Inuvik. Once in place, by 2018, these hubs will allow for 30 days of sustained ground operations in the region. It is hoped that the strategic stockpiling of equipment will lead to faster response times and cost savings from not having to station larger contingents of personnel.

At present, military operations in the Arctic cost anywhere from five to seven times more than anywhere else in the country (Pugliese 2014). The Canadian Armed Forces has also been increasing its intelligence gathering activities in the Arctic. Since 2008, the military has been regularly deploying a "counter-intelligence team to guard against possible spying, terrorism and sabotage during its annual Arctic exercise" (Brewster 2015).

In terms of naval capabilities, the first of the Royal Canadian Navy's (RCN) six Arctic Offshore Patrol Ships (AOPS), the *DeWolf* Class, is under construction in Halifax. The fleet is expected to be operational by 2022. With a range of 6800 nautical miles and the ability to operate year-round in ice up to one metre thick, the AOPS will be a multi-faceted platform capable of performing constabulary functions – with its CH-148 Cyclone helicopter and automated gun systems – plus supporting other government agencies in tackling pollution, criminal activity, and enforcing sovereignty, all of which have been identified as likely security problems given the absence of a current extant threat (National Defence and the Canadian Armed Forces 2015a).[3] These ships will represent a significant Arctic capability for the RCN and will complement the Canadian Coast Guard, who will be receiving their first new icebreaker in almost 40 years when the CCGS *John Diefenbaker* enters service in 2022.

The Nanisivik refueling station will work in conjunction with the AOPS. Initially planned to be manned year-

round, the $146 million facility will now be unmanned and strictly focused on storing fuel for RCN and Coast Guard vessels to undertake long-range operations (Lajeunesse 2015, 9).

Aside from NORAD, the Canadian Armed Forces has its own assets to undertake domestic surveillance, chief of which are the RADARSAT II satellite and CP-140 Aurora patrol aircraft. Through the Polar Epsilon project, it can use the RADARSAT II to monitor "activity and ship movements" in the Arctic, allowing for the identification of ships that have not transmitted "their identity as required under international maritime regulations". Currently, the plan is to deploy three more RADARSAT satellites in 2018; this will provide the CF with the ability to cover the Arctic from space with several passes per day. The Royal Canadian Air Force's 14 Auroras are in the midst of a $2 billion upgrade and should remain operational until 2030 (Lajeunesse 2015, 10). Still, there remain shortages in fixed-wing coverage. The $1.5 billion unmanned aerial vehicle (UAV) project, JUSTAS, is almost a decade behind schedule and not due to enter service until 2025 (National Defence and the Canadian Armed Forces 2015b).

Finally, the Canadian Rangers remain the primary ground force in the Arctic. Out of the Rangers' five patrol groups, the 1st Canadian Ranger Patrol Group (1 CRPG) is tasked with conducting operations in the Arctic. 1 CRPG encompasses 1850 personnel spread across 60 patrols (Canadian Army 2014). In 2009 an army reserve unit was allocated to the north as well: the Yellowknife Infantry Company in Yellowknife, Northwest Territories (National Defence and the Canadian Armed Forces 2014). The current challenge for the Rangers is procuring a new rifle capable of operating in the Arctic. Long overdue, the federal government signed a contract in 2014 to purchase 6500 rifles to replace the 70 year-old Lee Enfield rifles (QMI Agency 2014).

Australia's Antarctic Issues: Challenges

RESOURCE POTENTIAL

Antarctica is thought to contain large amounts of mineral and energy resources. Exploration has been limited because of the fact that 98 percent of the continent is covered by an ice sheet up to four kilometres thick. Aside from the logistical difficulties of determining the resource base, the Madrid Protocol has deterred efforts to conduct investigation. Known resources include iron-oxides, coal, oil, and gas. It is thought that the dispersal of minerals will be different from other continents due to the lack of water and flowing rivers that disperse ores.

According to a 1987 Australian Government study, *Coal Potential of Antarctica,* the main known coal deposits lie in the Transantarctic Mountains (Rose and McElroy). Given the physical connection to Gondwanaland and ancient geological and biological processes, it is expected that there will be oil and gas reserves in Antarctica. Offshore exploration in the Ross Sea found traces of gas but this occurred in the early 1970s and no further work has taken place. With major technological advances in deep sea and polar oil and gas development, offshore energy projects would be the first logical resource projects if restrictions were removed and the energy price increased.

Another important resource are the fisheries of the Southern Ocean. Historically, this was of interest to whalers who were the dominant influence on this region. Whale oil was an important lighting source during the 1800s. The creation of the International Whaling Commission and the moratorium on commercial whaling in 1986 has largely removed whaling from security considerations, with the exception of Japan, which undertakes a scientific program conducted by its Institute of Cetacean Research. Aside from whales, it was not until the 1970s that large scale commercial fishing began. Through an international convention established in 1982, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has a mandate to conserve Antarctic marine life (CCAMLR 2015). The main fish stocks include Patagonian toothfish, Antarctic toothfish, mackerel icefish, and Antarctic krill. The key issue in these waters is the

incidence of illegal, unregulated, and unreported (IUU) fishing, which has increased in recent years. Some analysts consider IUU the over-riding issue of Antarctic security matters; however, we take a narrower view of security drivers and are looking on a longer timeline. Furthermore, while there is a security overlay, often IUU has a profit motive rather than any broader strategic intent.

SCIENTIFIC ACTIVITY

Australia employs over 300 staff on a permanent or temporary basis with a direct involvement in research and administration of efforts in the Antarctic. The Australian Antarctic Division leads a program that is concerned with research into climate change, the human footprint in Antarctica, conservation of Antarctic and Southern Ocean wildlife, and sustainable management of Southern Ocean fish stocks.

In addition, Australia and other nations with research bases in Antarctica undertake diverse research programs with the sciences of the atmospheric, terrestrial, and marine environments. Antarctic stations have also undertaken study into: human biology; seismology; geomagnetic observations; the shape, orientation, and gravity field of the Earth; glaciology; meteorological observations; astronomy and cosmology; marine biology; and seafloor mapping.

There are three Australian Antarctic bases, established during the 1950s, which have been staging posts for Australian activities in Antarctica. In the adjoining Antarctic territories claimed by Australia, New Zealand, and France, there are a range of bases established by a number of different countries (see table 1).

Table 1: Antarctic Bases on Australia, New Zealand, and France claimed territory.

TERRITORY	STATIONS	ESTABLISHED	OPERATOR	DESCRIPTION	COORDINATES
Australia	Casey	1957	Australia	Permanent station located at Vincennes Bay	66°16'55.6"S 110°31'31.9"E
Australia	Davis	1957	Australia	Permanent station located in Princess Elizabeth Land	68°34'35.3"S 77°58'9.2"E
Australia	Mawson	1954	Australia	Permanent station located at Mac Robertson Land	67°36'10.1"S 62°52'22.8"E
Australia	Taishan Station	2014	China	Summer research station located in Princess Elizabeth Land	73°51'S 76°58'E
Australia	Kunlun Station	2009	China	Summer research station located at Dome A	80°25'01"S 77°06'58"E
Australia	Zhongshan (Sun Yat-Sen)	1989	China	Princess Elizabeth Land	69°22'24"S 76°22'12"E
Australia	Bharati	2012	India	Permanent station located at Larsemann Hills, Princess Elizabeth Land	69°24'28"S 76°11'14"E
Australia	Concordia	2005	Italy/France	Permanent Joint French-Italian station located at Dome C, Antarctic Plateau	75°06'00"S 123°20'00"E
Australia	Law-Racovita	1986	Romania	Permanent station located at Larsemann Hills, Princess Elizabeth Land	69°23'18.9"S 76°22'50.75"E

TERRITORY	STATIONS	ESTABLISHED	OPERATOR	DESCRIPTION	COORDINATES
Australia	Progress Station	1988	Russia	Summer station located in Princess Elizabeth Land	69°22'48.2"S 76°23'19.1"E
Australia	Vostok	1957	Russia	Permanent station located in Wilkes Land	78°27'51.8"S 106°50'14"E
Australia	Mirny Station	1956	Russia	Permanent station located in Queen Mary Land	66°33'10.4"S 93°00'34.8"E
Australia	Druzhnaya 4	1987–1991 (Closed)	Russia	Princess Elizabeth Land	69°44'0.9"S 73°42'0.6"E
Australia	Leningradskaya Station	1971–1991 (Closed)	Russia	Oates Coast, Victoria Land	69°30'00"S 159°23'00"E
Australia	Molodyozhnaya Station	1962-1990 (Closed)	Russia	Permanent station located at Thala Hills, Enderby Land	67°39'57.0"S 45°50'33.2"E
New Zealand	Jang Bogo Station	2014	South Korea	Permanent station at Terra Nova Bay	74°37'0"S 164°12'5"E
New Zealand	Mario Zucchelli Station	1986	Italy	Permanent station at Terra Nova Bay, Ross Sea	74°41'39.9"S 164°06'46.5"E
New Zealand	Scott Base	1957	New Zealand	Permanent station at Ross Island	77°50'58.5"S 166°46'5.9"E
New Zealand	McMurdo Station	1956	United States	Permanent station at Ross Island	77°50'43.4"S 166°40'11.2"E
France	Dumont d'Urville Station	1956	France	Permanent station at Adélie Land	66°39'47.3"S 140°00'5.3"E

EXISTING DISPUTES AND FLASHPOINTS

For Australia, its extended southern flank includes its Antarctic Territory and the Southern Ocean. IUU fishing is a concern to Australia and New Zealand. Those undertaking IUU are driven by economic considerations. Japanese whaling activity has gained a great deal of Australian media and political attention. A case to stop these activities was initiated by then-Australian Prime Minister Kevin Rudd in May 2010 to the International Court of Justice (ICJ). The ruling in April 2014 stated that Japan must immediately stop its whaling program in the Antarctic. However, to sidestep this ruling, Japan called for disputes to be settled through the UNCLOS. The Japanese government gave its whaling industry an additional $50 million, with the industry in progress to establish a powerful independent body to facilitate whaling. In early December 2015, Japan's whaling fleet departed for Antarctic seas, a year after announcing its plan to kill 333 minke whales a year over the next 12 years for research (Government of Japan 2014).

Fishing in the Antarctic waters is governed under the 25 member Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). In 2014, five countries caught 291,370 tons of krill from Antarctic waters, an amount well within the allowable limit of 620,000 tons set by the CCAMLR. However, with countries set to expand their catch of Antarctic krill, the allowable catch limit may come under strain. Though China currently accounts for just 10 percent of the total Antarctic krill catch, its eight factory-freezer trawlers make it the largest fleet in the area. China has also stated it is set to ramp up its catch of krill by seven times today's levels in

coming years, though this would theoretically still be within the CCAMLR catch limit. However, with a vision to increase to between one or two million tonnes of krill per year, threats to the limit are evident. What's more, with China increasing its krill catch, countries such as South Korea look set to follow (Field 2015).

SECURITY IMPORTANCE

It is difficult to ascertain the security importance of whaling and IUU fishing. Images from whaling result in the Australian electorate objecting to these activities and make it an issue political leaders have to address. However, the ICJ case, international objections, and strongly worded statements do not seem to have hurt the overall Australia-Japan relationship. In fact, if anything, over the past decade the relationship has become closer, with significant investment, especially into LNG projects, flowing from Japan into Australia. Australia is also actively considering the acquisition of Japanese submarines, which has been discussed at the prime ministerial level; a move which would signal a deeper defence and strategic relationship.

Despite some viewing the whaling debate as a flashpoint, the current perceptions of whaling need to be put in historical context. It was only 1978 when Australia's last whaling station, the Cheynes Beach Whaling Company, in Albany, Western Australia was closed. Furthermore, as Supreme Commander for the Allied Powers in Japan, US General Douglas MacArthur encouraged and effectively revived the practice of large-scale whaling to feed millions of Japanese in the aftermath of war and shortages. In the contemporary era, encouragement of consuming whale meat within Japan and defying international criticism are viewed by some analysts to be driven by domestic political considerations.

Whaling and IUU in the Southern Ocean are quite different issues. Whaling, while receiving a lot of attention, is a contained issue with a country that is an emerging security partner. IUU fishing is a different challenge. Greater patrols and surveillance can deter activity, but the extent to which this is a security issue is unclear. The general lack of land or islands in which these activities can anchor themselves makes this a more transitory issue. However, the physical presence of bases, currently scientific-focused, on the rim of Antarctica represents a different long-term issue for Australia. This is especially relevant as the status quo is bound up in recognition of the AT system and international agreements restricting mining.

In terms of Australian strategic thinking, the position of Antarctica has evolved on defence priorities. The 1987 Defence White Paper, focused on retaining the existing international agreement structure, states that:

> The Government strongly supports the provisions of the Antarctic Treaty, which prohibit military use of the territory. The national interest of Australia lies in ensuring that Antarctica remains demilitarised and free from political and strategic competition. (Australian Government 1987, paragraphs 2.56 and 2.57)

By the 2009 Defence White Paper, there was a clearer and direct consideration of the strategic space in and around Antarctica:

> To guide defence planning, the Government has decided that the ADF's primary operational environment extends from the eastern Indian Ocean to the island states of Polynesia, and from the equator to the Southern Ocean. That area contains all Australian sovereign, offshore and economic territories, such as Cocos (Keeling) Islands, Christmas Island, Heard and McDonald Islands, Macquarie Island, Norfolk Island and also waters adjacent to the Australian Antarctic Territory. (Australian Government 2009, paragraph 6.38)

As of 2009, there was a realization that there would be an eventual change to the strategic environment, albeit in the long-term:

> While we do not judge that there is a credible risk of our national interests in the Southern Ocean and the Australian Antarctic Territory being challenged such that substantial military responses might have to be contemplated over the period of this White Paper, the Government

> will continue to monitor the strategic implications of international developments in the Antarctic region. (Australian Government 2009, paragraph 6.45)

In 2013, the Defence White Paper indicates that there was a subtle evolution of the Australian position:

> There is no credible risk of Australia's national interests in the Southern Ocean and the Australian Antarctic Territory being challenged in ways that might require substantial military responses over the next few decades. The Antarctic Treaty System provides for the international governance and management of Antarctica and sets aside use of Antarctica for peaceful purposes, with a particular emphasis on scientific research and environmental protection. The Antarctic Treaty's "Madrid Protocol" prohibits any activity relating to mineral resource exploitation other than scientific research, and until 2048 can only be amended by unanimous consent. Australia is a strong advocate of the Antarctic Treaty System and its goals. (Australian Government 2013, paragraph 2.76)

This specific mention of a prohibition on mining and review of the Madrid Protocol in 2048 would indicate that this date and mining potential are now starting to be factored into forward plans. Analysis in the following section of the White Paper is quite revealing:

> There is, however, increasing international interest in Antarctica, including in Australia's Antarctic Territory. Australia has forged operational and scientific cooperation relationships with several nations and will continue to monitor the strategic implications of international developments in the Antarctic region. To date, the Antarctic Treaty System has been well respected, but in coming decades it may come under pressure as resources become more scarce elsewhere. (Australian Government 2013, paragraph 2.77)

Analysis

Canada and Australia have a history of reactive polar policies. In the case of the Cold War, for example, Canada's Arctic policies were largely a reaction to superpower activities while Australia's are largely a continuation of British grand strategy, which has morphed into a presence focused on scientific endeavours. Both countries are constrained by having to contend with the vastness of the Arctic and Antarctic territories they respectively claim, especially as it relates to thin supply lines and high operation costs.

For Canada, the past decade has seen a combination of milder weather, an increasing number of ice-free days, and a demand for raw resources by other states force Ottawa to take the region seriously. Alliance cooperation with the US, through NORAD in particular, ensures that Canada is protected from existential threats like that experienced during the Cold War. However, when it comes to securing Canada's economic interests and sovereignty claims the country is, for all intents and purposes, alone.

Australia encounters a similar situation. Its claim on Antarctica is now supported by US security agreements and common interests as well as with New Zealand and France. Despite common interests, Antarctica is more important to Australia than the US, and New Zealand is only able to provide support in a limited capacity. While Australia is not alone, any change to the status quo will require Canberra to lead and fund efforts to secure the country's economic interest and maintain sovereignty.

Commercial, Diplomatic, and Military Catalysts for Change

For the Arctic, the major catalyst for change would be the emergence of a viable commercial route through the Northwest Passage waterways. From the perspective of the European Union and China, the ability to move goods between Europe and Asia without going through the Panama Canal would equate to major advantages

in both time and economics. A journey between Finland and the west coast of the United States alone would be reduced by at least 1000 nautical miles by going through the Arctic (McGarrity and Gloystein 2013).

The combination of emerging major powers in Asia and European commercial shipping operations will likely generate demand for using Arctic waterways for shipping routes. In the short-term, the harshness of the Arctic – and with it, high insurance costs – may dissuade commercial operators, but this will not last for long. The need for overseas markets for Chinese, Indian, and Korean goods, in conjunction with shorter ice-seasons, represents a diplomatic challenge for Ottawa in the long-term. At present, no foreign government recognizes Canada's territorial claims on the Arctic passageways surrounding its islands. Canadian efforts will have to build upon its sea-bed submission claims to the UN.

The Arctic Council represents one avenue to possibly address such matters, but a plan to obtain, maintain, and sustain military and civilian capabilities in the region is also needed. Canada would appear to be taking the prudent measures in this latter category, but shortfalls in procurement funding and shipbuilding delays increase the likelihood of a capability-gap in the medium-term. Russian Bear bomber flights do not yet represent a threat. However, if the relations between the US and Russia deteriorate or flash points in Syria or Ukraine flare up, the sensitivity of these flights may increase.

For Antarctica, the security considerations are more varied. Should the Panama Canal be blocked or destroyed, attention would quickly shift to the Drake Passage at the Southern tip of South America. This would refocus efforts to control Antarctic bases and increase military competition. Positioning for a potential post-2048 "free for all" over control of Antarctica appears to be the main long-term security threat. This will take the form of shadow boxing until countries start to flout the Madrid Protocol. While it may not lead to mining or resource extraction before this date, it will certainly pave the way for logistical support of these activities. Furthermore, "scientific" bases may morph into de-facto military bases and even though the Antarctic Treaty System may remain in place, it could become ignored or effectively redundant. Expanding powers will likely avoid prompting a military response.

Opportunities for Canadian-Australian Cooperation

The key opportunities for Australian-Canadian cooperation in the world's polar regions are threefold:

PERSONNEL EXCHANGES

Canada has over a decade of experience in performing routine naval and coast guard operations in polar environments. This includes search and rescue, sovereignty enforcement, and environmental response. The same applies to aerial surveillance and long-range Arctic patrols.

Currently, informal personnel movement occurs between Canada and Australia in the polar regions. The accident leading to the untimely death of Manitoba resident David Wood in Antarctica on January 11, 2016 while working with the Australian government's Antarctic program at the Davis research station illustrates these linkages. Mr. Wood had extensive experience in the polar regions for both Canada and Australia. However, Australia's experience in these remote areas is not as extensive as Canada's. Simply put, aside from those involved in the Antarctic program, the Australian climate does not produce a pool of civilians familiar with the extreme cold.

Australia needs to improve its capability in responding to any possible cruise ship accidents, research station emergencies, or resource challenges, by having on hand enough trained personnel who are skilled in operating in the extremes of a polar environment. In this sense, Canberra should consider an annual rotation

of Royal Australian Navy and Air Force personnel to those Canadian Armed Forces units performing regular operations in the Arctic. A similar rotation of personnel from the civilian Australian Antarctic Division to the Canadian Coast Guard would also build-up additional operational capacity. Training swaps among Canada's special forces units, the Joint Task Force-2 (JFT-2) and Canadian Special Operations Regiment (CSOR), and Australia's Special Air Service Regiment (SASR) are another area for building capacity. For Canada, the SASR's expertise in desert warfare would be of benefit, as would the JTF-2 and CSOR's polar operating knowledge for Australia.

There is also room for sharing expertise in strategic planning among Canada's Department of National Defence (DND) and Australia's Department of Defence (DOD). With over a decade of planning annual military operations in the Arctic, in addition to decades of search and rescue activities, Canberra's DOD could acquire a unique skillset from Ottawa's DND in planning for similar challenging operations in the Antarctic. In particular, Canada's background in building an extensive logistic support network for the Canadian Armed Forces could provide a possible model for further Australian engagement in Antarctica. In a similar vein, an exchange among Australian defence scientists with Defence Research and Development Canada represents another avenue for increasing the knowledge capital of the Australian Defence Force.

JOINT PROCUREMENT

Canada is currently undergoing an expansion of its polar marine capabilities. The six vessel *Harry DeWolfe* class AOPS, currently under construction, and the yet-to-be-built coast guard icebreaker, *John Diefenbaker*, represent a major development in the re-establishment of polar shipbuilding and operational skills. Although in a more limited manner, Australia is in the process of replacing its aging, contracted icebreaker, the *Aurora Australis*, with a new AUD$500 million unnamed icebreaker to be built in Tasmania.

Given the opposite calendar cycle between the two countries, one avenue of collaboration is for Australia to rent out its soon-to-be built icebreaker to the Canadian Coast Guard during Canada's winter months. With increasing build delays in the *Diefenbaker* project, renting the Australian vessel could help plug a capability gap for Canada and save money by retiring the 47-year-old CCGS *Louis S. St-Laurent*, the largest icebreaker in the Coast Guard. As a possible model, the RCN is currently renting two auxiliary oil replenishment ships for 60 sea days from Chile and Spain, respectively, to maintain fleet endurance capability and contain costs while the joint support ships are being built.

Canada is also looking at procuring a multi-mission aircraft, essentially a long-range patrol plane to replace the 35-year-old CP-140 Auroras, sometime in the 2020s. A possible contender for replacing the Auroras is Boeing's P-8 Poseidon. As the RAAF has already purchased eight of the new P-8 Poseidon maritime intelligence and surveillance aircraft, with options for four more, the RCAF could enter into a temporary rental arrangement with the RAAF. This would allow some RAAF crews to get experience in a polar environment while allowing the RCAF to test the P-8's capabilities in Arctic operations.

MUTUAL RECOGNITION OF TERRITORIAL CLAIMS

Canada and Australia have a mutual interest in obtaining recognition of their respective territorial claims. This could take the form of a joint polar statement that formalizes recognition and provides a clear signal that both countries will act in unison to formulate a common position on polar security. Over time this may lead to the creation of a polar body chaired by Australia and Canada that would welcome like-minded countries that support these overall efforts. Such an entity will be important if the Northwest Passage becomes utilized more frequently by international shipping and also for the period closer to 2048 when it is likely that the Antarctic Treaty System will be opened up and potentially replaced by a different system. This could have an impact on Australia's claims in the Antarctic. The confluence of each country currently not having any

state acknowledgement of their claims potentially represents a major diplomatic opportunity to not only cement a growing relationship between two like-minded states, but to also bolster each other's claims to the international community.

Canada has already submitted its continental shelf claim to the UN's Commission on the Limits of the Continental Shelf. The Commission is not expected to make a decision for several years; consequently, Canberra's recognition of Ottawa's territorial stance in the Arctic could possibly represent a small, diplomatic victory in the battle for some recognition of Canada's longstanding Arctic claims. Such support could be reinforced by joint military deployments to each other's territory, an exchange of diplomatic notes formally recognizing each country's respective claims, and a formalized polar position at the United Nations. For example, when it comes to obtaining a non-permanent seat at the UN Security Council, which Canada hopes to achieve in 2021, both countries could condition support for one another on the grounds of backing up their polar claims.

With mutual recognition via a joint polar statement, Canada and Australia can set the tone for polar developments over the 2020s and 2030s. The formalization and articulation of a common polar approach will provide greater clout to our respective diplomats in both international fora and organizations. This will be important in a scenario where sovereignty is challenged and polar regions become militarized.

About the Authors

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He is a frequent commentator in the media. His first book, co-edited with Andrew Futter, is titled, *Reassessing the Revolution in Military Affairs: Transformation, Evolution and Lessons Learnt*, and was published in 2015.

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Endnotes

1 We have previously written about Canada and Australia in Andrew Pickford and Jeffrey F. Collins, 2015, *Common History, Shared Future: Towards a stronger Canadian-Australian strategic partnership.*

2 The Associated Press (2015) report acknowledges that the exercise was a "show of force" encompassing 38,000 personnel, more than 50 surface ships and submarines, and 110 aircraft.

3 Since before the end of the Cold War Ottawa has broadly interpreted its security challenges in the Arctic as intrinsically related to its ability to exercise sovereignty control. Following the collapse of the Soviet Union, non-conventional (military) threats issues pertaining to sea pollution, search and rescue capabilities, and criminal activity have become a key preoccupation for Canadian Arctic policy. For example, see Government of Canada, 2010, *Statement on Canada's Arctic Foreign Policy*.

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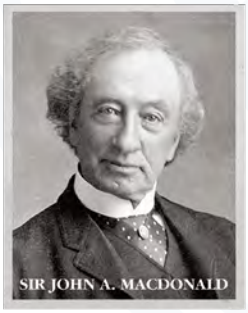
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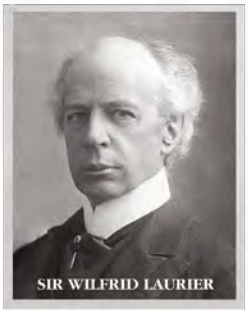
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