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Coming in from the Cold: Recommendations for United States Arctic Policy

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CLAREMONT MCKENNA COLLEGE

Coming in From the Cold:
Recommendations for United States Arctic Policy

SUBMITTED TO

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AND

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BY

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for

SENIOR THESIS

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EXECUTIVE SUMMARY

The purpose of this policy report is to elucidate the current Arctic strategies and capabilities of the major Arctic nations – Canada, Denmark, Norway, Russia, and the United States – with the aim of identifying American shortcomings in the region and potential policy suggestions to correct these failings. The report first illuminates the potential for resource gain in the Arctic, specifically with respect to oil and natural gas and the potential for commercial growth represented by new Arctic shipping routes. The report also discusses the difficulties associated with reaping the rewards of the Arctic, specifically the lack of maritime infrastructure, the additional costs and risks associated with operating in the Arctic, and the speed with which the Arctic is melting.

In general, the report finds that Arctic nations other than the United States are moving aggressively to protect their current and future commercial gains in the Arctic operating space. All countries are doing so by adhering to international legal standards such as the UN Convention on the Laws of the Seas and creating Arctic-specific domestic policies. The much vaunted military expansion in the Arctic is nothing more than countries attempting to protect and police their economic gains in the region. The United States has fallen far behind in all of these regards, and stands to lose out in the Arctic if it does not correct this situation immediately.

The report presents the following suggestions for the United States:

1. Create an “American Arctic Policy” document at the Executive level
2. Accede to the UN Convention on the Law of the Sea
3. Approve or facilitate funding for a new heavy icebreaker, while solving the question of the *Polar Sea*
4. Adjudicate an appropriate compromise on the Beaufort Wedge dispute with Canada
5. Improve bilateral capabilities and create agreements with Russia in the Bering Strait and Canada in the Beaufort Sea
6. Strengthen international Arctic cooperation through strong Arctic Council leadership

CHAPTER ONE: WHAT LIES BENEATH...

Introduction

On July 8, 1879, the *USS Jeannette* departed from San Francisco in a bid to make the United States the first nation to reach the North Pole. After successfully transiting the Bering Strait and claiming three newly discovered islands for the United States in the Chukchi Sea, the *Jeannette* became trapped in ice. Despite the fact that it was June, the Arctic ice was thick enough for the entirety of the ship's crew to disembark, unload their cargo, supplies, and even scientific equipment, and begin trekking across the frozen Arctic "Ocean", eventually reaching mainland Russia a few months later.

The entire tale of the *Jeannette* is remarkable – from its crew's months-long march across the frozen Arctic to the number of new land features it discovered in an area previously marked as an empty space on maps. However, most extraordinary about the voyage of the *Jeanette* is the fact that the same solid ice across which the *Jeannette's* crew trekked is now part of a major Arctic shipping route that is most decidedly not walkable.

The majority of the Arctic is facing a similar transition, from a previously frozen wasteland to an open ocean with massive potential for shipping and resource extraction beneath the surface. As this occurs, different Arctic nations are taking different paths at different speeds to unlock the potential of a newly liquid Arctic, pursuing military, economic, and diplomatic methods to secure their Arctic gains. As the melting of the Arctic continues, Arctic nations will continue to fight to ensure that they reap the returns of an ice-free Arctic.

Total Ice Cover

Increase resource extraction and Arctic shipping is made possible by the decrease in the extent of the Arctic ice. Since 1979, the Arctic ice extent¹ has receded by 13.3% per decade, with the ten lowest ice extents on record occurring in the past ten years.² Notably, however, Arctic ice cover is not a singular and constant landmass. Though there is a constant ice pack at the geographic North Pole, regions at lower latitudes are less predictable. Ice cover in these regions is more dependent on the Earth's seasons, with open water and thinner ice emerging in the spring and summer months. Recently, however, the Arctic melt has increased, with record low levels of Arctic ice in the spring and summer.

The opening of the Arctic ice is not uniform in the Arctic Circle. The Northwest Passage, as mentioned above, for instance, is opening much more slowly than the Bering Strait, with the latter expecting 450 vessel transits in 2020, as opposed to 200 through the NWP. Similarly, while the Arctic ice is indeed disappearing, it is doing so over an extended time frame. Scientists have not yet reached a consensus on when the Arctic ice will disappear – though most agree that the Arctic will begin experiencing summers free of ice by 2040.³ As a whole, the Arctic will likely be free of ice entirely by the end of the 21st century.⁴

¹ Arctic ice extent is the measurement of the entirety of the Arctic ice mass, including any empty spaces within it.

² "2014 Melt Season in Review." *Arctic Sea Ice News and Analysis*. National Snow and Ice Data Center, 07 Oct. 2014. Web. 29 Oct. 2014.

³ Holland, Marika M., Cecilia M. Bitz, and Bruno Tremblay. "Future Abrupt Reductions in the Summer Arctic Sea Ice." *Geophysical Research Letters* 33.23 (2006). Web.

⁴ Boé, Julien, Alex Hall, and Xin Qu. "September Sea-ice Cover in the Arctic Ocean Projected to Vanish by 2100." *Nature Geoscience* 2.5 (2009): 341-43. Web.

Natural Resources

The Arctic contains vast amounts of potential oil and gas resources. Approximately 13% of the world's undiscovered oil and 30% of the world's undiscovered natural gas lie beneath the Arctic surface.⁵ For Arctic nations, these reserves present a huge strategic opportunity. Arctic nations that already have massive oil and gas sectors, such as Russia, Norway, and Canada, have the opportunity to expand their supplies of oil and gas for domestic consumption or foreign export. For the United States and Denmark, there is an opportunity to reduce dependence on foreign oil and bolster domestic resource production.

However, Arctic offshore drilling is far more technically challenging than drilling in the rest of the world's oceans. Arctic drilling rigs must contend with adverse weather conditions, freezing temperatures, and shifting and unpredictable pack ice that increase costs and make production more difficult. Government permits do not allow oil companies to drill in ice, meaning that all drilling must be conducted in open water areas with floating icebergs. As a result, companies have had to develop either ice-resistant drilling rigs that can withstand the impact of an iceberg, or drilling rigs that can float and move away from the well to avoid an impact.⁶ There have already been a number of incidents in Arctic drilling caused by unfamiliarity with the operating environment. In 2012, Shell Oil's Arctic drilling rig *Kulluk* broke apart from its towing unit, grounding itself in the Gulf of Alaska after the crew of the towing unwittingly used equipment

⁵ United States of America. United States Geological Survey. *Circum-Arctic Resource Appraisal Assessment Team. Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*. 2008. Print.

⁶ Pickard, Ann. "Arctic: Questions Answered." Interview. *Shell Sustainability Report 2014* 2014: 32-33. Print.

unsuitable for the Arctic operating environment. More famously, the *Exxon Valdez* ran aground in the Prince William Sound in 1989, spilling hundreds of thousands of barrels of oil and causing an ecological disaster and marine habitat collapse, illustrating the increased dangers of Arctic oil spills.

Further, in many nations, Arctic offshore drilling is limited to a select few companies that must go through a rigorous application process and follow strict safety regulations in order to drill in the Arctic. On an environmental level, an oil spill in the Arctic comes with additional burdens and challenges. The same adverse weather conditions that make drilling in the Arctic difficult make response and cleanup of an oil spill incredibly problematic, potentially even impossible. A more obvious concern comes from an oil spill akin to the *Deepwater Horizon* disaster of 2010. If a spill were to occur underwater, oil would accumulate under the Arctic ice, again making cleanup close to impossible. On a brighter note, the potential catastrophe of an Arctic oil spill has led to an international agreement. In 2013, members of the Arctic Council signed *The Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*, which delineates specific responsibilities amongst the different Arctic nations in the event of an oil spill.⁷

The regulations and hazards involved with Arctic drilling makes it a difficult enterprise. While many energy interests have spent time exploring, drilling, and attempting to pursue production in the Arctic, they have demurred recently due to a high cost of production and lower oil prices. After the 2014 fall in the price of oil, a majority

⁷ "Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic". May 15, 2013. Kiruna, Sweden.

of Arctic energy interests, ranging from Chevron and Shell in the Canadian Arctic to Norwegian company Statoil, have ceased Arctic operations until oil prices rebound.⁸ Russia's Prirazlomnoye oil field, for instance, is unprofitable with oil at \$60 per barrel, and would only be profitable with oil prices at or above \$100 per barrel.⁹

Regardless of the regulations and investment involved with Arctic drilling, energy interests and Arctic nations continue to authorize drilling permits and seek new Arctic offshore oil reserves, especially as present reserves diminish. Drilling in Alaska's North Slope, for instance, used to account for one-fifth of US oil production, though that amount has fallen by two-thirds since peaking in 1988 due to declining reserves.¹⁰ Given that companies such as Shell already have invested up to \$4 billion in Arctic infrastructure that would be expensive or logistically difficult to move elsewhere, these energy interests are seeking to tap new Arctic oil reserves in search of new profits.¹¹ For sovereign nations, Arctic drilling holds vast economic promise. In the United States, for instance, 50% of Alaskan jobs, and 98% of the Alaskan economy is dependent on the aforementioned North Slope.¹² As such, the United States has a massive interest in shifting the bulk of current Alaskan oil production to Arctic offshore reserves.

⁸ Schultz, Colin. "Oil Companies Are Pausing Plans to Drill the Arctic." *Smithsonian.com*. The Smithsonian Institution, 19 Dec. 2014. Web.

⁹ Petterson, Trude. "Ecologists: Prirazlomnaya Unprofitability Approaches \$600 Million." *Barents Observer*. Norwegian Barents Secretariat, 25 Mar. 2015. Web.

¹⁰ Schmidt, Charles W. "Offshore Exploration in the Arctic: Can Shell's Oil-Spill Response Plans Keep Up?" *Environmental Health Perspectives* 120.5 (2012): 194-99. Web.

¹¹ "Resources: Hidden Treasure." *The Economist*. The Economist Newspaper Limited, 16 June 2012. Web.

¹² Ebinger, Charles, John P. Banks, and Alisa Schackmann. *Offshore Oil and Gas Governance in the Arctic. The Energy Security Initiative*. The Brookings Institution, Mar. 2014. Web.

Arctic Shipping

Arctic shipping takes place primarily along the northern borders of Russia and Canada. These routes are referred to as the Northern Sea Route (NSR) and the Northwest Passage (NWP) respectively. A third route, known as the Arctic Bridge Route (ABR), stretches from the Hudson Bay in Canada to the North Atlantic and the Barents Sea. The fourth route, the Transpolar Sea Route (TSR) crosses the Arctic more centrally, passing through the North Pole. Shipping along these routes is extremely limited, and is likely to continue to be so for the near future. Within the four potential Arctic sea routes, for instance, only the Bering Strait, which serves as the gateway to both the Northwest Passage and the Northern Sea Route, was navigable for a large portion of the year in 2012, with the Transpolar and Northwest Passage blocked by large amounts of pack and shoulder ice year-round.¹³ In general, the first three are only passable by commercial vessels on occasion, while the Transpolar Route is only navigable by heavy icebreakers.¹⁴

Presently, shipping along these four routes is incredibly difficult. The Arctic operating environment is extremely harsh, even ice-strengthened ships – those that can navigate mild sea ice – are vulnerable to the Arctic operating environment, as was proven by the sinking of the MS Explorer in 2007. One third of all Arctic-shipping casualties were caused by equipment damage, a much higher average than elsewhere in the world.¹⁵ Indeed, the little shipping that does occur on these routes presently is either so rare that it

¹³ United States. Department of the Navy. Navy Task Force Climate Change. *U.S. Navy Arctic Roadmap 2014-2030*. Print. (11)

¹⁴ McGwin, Kevin. "Shipping." *The Arctic Journal*. Mediehuset Sermitsiaq A.G., 16 Sept. 2014. Web.

¹⁵ Dobie, Greg, ed. *Safety and Shipping Review 2014*. Allianz Global Corporate & Specialty SE, Mar. 2014. Web.

is newsworthy, or requires heavy assistance from icebreakers.¹⁶ At present shipping and maritime insurance companies are quite bearish on the prospect of Arctic shipping as a viable possibility in the near future.¹⁷ While many expeditions do receive one-off insurance policies, companies have yet to begin offering dedicated coverage for Arctic shipping.

The future of Arctic shipping is much harder to predict. Though global warming and other climate factors are indeed increasing the rate at which Arctic ice is melting, change may not come quickly. A study conducted by the U.S. Committee on the Marine Transportation System concluded that ship transits through the American Arctic would only increase by 2-8% by 2025, including an increase in traffic from ships diverting from traditional sea routes.¹⁸ The study can be extrapolated to project a similarly minimal increase for the rest of the Arctic's shipping routes, especially considering that the American Arctic is largely comprised of the Arctic's lower latitudes. These studies, however, are largely based on current estimates of ship-going capabilities. Currently, few, if any, major cargo and shipping vessels have ice-breaking capabilities. Given that container ships can save as much as 40% of their travel time by using Arctic shipping routes rather than the Panama or Suez canals, shipping companies are likely to continue to consider potential cost savings derived from building an Arctic-capable vessel.¹⁹

¹⁶ *ibid*

¹⁷ Arctic Shipping: Navigating the Risks and Opportunities. *Marsh Risk Management Research*, Aug. 2014. Web.

¹⁸ United States of America. United States Department of Transportation. Committee on the Marine Transportation System. *A 10-Year Projection of Maritime Activity in the U.S. Arctic Region*. Print. (36)

¹⁹ "Shipping." *The Arctic Journal*.

Of course, the inaccessibility of the Arctic is mitigated by the existence of icebreakers. Container ships and cargo vessels can transit the Arctic if escorted by a medium or heavy icebreaker. Currently, Russia dominates this capability, operating the vast majority of the world's icebreakers through its state-owned company Atomflot.²⁰ By contrast, the United States owns only four icebreakers, one of which is laid up and another of which is dedicated to Antarctic research.²¹ Increased icebreaking capabilities do not seem to be a priority for the United States. The *National Strategy for the Arctic* makes scant mention of America's current ice-breaking capabilities, and there are currently no plans to build any additional ice-breaking vessels.

Infrastructural Considerations

The Arctic also continues to be a "last frontier" regarding maritime infrastructure. Much of the Arctic, especially regions that were mainly covered in ice until recently, remains completely unmapped and uncharted. To combat this, the International Hydrographic Organization (IHO) – the intergovernmental association responsible for charting the world's navigable waters – established the Arctic Regional Hydrographic Commission (ARHC) in 2010 to improve Arctic bathymetry. Their work focuses on charting the Arctic region surrounding Canada, Greenland, Norway, and the United States, which has approximately 5 million square kilometers of unassessed hydrography – a region roughly half the size of Canada.²² Notably, less than 1% of navigationally

²⁰ Brigham, Lawson W., and Ben Ellis. "Arctic Marine Infrastructure." *Arctic Marine Shipping Assessment 2009 Report*. Akureyri, Iceland: Arctic Council, PAME, Protection of the Arctic Marine Environment, 2009. Print.

²¹ *ibid*

²² Hains, Denis. "Status of Arctic Hydrography and Nautical Charting." Proc. of PAME II-2014, Canada, Whitehorse Yukon Territory. Arctic Regional Hydrographic Commission, 16 Sept. 2014. Web.

significant waters have been mapped with modern technology in the American Arctic.²³ For some parts of the Alaskan coast, the most recent bathymetry comes from Captain James Cook's 1778 mapping expedition.²⁴

However, the AHRC's scope of work does not include Russian Arctic territory. The Russian Federal State Unitary Hydrographic Enterprise (SHD) has been conducting surveys since 1933 and consequently has detailed underwater topography for 90% of its coastal navigation routes, including most of the Northern Sea Route. Though some charts are outdated, given the decades that have passed since the initial survey, SHD has also converted the majority of its navigation charts to digital formats usable on Electronic Navigational Charts.²⁵ In this sense, Russia is well ahead of American Arctic capabilities.

Despite Russia's success at mapping much of its Arctic sphere of influence, it and the rest of the world are limited by technological considerations within the Arctic. Maritime communications generally rely on geostationary satellites that orbit above the Equator, facilitating communications from most vessels at sea. However, the spherical shape of the Earth prevents these satellites from reaching the area surrounding the North and South Poles. Theoretically, satellite range should extend until 81.3° N, though empirically, satellite communications have had difficulties starting at the 70th parallel.²⁶

²³ United States. Government Accountability Office. *Maritime Infrastructure, Key Issues Related to Commercial Activity in the U.S. Arctic over the next Decade: Report to Congressional Requesters*. 2014. Print.

²⁴ Brown, April. "Unmapped Routes May Pose Dangers for Shipping Boom in Arctic Waters." *Newshour*. PBS, 17 Sept. 2013. Web. 29 Oct. 2014.

²⁵ Brigham, Lawson W., and Ben Ellis. "Arctic Marine Infrastructure."

²⁶ Kvamstad-Lervold, Beate. "What Is the Problem with Communication in the Arctic?" *Norwegian Marine Technology Research Institute*. SINTEF. Web. 29 Oct. 2014.

At present, the only commercial maritime communications system that can operate in the Arctic is the Iridium OpenPort satellite constellation, marketed primarily at non-governmental and scientific research consumers, though it also has been awarded multi-million dollar contracts to handle aspects of US military communications.²⁷ While the Iridium system can facilitate the Ship Safety and Alerting System mandated by the IMO, it has a very low rate of data transfer, and frequently goes offline. Additionally, the system is not robust enough to handle sustained, commercial transfer of ice charts and satellite imagery to vessels operating in the Arctic.²⁸ By 2016, Iridium hopes to offer the Iridium Next system, which would offer much higher data transfer speeds that would be able to support increased Arctic operations.²⁹ American tactical and strategic communications are provided by Northrop Grumman's "Enhanced Polar System", which allows military units above 65 degrees north to communicate with more southern Combatant Commander Command and Control centers.³⁰

²⁷ Iridium Communications Incorporated. *Iridium Awarded Contract From Defense Information Systems Agency Worth Up to \$47 Million*. 31 Oct. 2012. Web.

²⁸ Brigham, Lawson W., and Ben Ellis. "Arctic Marine Infrastructure."

²⁹ Bowes, Michael D. "Impact of Climate Change on Naval Operations in the Arctic." Center for Naval Analyses, Apr. 2009. Web.

³⁰ United States of America. United States Air Force. Los Angeles Air Force Base. *Enhanced Polar System*. 2014. Print.

CHAPTER TWO: FOREIGN INFLUENCES

The UN Convention of the Law of the Sea (UNCLOS)

The 1982 United Nations Convention of the Law of the Sea (UNCLOS) delineates international maritime boundaries. Though the United Nations has no regulatory or operational ability to enforce the treaty itself, it is functionally international law. Waters within a country's shoreline – lakes, rivers, and other bodies of water completely surrounded by the country – are considered “internal waters” and completely under the jurisdiction of the nation. Any coastal state has complete jurisdiction over “territorial waters”, those that up to 12 nautical miles from its ocean shore, though vessels have the right of innocent passage³¹ through these waters. Coastal nations may suspend the right of innocent passage through their waters for purposes of national security, except in strategic straits. In these straits, all vessels have the right to transit passage, wherein their continuous transit through a particular strait is necessary for naval operations.

Coastal states also have rights to an Exclusive Economic Zone (EEZ) that extends 200 nautical miles from its shoreline and provides rights to all natural resources contained therein. Resource rights additionally extend along a country's continental shelf³² until 350 nautical miles from the shoreline. However, for countries to receive these continental shelf rights, they must submit a claim to the UN Commission on the Limits of the Continental Shelf (CLCS) within 10 years of ratifying UNCLOS. While the

³¹ Innocent passage is granted to vessels transiting territorial waters in a non-commercial and non-military manner.

³² A continental shelf is the “natural prolongation”, or extension of a country's land into the sea

Commission has adjudicated some claims that have been submitted – Russia’s claim to a large area in the Sea of Okhotsk, for instance, was settled in its favor – it has not yet ruled in favor or against any the five current Arctic submissions. The complex nature of the claims – any one could have implications for others – means that the Commission could take decades to decide the status of the Arctic.³³ At present, the only Arctic nations that have submitted claims are Russia, Norway, Canada, and Denmark. Russia’s claim, which was filed in 2001, was neither accepted nor rejected by the Commission, which requested further data and evidence before adjudicating the claim. Russia intends to submit this evidence in late 2015.³⁴ Though Canada has yet to formally submit its claim in the Arctic, it eventually will claim parts of the Arctic also claimed by Russia and Denmark.

The Arctic Council

The highest level of international cooperation in the Arctic region is organized by the Arctic Council. The Council is neither a legislative nor administrative body. Rather, it functions more as a semi-regular discussion forum on Arctic policy issues. Membership in the Council is limited to nations with Arctic territory, though a number of indigenous peoples’ organizations are permanent participants in the council; they may consult with and work on Council issues, but lack voting rights.³⁵ An eclectic swath of other states and intergovernmental organizations has been granted observer status for Arctic Council proceedings, ranging from Singapore to Spain. The Arctic Council meets biannually to discuss issues ranging from environmental protection to search and rescue agreements.

³³ Gronewold, Nathaniel. "A Peek inside the U.N.'s Continental Shelf Commission." *The New York Times*. The New York Times Company, 14 Sept. 2009. Web.

³⁴ Gorenburg, Dmitry. "Russian Interests and Policies in the Arctic." *War on the Rocks*. 7 Aug. 2014. Web.

³⁵ "About the Arctic Council." *The Arctic Council*. 07 Apr. 2011. Web.

The structure of the Council is oriented largely towards “The Arctic Five”, the five nations with a coastal claim to the Arctic Ocean. These nations are Russia, Canada, Denmark, Norway, and the United States. This arrangement is controversial amongst the other members of the Arctic Council; frequently the Five break off into separate meetings to discuss Arctic policy.³⁶ However, given that the majority of the Arctic Council’s work is of a largely non-military nature, many of the member nations tend to ignore or downplay the Council’s significance. As an example of this apathy, the Council operated for fifteen years before the United States sent a cabinet-level official to any of its proceedings. The Arctic Council, while important for infrastructural improvement, environmental protection, and other social concerns, will likely never alter the domestic policy of Arctic nations.

Scope

This report will focus primarily on the “Arctic Five” (Canada, Denmark, Norway, Russia, and the United States) and their Arctic policies and postures. Given that these five nations are coastal Arctic states – that is, their maritime boundaries extend into the Arctic itself, their postures are most relevant in an American context. Other nations, such as Iceland, Finland, and Sweden, are indeed Arctic-adjacent nations, but are limited in their operational capacity due to their geographies, and as such will not be examined. Other observer states who have tenuous claims to being “Arctic Nations”, such as China and India, whose northernmost points are still further south than Norway’s southernmost point, will not be examined due to their tangential connection to the Arctic.

³⁶ Ljunggren, David. "Clinton Rebuke Overshadows Canada's Arctic Meeting." *Reuters*. Thomson Reuters, 29 Mar. 2010. Web.

The Russian Federation

Domestic Policy

The Russian government, and its predecessor in the Soviet Union, has always seen the Arctic as a uniquely Russian space. Many of the geographical features in the region, including those that are contested by multiple countries, bear the names of Russian explorers and historical figures. Beyond etymological origins, however, Russia has staked a firm claim to the majority of the Arctic Ocean. After acceding to the UN Convention of the Law of the Sea, Russia promptly claimed that its continental shelf – as part of the Eurasian continent – extended as far as the North Pole, including the Lomonosov Ridge and Mendeleev Ridge.³⁷ The CLCS's judges neither accepted nor denied the Russian claim, instead requesting more evidence regarding the Russian claim in the Okhotsk Sea, which Russia provided in February of 2013. The Commission has yet to decide on the matter of Russia's Arctic Ocean claims.

This has not prevented Russia from acting in the region. In August of 2007, a Russian scientific expedition named Arktika 2007 sent manned submersibles to the ocean floor beneath the North Pole and planted a Russian flag on the seabed. The expedition generated international outrage – a number of countries saw the incident as tantamount to Russia claiming the Arctic Ocean and the North Pole without regard for UNCLOS.³⁸ Indeed, the leader of the expedition, Artur Chilingarov himself declared that “The Arctic is Russian. We must prove the North Pole is an extension of the Russian continental

³⁷ "Submission by the Russian Federation." *Outer Limits of the Continental Shelf beyond 200 Nautical Miles from the Baselines: Submissions to the Commission*. United Nations Division for Ocean Affairs and the Law of the Sea: Commission on the Limits of the Continental Shelf, 20 Dec. 2001. Web.

³⁸ "Russia Plants Flag on Arctic Floor." *CNN*. Cable News Network, Turner Broadcasting System, 4 Aug. 2007. Web.

shelf”.³⁹ Russian government officials have downplayed such claims, citing the expedition as a data-collecting excursion to support its CLCS claim.⁴⁰

Russia’s Arctic policy is defined by two major documents which define its general state and maritime policy in the region until 2020. Both documents see securing a foundation for future natural resource development and maritime shipping activities in the Russian Arctic zone as their primary focus.⁴¹ While the use of military force to secure Russian sovereignty is mentioned frequently and described at length in these policy documents, it is mainly defined in its relation to ensuring the “use of the Arctic zone...as a strategic resource base of the Russian Federation.”⁴² As such, Russian military and economic developments have not gone further than their current accepted international boundaries, and are mainly focused inwards, rather than outward.

Economic Considerations

Russia has already begun taking steps to develop the Arctic’s significant natural resources for itself. In 2013, state-owned energy production company Gazprom started production in the Prirazlomnoye oil field in Russia’s Pechora Sea, making Russia the first nation to bring offshore oil development in the Arctic. The oil platform used is the first Arctic ice-resistant oil platform in the world.⁴³ Gazprom similarly is working to develop the Shtokman oil field, a large undersea deposit in Russian waters north of the Bay of

³⁹ Reynolds, Paul. "Russia Ahead in Arctic Gold Rush." *BBC News*. British Broadcasting Corporation, 1 Aug. 2007. Web.

⁴⁰ "Russia Plants Flag on Arctic Floor." *CNN*.

⁴¹ Klimenko, Ekaterina. *Russia’s Evolving Arctic Strategy: Drivers, Challenges and New Opportunities*. Stockholm: Stockholm International Peace Research Institute, 2014. Print. Position Paper 42.

⁴² Translation from Russian of "*Basics of the State Policy of the Russian Federation in the Arctic for the Period Till 2020 and for a Further Perspective*" Arctic Resources and Transportation Information System Knowledge Hub. Centre for High North Logistics, 30 Mar. 2009. Web.

⁴³ "Prirazlomnoye Oil Field." *Gazprom Projects*. Gazprom. Web.

Kola into a production-capable facility by the end of 2015.⁴⁴ Russia's other major oil and gas companies, Lukoil and Rosneft, similarly are working on accelerating production in the Arctic, though have yet to progress past the development and prospecting stages.⁴⁵

Russia has also been steadily increasing the quality of its Arctic maritime infrastructure. Presently, the Port of Murmansk is the only Russian port open to year-round operations on the Arctic Ocean. As the anchor of the proposed Northern Sea Route, the port is undergoing significant reconstruction and expansion of its shipping and container facilities, as well as its oil and coal terminals.⁴⁶ It is also constructing the new Port of Sabetta on the Yamal Peninsula. The port, which will be completed in 2016, is meant to facilitate the shipment of oil and gas from the Peninsula through the Northern Sea Route.⁴⁷

Most notable, however, is the quality of Russia's icebreaking fleet. Presently, Russian state-owned company Atomflot owns and operates the world's only six nuclear icebreakers, and the world's only nuclear ice-strengthened cargo ship. Atomflot operates another 12 non-nuclear icebreakers in addition to its nuclear fleet.⁴⁸ This capability gives it a near monopoly on escorting maritime traffic through the Northern Sea Route. These icebreakers also aid in the construction of oil and gas resource extraction in the Arctic,

⁴⁴ "Shtokman." *Gazprom Projects*. Gazprom. Web.

⁴⁵ Staalesen, Alte. "Lukoil Eyes New Arctic Licenses." *Alaska Dispatch.*, 5 Feb. 2015. Web.; Gallucci, Maria. "Russian Oil Giant Rosneft Is Delaying Arctic Drilling Plans Amid Western Sanctions Against Moscow." *International Business Times*. IBT Media Incorporated, 30 Jan. 2015. Web.

⁴⁶ Russian Federation. Ministry of Foreign Affairs of the Russian Federation. *Presentation on "Potential of Social-Economic Development of Murmansk Region"* Web.

⁴⁷ Staalesen, Alte. "In Russian Arctic, a New Major Sea Port." *The Barents Observer*. Norwegian Barents Secretariat, 6 Aug. 2012. Web.

⁴⁸ Padrtova, Barbora. *Russian Approach Towards the Arctic Region*. CENAA Analysis. Centre for European and North Atlantic Affairs, 2012. Web.

helping escort Gazprom construction crews and material to the Prirazlomnoye oil field.⁴⁹ That said, Russian icebreaking capability will diminish over time, as older icebreakers age out of the fleet. By 2020, only two icebreakers will remain in service – the NS *Yamal* and *50 Let Pobedy*. Over the next decade, the Russian military does plan to build another five icebreakers, with an option for a further eight in the future.⁵⁰ However, the icebreakers that were slated for delivery in 2014 and 2015 are in various stages of production even now, with a new estimated delivery time of 2025 in some cases. Indeed, even the intervention of Vladimir Putin himself has not helped the situation – though he announced the construction of the world’s largest icebreaker in 2013, production delays and cost overruns have resulted in a new anticipated delivery time of 2018 for just the one icebreaker.⁵¹

Military Capabilities

The icebreaker issue is concerning for Russia’s potential role as a guardian of the Northern Sea Route. As the most proximate nation to the NSR, Russia bears much of the burden for search and rescue operations, as well as oil spill response within the route.⁵² Problematically for the Russians, the majority of its icebreakers and its patrol vessels are based with the bulk of the Northern Fleet in the Murmansk region, which is far west of the beginning of the Northern Sea Route. While Russia has announced the creation of two land-based Army brigades to be based in Murmansk and Archangelsk to help protect

⁴⁹ "Atomic Icebreaking Fleet Is The Key Element Of Russian Geopolitical Interests Protection In The Arctic." *Northern Sea Route*. Rosatom Flot. Web.

⁵⁰ United States of America. United States Coast Guard. Office of Waterways and Ocean Policy. *Major Icebreakers of the World*. 2013. Print.

⁵¹ Staalesen, Alte. "Yard Delays Delivery of Icebreaker." *Barents Observer* 21 Nov. 2014. Print.

⁵² "Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic". May 12, 2011. Nuuk, Greenland.

the Northern Sea Route, these brigades have been delayed for the past four years, and are only just now beginning to deploy and receive Arctic training.⁵³ These units are also naturally limited by the fact that protection of a maritime shipping route is generally a task best suited for naval units.

The Russian Military has a clear northern focus in its policy and planning. The Navy's Northern Fleet, headquartered near Murmansk, commands two thirds of the country's nuclear force, and is larger and more powerful than all of its other three fleets combined.⁵⁴ That said, while Russia's primary naval assets are indeed based in Murmansk, they are still hindered by the ice. The Northern Fleet's three cruisers and six destroyers have free reign of the northern regions in the summer months, but they lack operational capacity in the winter. Hypothetically, each of these ships could be escorted by one of Russia's numerous icebreakers, but this plan is infeasible, given naval warfare's reliance on basic maneuverability. Presently, the only ice-strengthened ships in the Russian armed forces are the eight *Ivan Susanin* and *Purga*-class icebreaker patrol ships in service with the Russian Maritime Border Guard. Though this outnumbers any other nations' icebreaking patrol capacity, these vessels are stretched thin along Russia's massive maritime zone of influence, especially given Russia's need to patrol its non-Arctic Pacific Ocean territory and the Baltic Sea.

The Northern Fleet currently operates a number of medium and long-range anti-submarine warfare aircraft, as well as a large number of reconnaissance and patrol

⁵³ Padrtova, Barбора. *Russian Approach Towards the Arctic Region.*; Petterson, Trude. "Russian Arctic Brigades Put off to 2015." *Barents Observer*. Norwegian Barents Secretariat, 22 Feb. 2012. Web.

⁵⁴ Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. New York: M.E. Sharpe, 2014. Print. (120)

airframes.⁵⁵ While Russia maintains a number of fighter and medium-range bomber aircraft, they lack the capacity for operations outside of the Russian Arctic, especially given the current semi-inoperability of the *Admiral Kuznetsov*, Russia's only aircraft carrier.⁵⁶ Russia's true operational might in the Arctic comes from its fleet of submarines. These submarines maintain the capability to retaliate against naval assets in the Arctic, as well as launch intercontinental ballistic missiles at targets in the continental United States and mainland Europe. However, here, the ice becomes an issue once again. While ice provides a crucial amount of cover for submarines evading anti-submarine aircraft or ship patrols, it also has the potential to physically limit the efficacy of any missile launches, rendering the submarines somewhat useless. Russia's newest submarines, the *Borey*-class, will deploy in large part to the Northern Fleet.⁵⁷

Russia's main fleet of long-range bombers primarily operates from the Arctic area.⁵⁸ These bombers have been receiving significant in-air time and training recently - since the annexation of Crimea, Russian bombers have provoked approximately 40 separate incidents necessitating the scrambling of NATO fighter jets or other defense apparatuses.⁵⁹ Most interestingly, Russia is planning the development and deployment of a "joint air and air defense army" in the Arctic, along with ten new airfields and radar

⁵⁵ Wezeman, Siemon T. "Military Capabilities in the Arctic." *SIPRI Background Papers*. Stockholm International Peace Research Institute, Mar. 2012. Web.

⁵⁶ Wezeman, Siemon T. "Military Capabilities in the Arctic."

⁵⁷ "Russian Nuclear Submarines to Resume Patrols in Southern Seas." *United Press International*. 3 June 2013. Web.

⁵⁸ Engel's. Weapons of Mass Destruction (WMD). *Global Security*, 24 June 2011. Web.

⁵⁹ Frear, Thomas, Lukasz Kulesa, and Ian Kearns. *Dangerous Brinkmanship: Close Military Encounters Between Russia and the West in 2014*. Publications. European Leadership Network, 10 Nov. 2014. Web.

stations along the Arctic Circle.⁶⁰ These installations will all fall under the purview of the new Arctic Joint Strategic Command, which is likely to administer the joint resources of the Russian North Fleet and any other army or air units needed in the region.⁶¹ Given the secretive nature of the Russian military structure, it remains unclear as to whether or not this new command will become another one of Russia's top-level administrative military districts, or simply supplement a pre-existing one.⁶²

Further, Russian Defence Minister Sergei Shoigu announced on October 21, 2014 plans to "have a large number of units deployed along the Arctic Circle, practically from Murmansk to Chukotka".⁶³ Though this may have been largely rhetoric – Shoigu's remarks were, after all, at a meeting of top-level Russian military officers – they are at least somewhat mirrored by actual defensive fortification buildups. Recently, Russia began building two military bases along the Northern Sea Route on Wrangel Island and Cape Schmidt.⁶⁴ The two locations are both proximate to the Bering Sea and functionally serve as gateways to the eastern Northern Sea Route. The complexes are being built in a star formation, a modern version of the invasion-proofed *trace itaelienne*.⁶⁵ Russia is also rebuilding and reopening a number of Cold War-era fortifications, including an airport on Kotelny Island and an airport in Alakurtti near the Finnish border.⁶⁶ In total, the

⁶⁰ "Russia to Form Air Army in Arctic in 2015: Army Chief." *Sputnik News*. Sputnik Online Media, 29 Dec. 2014. Web.

⁶¹ "Russia Activates New Arctic Joint Strategic Command." *IHS Jane's 360*. IHS Inc., 1 Dec. 2014. Web.

⁶² "Joint Strategic Command." *Military*. Global Security, 2 Jan. 2015. Web.

⁶³ Jones, Bruce. "Shoigu Expands Arctic Military Presence, While Lavrov Rejects NATO Involvement in Far North." *IHS Jane's 360*. IHS Inc., 2 Oct. 2014. Web.

⁶⁴ Bodner, Matthew, and Alexey Ermenko. "Russia Starts Building Military Bases in the Arctic." *The Moscow Times*. 8 Sept. 2014. Web.

⁶⁵ *ibid*

⁶⁶ Braw, Elisabeth. "Putin Makes His First Move in Race to Control the Arctic." *Newsweek*. Newsweek LLC, 6 Jan. 2015. Web.

Federation's State Armament Program seeks to build eight nuclear submarines, 600 warplanes, 1,000 helicopters, and 100 naval vessels for addition into the Russian military by 2020.⁶⁷

However, the Russian military's Arctic focus is greatly hindered by Russia's generally dismal military apparatus. While defense spending increased by 500% between 2000 and 2008, the Russian military still lacks the basic infrastructural tools necessary to bolster its military.⁶⁸ The *Admiral Kuznetsov* is so in need of repairs and retrofit that the United States Navy's Sixth Fleet is reputed to have been kept on high alert as the *Kuznetsov* sailed to the Mediterranean in 2013 in the event that it sank.⁶⁹ Additionally, diplomatic concerns caused by Russia's annexation of Crimea in 2014 have resulted in the loss of a number of defense deals for the Russian Armed Forces. Russia's order of two *Mistral*-class helicopter carriers, for instance, is on temporary hold until French government officials approve a hand-over, and German officials have cancelled a \$134 million field simulator export project.⁷⁰ Corruption frequently plagues the awarding of military contracts, recruitment, and maintenance, preventing the problem from being solved simply with additional funding.⁷¹

⁶⁷ Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. (115)

⁶⁸ *ibid* (114)

⁶⁹ Weiss, Michael. "The Return of Russian Hard Power?" *The Daily Beast*. The Daily Beast Company, 23 Nov. 2013. Web.

⁷⁰ Barrabi, Thomas. "France Could Deliver Mistral Warship To Russia By March After Ukraine Ceasefire Agreement, Report Says." *International Business Times*. IBT Media Incorporated, 12 Feb. 2015. Web.; "Germany Cancels Major Arms Deal with Russia: Report." *Deutsche Welle*. 4 Aug. 2014. Web.

⁷¹ Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. (114)

Analysis

Russia's rhetoric and actions in the Arctic region can best be described as bellicose. Its Deputy Prime Minister recently described the Arctic as "Russian Mecca"⁷², and the aforementioned military buildup in the region point to an aggressive Russian expansion into the space. This is somewhat true. Russia is certainly increasing its defensive capabilities in the Arctic space, but this expansion comes in tandem with a general rise in defense spending and capabilities after the breakup of the Soviet Union in 1991. Indeed, Russia's military expansion in general could instead be termed as a "return" to military capabilities. Its recent annexation of Crimea, for instance, returns the peninsula, and crucially the warm-water Port of Sevastopol to Russian control. As stated above, a majority of the military installations and facilities that Russia is building in the Arctic are really just reactivations of previous Soviet military bases. Even the Russian Army's modernization of its rank system was a return to Soviet military ranks.⁷³ Further, while many nations are exploring and considering the prospect of tapping into the Arctic's massive oil and gas reserves, Russia's opening of the Prirazlomnoye oil field is the first of any such ventures in the world.

This military and economic expansion, however, is neither as threatening nor as dominant as it seems at first glance. As mentioned above, the Russian military suffers from massive corruption and inefficiencies, to the point where approximately 20-40% of Russia's military hardware budget is stolen by defense officials and contractors

⁷² Rogozin, Dmitry (Rogozin). "Арктика - русская Мекка" (*Arctic - Russian Mecca*) trans. from Russian. 19 April 2015, 9:05 AM. Tweet

⁷³ Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. (114)

annually.⁷⁴ Supposed Russian naval capabilities have also been marred by a number of recent Arctic failures. Two submarines, the *K-159* and the *Kursk*, were both lost with all hands in the Barents Sea, and most Russian vessels have been in service for twenty years.⁷⁵ The aforementioned *Ivan Susanin*-class icebreaking patrol ships are in a similar state of affairs as they have been in service since the mid-1970s. Given that the newer *Purga*-class patrol ships only serve in the Pacific Fleet, this means that Russia's Arctic naval patrol capabilities are much weaker than they are made out to be.

Even Gazprom's expansion into the Prirazlomnoye oil field is somewhat asterisked by the fact that it took 20 years and 90 billion rubles (\$2.5 billion) to start operations.⁷⁶ Further, Russia lacks the ability to conduct further major exploratory drilling, given that the only Russian companies able to conduct exploratory drilling – ArktikmorNeftegazRazvedka (ANR) and Gazprom – own six drilling rigs in total.⁷⁷ Of these, only ANR's two rigs are meant for offshore use – Gazprom's four rigs are all land-based drilling rigs currently working in Eastern Siberia.⁷⁸ Further, of ANR's two drilling rigs, one is under contract for use in Vietnam until 2018, while the other is undergoing modernization to give it the capacity to be able to drill in Arctic waters.⁷⁹ This combined with the simple fact that Arctic drilling comes with significantly larger (and more expensive) risk factors, means that Russia lacks the ability to exploit any of the significant oil and gas resources that lie in the Arctic waters.

⁷⁴ Gorst, Isabel. "Russian Military Budget Sapped by Corruption." *Financial Times*. The Financial Times Ltd., 24 May 2011. Web.

⁷⁵ Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. (120)

⁷⁶ Klimenko, Ekaterina. *Russia's Evolving Arctic Strategy: Drivers, Challenges and New Opportunities*

⁷⁷ "Russian Drillship Returns to Arctic." *Oil and Gas Eurasia* 10 Apr. 2015. Web.

⁷⁸ "Gazprom Neft Continues Evaluating Siberian Fields." *WorldOil*. Gulf Publishing Company, 15 Apr. 2015. Web.

⁷⁹ *ibid*; "Murmanskaya Rig Starts Drilling Offshore Vietnam." *Oil and Gas Eurasia*. 16 Dec. 2013. Web.

Regardless, the Arctic's new role as a nascent exploitable resource area and shipping highway as opposed to a convenient location to store intercontinental ballistic missiles makes the Russian return to Soviet-level expenditure and attention in the region particularly salient. Russia is attempting to define the Arctic as a uniquely Russian space – especially by planting Russian flags at the bottom of the North Pole. However, Russia defines its military expansion as reactionary, rather than aggressive. In 2014, the Kremlin released a revised version of its military doctrine that referred to NATO expansion as “a fundamental threat to Russia”.⁸⁰ Indeed, Russian troop mobilizations in the Arctic recently have been branded by Russian news sources as “responses” to NATO exercises in the region.⁸¹ Russia presents its expanding role in the Arctic as primarily defensive; the same military doctrine refers to the “protection” of “Russia’s national interests in the Arctic”, and all of Russia’s military buildup has been within undisputed Russian territory.

This may seem paradoxical with Russia’s strong interest in international cooperation in the Arctic. Russian delegates to the Arctic Council, for instance, have been instrumental in crafting Search and Rescue agreements for the region, and have even shared the data used for the Russian submissions to the Commission on the Limits of the Continental Shelf with other actors.⁸² This should not, however, be interpreted as a newfound Russian respect for international institutions. Instead, Russia’s ability to exploit any resources in the Arctic beyond those that lie within its Exclusive Economic Zone is entirely dependent on the adjudication of the CLCS. As such, Russia cannot take

⁸⁰ "New Russian Military Doctrine Labels NATO as Main Threat." *Defense News*. Gannett Company, 19 Dec. 2014. Web.

⁸¹ "Russian Military Exercises ‘Logical Response’ to NATO Troops on Its Border." *RT*. TV-Novosti, 18 Mar. 2015. Web.

⁸² Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. (14)

any actions in the region that would be seen as circumventing the authority of both bodies, lest it jeopardize its own resources claims in the region.

Canada

Domestic Policy

In 1985, the United States Coast Guard sent one of its icebreakers – the Polar Sea – through the Northwest Passage on a routine resupply mission. The voyage was controversial – the US government did not recognize Canada’s claim to the Passage, and therefore notified, rather than asked, the Canadian government of their plans. This went over quite poorly with the Canadian public. A national outcry called the American action a violation of national sovereignty, and Canadian Secretary of State for External Affairs Joe Clark stated in Parliament “no icebreaker, even from one of the nations friendliest to Canada, will come into our territory and try to take our sovereignty away from us”.⁸³

The dispute was resolved three years later with the Agreement on Arctic Cooperation, a short, two-paragraph statement that merely stated that its icebreakers would in future ask for permission from the Canadian government before transiting “waters claimed by Canada”.⁸⁴ The agreement is a minor addition to the litany of international accords between Canada and the United States. However, it is notable in that it demonstrates the lengths to which Canada is willing to go to defend its Arctic sovereignty. Indeed, in 2009, the Parliament of Canada renamed the waterway the “Canadian Northwest Passage”, and in its Northern Strategy policy document, the

⁸³ Briggs, P. J. "The Polar Sea Voyage and the Northwest Passage Dispute." *Armed Forces & Society* 16.3 (1990): 437-52. Web.

⁸⁴ United States and Canada. Arctic Cooperation: Agreement between the United States of America and Canada, Signed at Ottawa January 11, 1988. Washington, D.C.: Dept. of State, 1993. Print.

Canadian government specifically outlined “exercising our Arctic sovereignty” as a top policy priority in Northern Canada.⁸⁵ Canada is committed to ensuring that its slice of the Arctic – especially the Northwest Passage – remains, and can be defended as, unequivocally Canadian.

Canada has been defending the Arctic as a Canadian space on the international stage. Canada was the most vehement objector to the Russian Arktika 2007 expedition, which planted a Russian flag on the seabed underneath the North Pole. Canadian Foreign Minister Peter MacKay’s reaction to the expedition was “this isn’t the 15th Century... you can’t go around the world and just plant flags and say ‘We’re claiming this territory’”.⁸⁶ In December 2013, the Canadian government filed a claim with the UNCLOS Commission on the Limits of the Continental Shelf staking its claim to a large portion of the Arctic Ocean.⁸⁷ While it has not yet completed the scientific work necessary to delineate its claims in the Arctic Ocean, the Canadian government plans to eventually stake a claim on the North Pole and the disputed Lomonosov Ridge with the CLCS as well.⁸⁸ Canada’s claim triggered partial objections from the United States, Denmark, and France, who all objected to overlaps in claimed territory.

Canada and the United States both dispute their respective maritime borders near Alaska and Yukon in the Beaufort Sea. Canada claims that the border falls under the jurisdiction of the Treaty of Saint Petersburg, which created a maritime boundary

⁸⁵ "Canada's Northern Strategy." *Prime Minister of Canada*, 16 Aug. 2013. Web. 29 Mar. 2015.; Parliament of Canada. *40-2 Vote No. 140 (Canadian Northwest Passage)*. 40th Parliament., 2nd sess. Private Member’s Business M-387. 140. 2 Dec. 2009. Web. 29 Mar. 2015.

⁸⁶ "Russia Plants Flag under North Pole." *BBC News*. BBC, 02 Aug. 2007. Web. 30 Mar. 2015.

⁸⁷ Canada. Department of Foreign Affairs, Trade, and Development. *Partial Submission of Canada to the Commission on the Limits of the Continental Shelf regarding Its Continental Shelf in the Atlantic Ocean: Executive Summary*. Government of Canada, 6 Dec. 2013. Web.

⁸⁸ "Canada to Claim North Pole as Its Own." *The Guardian*. 9 Dec. 2013. Web.

between then-British Canada and then-Russian Alaska in 1825. However, the United States claims that maritime boundaries must be equidistant from land boundaries, resulting in a triangular disputed area. The area is of immense value, potentially holding 1.7 billion cubic meters of gas – enough to supply Canada’s needs for 20 years.⁸⁹ While the dispute is not an intense one, it does have larger implications. Currently, the United States and Canada are free to solve the issue independently. However, if the United States were to accede to UNCLOS, the International Tribunal of the UNCLOS would have a binding judicial mandate on the issue.

Canada and Denmark also dispute the ownership of Hans Island, a small, rocky outcropping located in between Northern Greenland and Ellesmere Island. The island is presently of little strategic or resource value, especially given its miniscule size (the island is approximately half a square mile). The dispute is similarly not an intense one – neither Canada nor Denmark has devoted many resources to its settlement, and the argument has been referred to as “one of the world’s friendliest border disputes”.⁹⁰ However, as a dispute between two Arctic nations, the issue could set a legal precedent for future border disputes in the region. If Canada or Denmark were to relinquish its claim on the island it could be seen as establishing a legal precedent for it giving up other similar territorial claims in other areas with more resources.⁹¹

The international community and Canada disagree regarding the status of the Northwest Passage and its potential status as an internal waterway. As outlined in

⁸⁹ Lewis-Koskinen, Simone. "U.S. - Canada Dispute Over Offshore Territory." *Inventory of Conflict and Environment*. American University, Dec. 2010. Web. 06 Nov. 2014.

⁹⁰ Reynolds, Richard. "Who Owns Hans Island?" *NPR*. NPR, 12 Aug. 2005. Web. 06 Nov. 2014.

⁹¹ Vuille-Kowing, Kira. "Hans Island: An Arctic Border Dispute Between Canada and Denmark." *Inventory of Conflict and Environment*. American University, Dec. 2011. Web. 06 Nov. 2014.

UNCLOS, a nation has a claim to administer and regulate all resources and passage within its internal waters. Foreign vessels do not have the right of transit in these waters, meaning that Canada potentially has the legal right to limit and regulate passage through the Northwest Passage. The United States and the European Union hold that the Northwest Passage qualifies as an international strait – similar to the Straits of Hormuz or Malacca – and therefore is subject to the UNCLOS guidelines of innocent passage. While Canada would still have the right to enforce any sort of economic, environmental, and judicial guidelines, it would not have the right to bar passage to non-military vessels. Canada, by contrast, holds that the Northwest Passage is internal waters, with its military referring to the waterway as “Canadian Internal Waters”.⁹² The dispute has implications beyond the lucrative ability to control passage through a global shipping route. Russia similarly considers aspects of the Northern Sea Route to be within its internal waters; a decision regarding the Northwest Passage would set a legal precedent for administration of the Northern Sea Route.⁹³

Economic Considerations

Canadian exploitation of natural resources in the Arctic is similarly limited by a strong sense of environmental protectionism within Canada. While the disputed wedge of ocean in the Beaufort Sea remains untapped due to legal concerns and the hesitancy of companies to invest in a region that may switch nationalities at any given moment, other Arctic resources that are undisputedly Canadian are protected by strict environmental

⁹² "Northwest Passage Gets Political Name Change." *Canada.com*. The Edmonton Journal, 9 Apr. 2006. Web. 06 Nov. 2014.

⁹³ Ragner, Claes Lykke. "Den Norra Sjövägen (The Northern Sea Route)." *Barents – Ett Gränsland I Norden (Norden Association's Yearbook)*. Ed. Hallberg Torsten. Stockholm: Arena Norden, 2008. 114-27. Print.

laws. A significant aspect of the *Northern Strategy* is the need for environmental protection in the Arctic. Accordingly, the Canadian Parliament expanded the area protected by the *Arctic Waters Pollution Prevention Act* of 1970 to include the entirety of Canada's Exclusive Economic Zone.⁹⁴ The act, and its strict environmental regulations, has largely prevented the expansion of offshore drilling programs in the Arctic area. Further complicating any Canadian exploitation of Arctic natural resources is the difficulties associated with offshoring drilling in the Arctic environment. The majority of Canada's offshore drilling enterprises ceased in the 1970s, after low production and increasing costs made the ventures unprofitable.⁹⁵ Though American oil company Devon Energy discovered a sizeable oil field in 2007 in the Beaufort Sea in Canada's first drilling operation in, it has not yet been able to extract any oil from the field.⁹⁶ A number of energy companies have applied for permits from the Canadian government to drill in the Beaufort Sea, but Canada's National Energy Board has yet to approve the permits necessary to begin drilling.

Military Capabilities

Canada's Arctic military presence, however, currently lags behind its rhetoric. At present, for instance, the Royal Canadian Air Force (RCAF) operates primarily in Southern Canada, with only four northern "Forward Operating Locations" (FOLs) that

⁹⁴ Riddell-Dixon, Elizabeth. *Canada's Arctic Policy*. The Canada US Institute. The University of Western Ontario. Web. (4)

⁹⁵ "A Look at Dome Petroleum's Ill-fated Drilling Program in the Beaufort Sea." *Alberta Oil Magazine*. 26 Feb. 2014. Web.

⁹⁶ "Devon's Paktoa a Giant Beaufort Oil Find." *Oil and Gas Journal*. PennWell Corporation, 26 Oct. 2013. Web.

are host to four small search and rescue (SAR) airframes.⁹⁷ While the FOLs were built to house Canadian F-18s if necessary, jets dedicated to maintaining Canadian air sovereignty – especially from Russian Arctic aerial activity – are still stationed in south-central and southeastern Canada. While its military receives cold weather training and basic instruction in Arctic warfare, its primary force in the region are the Canadian Rangers, a volunteer group made up primarily of Canada’s Inuit, First Nations, and Métis populations that still uses World War Two era equipment for surveillance operations.

To help improve Canada’s Arctic military presence, the Canadian Ministry of Defence adopted the “Canada First Defence Strategy” in 2008. The strategy is a lengthy policy document that lists “Conduct[ing] daily domestic and continental operations...in the Arctic” as its first priority through 2028.⁹⁸ Accordingly, in 2010, Prime Minister Stephen Harper’s government announced its intention to replace Canada’s 80 F-18s with 65 F-35 Joint Strike Fighters, though amidst domestic controversy, no deal has yet been signed.⁹⁹ The RCAF also operates 18 anti-submarine warfare (ASW) aircraft in the Arctic, which will be replaced with 10-12 new airframes by 2020.¹⁰⁰ These additions will add to Canada’s early warning and signal intelligence capabilities in the Arctic. Currently these roles are filled by the NORAD North Warning System – a system of 15 long-range

⁹⁷ Fergusson, James. "Up in the Air, North of 60." *The National Post*. Postmedia Network Inc., 6 Feb. 2013. Web.

⁹⁸ The Government of Canada. National Defence and the Canadian Armed Forces. Office of the Minister of Defence. *Canada First Defence Strategy*. Web.

⁹⁹ "Report: Ottawa Set to Spend \$9B on New U.S. Fighter Jets from Single Source." *The Canadian Press*. The Guardian, 8 June 2010. Web.

¹⁰⁰ Wezeman, Siemon T. "Military Capabilities in the Arctic."

radars in northern North America – and Canadian Forces Station, Alert; an early warning base on the tip of Ellesmere Island.¹⁰¹

Canada's Defence First budget similarly outlines special expenditures for the modernization of its naval assets. The budget specifically mentions the purchase of 6-8 Arctic/offshore patrol ships by the Royal Canadian Navy to supplement the new ASW airframes purchased by the RCAF.¹⁰² Construction on the ships will begin in September of 2015.¹⁰³ The Canadian Navy similarly has begun construction on an Arctic refueling port for its vessels on Baffin Island, which would be the only Canadian facility of its kind within the Arctic Circle. The facility, which was originally slated to be a fully functional deep-water port, would serve to refuel Arctic patrols by 2018.¹⁰⁴

Analysis

Canadian Arctic rhetoric and militarization demonstrates Canada's strong desire to demarcate the Arctic – or at least its most lucrative parts – as Canadian territory. Though much of Canada's military buildup in the Arctic is still in the planning stages – it will be many years before F-35s begin using FOL Yellowknife as bases from which to patrol the Arctic – the military buildup is a huge difference from years past. Canada's military involvement in the Arctic was formerly limited to its joint partnership with the United States in the North American Aerospace Defense Command (NORAD) and intercepting Soviet bombers off their northern coast. However, the rapid buildup of their

¹⁰¹ Fergusson, James. "Up in the Air, North of 60." *The National Post*. Postmedia Network Inc., 6 Feb. 2013. Web.

¹⁰² The Government of Canada. National Defence and the Canadian Armed Forces. Office of the Minister of Defence. *Canada First Defence Strategy*. Web.

¹⁰³ Pugliese, David. "Canada Breaking Logjam on Arctic Equipment." *Defense News*. 11 Mar. 2015. Web.

¹⁰⁴ Bell, Jim. "Nanisivik: Nunavut's Incredible Shrinking Naval Facility." *Nunatsiaq Online*. 22 Mar. 2012. Web.

naval and aviation assets in the Arctic indicates a Canadian desire to match the opening of the Arctic with an ability to police their section of it.

Canadian Arctic ambitions, however, are somewhat tempered by the fact that the Northwest Passage is much slower to open to maritime traffic than the rest of the Arctic. By 2030, for instance, the NWP will only be somewhat free of sea ice for 11 weeks per year, in contrast to Russia's Northern Sea Route, which will face similar conditions for 19 weeks per year. Further, while there is a significant Russian population within the Arctic Circle that lives on the Northern Sea Route, 90% of Canadians live within 100 miles of the border with the United States, meaning that Canada lacks an existing urban infrastructure in its Arctic environment.¹⁰⁵

It is unclear what actual strategic effect the Canadian military expansion may be able to have in the region. Whereas Russia's major regional issue is an absence of military capacity in its Arctic zone, the Canadian military may face an issue in which their military expansion is ineffective. Canadian government officials have criticized the acquisition of the new Arctic patrol ships as they may be too small and underpowered to be suitable for heavy icebreaking.¹⁰⁶ Other Canadian officials are unhappy with the fact that the patrol vessel acquisition comes under the control of the Canadian Navy, feeling instead that they should have been purchased on behalf of the Canadian Coast Guard.¹⁰⁷

¹⁰⁵ "By the Numbers." *CBC News*. Canadian Broadcasting Corporation, 12 Mar. 2009. Web.

¹⁰⁶ Bergh, Kristofer. "The Arctic Policies of Canada and the United States; Domestic Motives and International Context." *SIPRI Insights on Peace and Security* 2012.1 (2012). *Stockholm International Peace Research Institute*. Web. (8)

¹⁰⁷ Kenny, Collin, and Bill Rompkey. "Wrong Decisions on Ships Could Sink Canada's Navy." *Senator Colin Kenny*. Senate of Canada, 1 July 2009. Web.

Given the fact that the ships have yet to be acquired, the inter-service squabble leaves the status of these ships in limbo.

As much as Canada's rhetoric may be centered on the primacy of its claim in the Arctic and its ownership of the Northwest Passage, it is still a key partner with the United States in major international affairs. Both Canada and the United States are members of the North Atlantic Treaty Organization (NATO), meaning that they share a strong commitment to each other's political and defense enterprises. The militaries conduct joint-military exercises and cooperate with each other in policy creation and defense planning, meaning that, despite chest-thumping rhetoric from Ottawa regarding the Northwest Passage and the dispute over the Beaufort wedge, the United States and Canada can be counted on as strong Arctic partners. Indeed, when referring to other nations in the Arctic, the Canadian Ministry of Foreign Affairs, Trade, and Development specifically refers to the United States as Canada's "premier partner", indicating that the only sticking point in the US-Canada Arctic relationship is the Northwest Passage and the Beaufort wedge.¹⁰⁸ As the United States builds its own independent military capacity in the Arctic, it is doing so in conjunction, rather than competition with Canadian efforts.

The Kingdom of Denmark

Domestic Policy

A discussion of Arctic policy for most nations usually begins with an analysis of their military buildup and capabilities in the region. Both Canada and Russia, for instance, have Arctic policies that are characterized by their drastic growth in Arctic

¹⁰⁸ "International Arctic Partners." *Ministry of Foreign Affairs, Trade, and Development*. Government of Canada, 15 Mar. 2013. Web.

military capability. Interestingly, however, Denmark's primary concerns in the Arctic seem to be its sustainability and environmental quality. In a speech at Dartmouth College, for instance, the Danish Ambassador to the United States, Peter Taksoe-Jensen stated that the best approach to the Arctic moving forward is "to actually have a framework where we can manage the challenges and opportunities by working together".¹⁰⁹

This is not mere rhetoric – Denmark's claim to the Arctic comes from its administration of Greenland, where native Greenlanders comprise 89% of the island's population. Denmark's relationship with Greenland is unique – though Greenland is an autonomous country with its own government, parliament, and a legally distinct populace, Denmark is largely responsible for administration of the island, and has oversight over the Greenlandic people.¹¹⁰ Greenlanders are traditionally wary of external forces dictating native policy. A 1953 expansion of the United States' Thule Air Force Base, for instance, resulted in the forced removal of an entire Greenlandic village with four days of notice. Though the agreement has since been amended to guarantee Danish and Greenlandic oversight over American military activities on the island, the base expansion continues to be a sore subject for Greenlanders, who continue to file lawsuits in the Danish Supreme Court and protest the base's existence.¹¹¹ More recently, the Premier of Greenland boycotted a meeting of the Arctic Council in protest of the fact that

¹⁰⁹ Bennett, Mia. "Denmark's Strategy for the Arctic." *Denmark's Strategy for the Arctic.*, 14 Nov. 2011. Web.

¹¹⁰ "Greenland Profile - Overview." *BBC News*. British Broadcasting Corporation, 19 Feb. 2015. Web.

¹¹¹ Petersen, Nikolaj. "Negotiating the 1951 Greenland Defense Agreement: Theoretical and Empirical Aspects." *Scandinavian Political Studies* 21.1 (1998): 1-28. Web.; Johnson, Chalmers. *The Sorrows of Empire: Militarism, Secrecy, and the End of the Republic*. 1st ed. New York: Henry Holt and LLC, 2004. Print.

Greenland lacks a voting role on the Council.¹¹² As such, Denmark must maintain a special focus on the needs and desires of the Greenlandic people, lest it lose its only connection to the Arctic by alienating a population that is legally and culturally distinct from its own. Its public strategy document outlining its approach to the Arctic between 2011 and 2020 demonstrates as much – it is signed as a multilateral directive between the governments of Denmark, the Faroe Islands, and Greenland.

Accordingly, Denmark leads the field in ensuring the continued “sustainable growth and social sustainability” of the Arctic.¹¹³ Its Arctic policy document, for instance, outlines a number of mandatory systems that it has adopted or is in the process of adopting to improve maritime safety and reduce shipping accidents. This appears to be a higher priority than military expansion (detailed below), especially given that subjects such as maritime safety, ecology, and native peoples’ rights form the bulk of the policy document, whereas military maneuvers and strategy are given a vague and obtuse three pages.

Denmark is attempting to partner with several nations, beyond the obvious military partnership with NATO and the United States, due to the latter’s military presence in Greenland, to achieve the above goals. It is leading the charge within the International Maritime Organization to create more stringent and effective shipping laws, and mandates that all vessels sailing to Greenland report their location at all times in a

¹¹² "Greenland’s Premier Boycotts the Arctic Council in “Drastic” Protest." *Nunatsiaq Online.*, 15 May 2013. Web. 15 Apr. 2015.

¹¹³ Kingdom of Denmark. Ministry of Foreign Affairs. *Kingdom of Denmark Strategy for the Arctic 2011–2020*. Ministry of Foreign Affairs, Aug. 2011. Web.

GPS-based monitoring system to prevent accidents.¹¹⁴ Internally, Denmark is partnering with Russia to help chart unmapped areas of the ocean floor between Greenland and Russia.¹¹⁵

This is not to say that Denmark lacks unilateral interests. In December of 2014, it – similar to Russia and Canada – submitted a claim to the Lomonosov Ridge to the UN Commission on the Laws of the Continental Shelf.¹¹⁶ While the Commission has yet to pass any form of judgment on the Danish claim, its acceptance would mean that Denmark would exercise near-total control over the Arctic region, especially due to its adjoining claim of the area east of Greenland.

Economic Considerations

Denmark's potential economic advantages from the Arctic come largely from its association with Greenland. Greenland possesses vast oil and gas resources off its Eastern coast – a United States Geological Survey study estimated the East Greenland Rift Basin area to have some of the largest reserves of oil in the world.¹¹⁷ Danish energy interests have a newly increased interest in tapping into these fields, especially as production from the Danish North Sea diminishes annually since peaking in 2005.¹¹⁸ Problematically, however, for Danish drilling ventures in the region, the East Greenland Rift Basin is plagued by consistent Arctic ice, with the majority of the area being encapsulated within

¹¹⁴ Bennett, Mia. "Denmark's Strategy for the Arctic."

¹¹⁵ *ibid*

¹¹⁶ Kingdom of Denmark. Royal Danish Ministry of Climate, Energy, and Building. Geological Survey of Denmark and Greenland. *Partial Submission by the Kingdom of Denmark in respect of the North-Eastern Continental Shelf of Greenland*. Web.

¹¹⁷ United States Geological Survey. *Circum-Arctic Resource Appraisal Assessment*

¹¹⁸ "Danish Oil Production Decline Continues." *Offshore Energy Today*. 26 June 2014. Web.

the standard Arctic ice extent annually.¹¹⁹ One region in Greenland, the West Disko tract, remains ice-free year-round and a potential source of cheap Greenlandic resource extraction.¹²⁰ Danish resource development in the Arctic region has also been delayed by the fall in the price of oil, and is unlikely to return unless the price of oil rebounds to a high enough point where profits will justify investment.

There are political obstacles to resource extraction in Greenland as well. While all offshore resources are in the Danish Exclusive Economic Zone, the government of Greenland retains ultimate control of all resource exploration licenses in the region, which has led to confusion in the region. Greenland's government, for instance, placed a moratorium on oil drilling in 2013 to the dismay of the Danish government, only to reverse its position in order to utilize revenues from oil and gas development in order to gain more financial independence.¹²¹ This, in conjunction with environmental difficulties, has left the region underdeveloped.

Military Capabilities

Similarly, Denmark is not shying away from military expansion in the region, especially in Greenland. It recently decided to combine its military commands in Greenland and the Faroe Islands into one unified Arctic Command in order to streamline and create a unified military structure in the Arctic region.¹²² This command's main role

¹¹⁹ Casey, Kevin. "Greenland's New Frontier: Oil and Gas Licenses Issued, Though Development Likely Years Off." *The Arctic Institute / Center for Circumpolar Security Studies*. 20 Jan. 2014. Web.

¹²⁰ Greenland. Ministry of Industry and Natural Resources. *Letter of Invitation to Apply for Exclusive Licences for Exploration for and Exploitation of Hydrocarbons in Greenland in a Licensing Round*. 2014. Print.

¹²¹ Casey, Kevin. "Greenland's New Frontier: Oil and Gas Licenses Issued, Though Development Likely Years Off."

¹²² Kingdom of Denmark. Parliament of Denmark. *Danish Defence Agreement 2012-2014*, 24 June 2009. Web.

thus far has been “upgrading...to support the planning and execution of major operations, as in connection with the deployment of an Arctic preparedness force.”¹²³ This ‘Arctic preparedness force’ is also a new military expansion intended specifically to be a rapid response force for “enforcement of sovereignty and surveillance” of Danish territories while maintaining the ability to partner with other external NATO forces in the region.¹²⁴

These structural expansions bolster an extant military defense network based in Greenland. At present, Denmark’s Arctic military presence is minimal, especially considering that it has only been mentioned in defense planning documents since 2010. The longest operating permanent military presence in the region, for instance is provided by Slædepatrulje Sirius, a unit of 14 Danish soldiers who ride around Northeastern Greenland on dogsleds conducting sovereignty enforcement patrols for months at a time.¹²⁵ Of additional note is Station Nord, a five-person scientific station in Northeastern Greenland that is the second-most northern permanent settlement in the world.¹²⁶ Beyond this, the recently established Arctic Command has a small administrative presence in Nuuk, Greenland, and a liaison unit with the American military base at Thule.¹²⁷

Denmark has recently realigned a portion of its air assets to have a permanent Arctic presence. Whereas Air Group West, which hosts Denmark’s F-16 fighter jets, only used Kangerlussuaq Airport in Western Greenland for temporary stopovers and training

¹²³ Kingdom of Denmark. Parliament of Denmark. *Danish Defence Agreement 2013-2017.*, 30 Nov. 2012. Web.

¹²⁴ Kingdom of Denmark Strategy for the Arctic 2011–2020. *Ministry of Foreign Affairs*; O’Dwyer, Gerard. "Denmark Boosts Resources for Arctic Security." *Defense News*. Gannett Government Media Corporation, 8 Oct. 2013. Web.

¹²⁵ Wezeman, Siemon T. "Military Capabilities in the Arctic."

¹²⁶ "Arctic Command." *Forsvaret*. Defence Command Denmark, 13 Feb. 2015. Web. 15 Apr. 2015.

¹²⁷ *ibid*

exercises in the past, it now maintains a permanent presence there.¹²⁸ Additional maritime patrol craft also operate in the Arctic from Aalborg Air Base in mainland Denmark. While Thule Air Force Base is a United States military asset, the Danish military retains the ability to station troops and air assets there, if necessary.¹²⁹

Denmark's naval capabilities are more robust than its air or land divisions. The Royal Danish Navy maintains an active naval base in southern Greenland – Kangerlussuaq. From Kangerlussuaq, the Danish Navy conducts regular sovereignty patrols within the Arctic space with its three specially built ice-hardened *Knud Rasmussen* class "Inspection Ships".¹³⁰ These ships are specifically meant for Arctic patrols off the coast of Greenland, and to replace Denmark's three ice-strengthened cutters (of which one remains in service in Greenland).¹³¹ There are currently two *Knud Rasmussen* class vessels in service, with a third planned to enter service by 2017.¹³² These patrol ships all will serve as platforms for the Danish Navy's nine Sikorsky Seahawks, which have the capability to conduct anti-surface and submarine warfare, search and rescue, and general surveillance.¹³³ The Danish Navy similarly has four *Thetis* class frigates meant to resupply Danish forces in Greenland and work as light icebreakers.¹³⁴ Finally, the Navy operates two medium icebreakers primarily for research and resupply operations

¹²⁸ "Tasks in the Arctic and the North Atlantic." *Forsvarsministeriet* (Ministry of Defence), 27 Mar. 2015. Web.

¹²⁹ Wezeman, Siemon T. "Military Capabilities in the Arctic."

¹³⁰ *An Overview of Current, On-Going Danish Naval Projects 2005-2009. Danish Navy Arctic and North Atlantic "Inspection Ships" - the Knud Rasmussen Class.* Canadian American Strategic Review, July 2008. Web.

¹³¹ Wezeman, Siemon T. "Military Capabilities in the Arctic."

¹³² *ibid*

¹³³ Keller, John. "Sikorsky to Support Nine MH-60R Maritime Helicopters to Danish Navy in \$115.7 Million Contract." *Military and Aerospace Electronics.* Pennwell Corporation, 24 June 2014. Web.

¹³⁴ Wezeman, Siemon T. "Military Capabilities in the Arctic."

Analysis

The nuances of the Denmark-Greenland relationship complicate Denmark's Arctic aspirations. As stated above, Greenlandic politics led to a temporary moratorium on Arctic drilling which was only lifted to reduce Greenlandic reliance on Danish monetary aid. Corporate hesitancy over drilling in Greenland goes further than questions over politics; a recent fall in oil prices has made companies reluctant to invest the massive amounts of capital required to start production in the ice-filled waters in Greenland, with some even returning their offshore exploration licenses.¹³⁵ Danish Arctic military expansion is couched in a desire to protect Greenland's Arctic resources and help police its Arctic claims. The expansion, however, is controversial, even within the ranks of the Danish military. In a strongly-worded rebuke of Denmark's military expansion, the former Commander of the Danish Greenlandic Command notes that Denmark's peace with the other Arctic nations – as he puts it, “the closest the Kingdom of Denmark has been to getting into a territorial conflict since 1864 [was when] the Canadian military removed a Danish flag from Hans Island”.¹³⁶

The Kingdom of Norway

Domestic Policy

Norway's Arctic regions have been at the forefront of its government policy focuses since the country's modern inception in 1905. Its northernmost county of Finnmark has always been a front-line against Russian and Soviet incursions and its

¹³⁵ Jacobsen, Stine. "RPT-Statoil Hands Back Three Greenland Exploration Licences." *Reuters*. Ed. Terje Solsvik and Jason Neely. Thomson Reuters, 14 Jan. 2015. Web.

¹³⁶ Fielder, Axel. "For Militaries, Co-operation Comes First." *The Arctic Journal*. The Bank of Greenland Business Foundation, 25 Feb. 2015. Web.

administration of the archipelago of Svalbard was the subject of international debate and a treaty involving a litany of countries in 1920. These characteristics make Norway's relationship with the Arctic unique – whereas many nations are only now discovering the value of their Arctic connection, the Norwegians have always been cognizant and closely connected to the Arctic. Indeed, most government documents refer to the Finnmark, Svalbard, and the island of Jan Meyen as “The High North” or simply “North Norway”.

Despite this, however, Norway's Arctic sovereignty is tenuous and limited. Though its administration of Finnmark and the associated Exclusive Economic Zone is unmistakable given its contiguity with the rest of the country, Svalbard is the subject of a nearly century-old treaty that severely limits Norway's capability to use the archipelago as a base for future Arctic operations. For much of Svalbard's (then referred to as Spitsbergen) history, the archipelago was *terra nullus* – a land without a nation.¹³⁷ Over time, numerous international interests began using the archipelago as a base of operations for whaling, coaling, and Arctic exploration, creating the need for some form of governance. The 1920 *Spitsbergen Treaty* placed Svalbard under Norwegian administration, but preserved the *terra nullus* rights of signatory nations.

While the area is completely under Norwegian control, Norway must allow any treaty nation to become residents of the archipelago and undertake any form of commercial or mining activity they desire.¹³⁸ Further, it is prohibited from establishing

¹³⁷ Numminen, Lotta. *The Spitsbergen Treaty | Multilateral Governance in the Arctic*. Ed. Diana Wallis and Stewart Arnold. Print.pdf (7)

¹³⁸ Treaty between Norway, The United States of America, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Ireland and the British overseas Dominions and Sweden concerning Spitsbergen

“any naval base [or]...fortification in the said territories...for warlike purposes”.¹³⁹ The treaty has created an odd situation for the Norwegian government today, wherein it is responsible for the upkeep and preservation of a Russian mining settlement, Barentsburg, on its own sovereign territory without being able to use it for non-commercial purposes. Russia continues to prove the point that Svalbard is not under Norway’s sovereign control – Russian Deputy Prime Minister Dmitry Rogozin visited the archipelago in April of 2015, despite having travel sanctions placed on him by the European Union and Norway.¹⁴⁰

The Treaty of Svalbard also leaves the archipelago open to foreign construction and presence. In 2014, a Chinese businessman proposed buying a large tract of land on the main island for “business purposes”.¹⁴¹ The Chinese have also attempted to create a large radar installation on Svalbard in the past, though this attempt has been repeatedly rebuffed by the Norwegian government. In Ny-Ålesund, a research town in northwestern Svalbard, ten different countries, ranging from China and India to Japan and South Korea, conduct unfettered scientific research on the archipelago.¹⁴²

This multilateralism is mirrored on a larger diplomatic stage. For example, in 2010, Norway and Russia resolved a forty-year maritime border dispute in the Barents Sea, and have participated in a fisheries management program in the Barents Sea since 1976. Most incredibly for a border zone that was once the dividing line of the NATO-

¹³⁹ *ibid*

¹⁴⁰ Hovland, Kjetil M. "Norway Summons Ambassador After Banned Russian Visits Svalbard." *The Wall Street Journal*. Dow Jones and Company, 20 Apr. 2015. Web.

¹⁴¹ Higgins, Andrew. "A Rare Arctic Land Sale Stokes Worry in Norway." *The New York Times*. The New York Times Company, 27 Sept. 2014. Web.

¹⁴² "Research Stations in Ny-Ålesund." *Kings Bay AS*. Norwegian Ministry of Trade and Industry. Web.

USSR conflict; Norwegian authorities have proposed a special ID for border region residents allowing them to cross the border without visas and in an expedited manner.¹⁴³ The relationship has been strained recently, with Norway suspending bilateral military activities with Russia due to the annexation of Crimea.¹⁴⁴ Beyond Russia, Norway has hosted five different “Cold Response” military exercises simulating a hypothetical military conflict in a cold weather scenario. These exercises are open to NATO member states, and have been held semi-regularly since 2006.¹⁴⁵ Further, under former Prime Minister Jens Stoltenberg’s Secretary Generalship of NATO, Norway has begun to host more NATO military exercises, with a new “high-visibility” exercise scheduled for 2018.

This has not prevented Norway from attempting to ensure the sovereignty of Svalbard and its other Arctic holdings. In the 2007 Soria Moria Declaration, the Norwegian government declared the High North as “Norway’s most important strategic target area in the years to come”.¹⁴⁶ This emphasis on Arctic operations is visible with the move of the Norwegian Defence Headquarters, the Norwegian Coast Guard’s headquarters, and major elements of the Norwegian Army to bases north of the Arctic Circle.¹⁴⁷ On a political side, Norway has filed two submissions with the UN Commission on the Limits of the Continental Shelf, claiming the “Southern Banana Hole” and the “Loop Hole”, two swaths of ocean surrounding Svalbard. These claims are somewhat controversial – the 1920 Treaty of Svalbard did not clarify the status of the

¹⁴³ *ibid*

¹⁴⁴ Kingdom of Norway. Ministry of Defence. *Norway Suspends Bilateral Military Activities with Russia until the End of 2015*. 12 Dec. 2014. Web.

¹⁴⁵ Wezeman, Siemon T. "Military Capabilities in the Arctic."

¹⁴⁶ Kingdom of Norway. Office of the Prime Minister. *The Soria Moria Declaration on International Policy*, 4 Feb. 2007. Web.

¹⁴⁷ Kingdom of Norway. Ministry of Foreign Affairs. *New Building Blocks in the North The next Step in the Government’s High North Strategy*, 12 Mar. 2009. Web.

waters surrounding the archipelago, and as such Norway's claim has come under additional scrutiny.

Economic Considerations

Norway's economy is largely based on natural resource development in the North Sea. It generates massive state revenues from its North Sea extraction; to the point there it has created a sovereign wealth fund to fund Norwegian social programs entirely from petroleum revenue.¹⁴⁸ Additionally, Norway's position near the Barents Sea makes it well-placed to take advantage of the natural resources in the area. It is currently developing a liquefied natural gas plant on the island of Melkøya to harvest the massive natural gas reserves of the Snøhvit field. The Snøhvit operation is the first of its kind in the Barents Sea.¹⁴⁹ Norway's state-owned petroleum enterprise, Statoil, has drilled over 100 exploration wells in the Barents Sea, and plans even more for the future.¹⁵⁰ Until recently, however, Norway did not allow the exploitation of Barents Sea resources, citing environmental concerns in the region.¹⁵¹ Given potentially diminishing returns in the North Sea, Norway is seeking to invest more in the Barents region, opening its first round of exploitation and production licenses in 2016.¹⁵²

Military Capabilities

Norway's army, while small, is primarily oriented towards Arctic operations. Its one army brigade – Brigade Nord (North) – is stationed north of the Arctic Circle in

¹⁴⁸ "Norway Government Pension Fund Global." *Sovereign Wealth Fund Institute*. Web.

¹⁴⁹ "Melkøya." *Store Norske Leksikon*. Kunnskapsforlaget, 19 Jan. 2012. Web.

¹⁵⁰ "Extensive Barents Sea Experience." *Our Operations*. Statoil Inc, 19 June 2014. Web.

¹⁵¹ Nunez, Christina. "Norway Offers New Arctic Leases, Stoking Polar Energy Rush." *National Geographic*. The National Geographic Society, 24 Jan. 2015. Web.

¹⁵² *ibid*

Troms County, and conducts Arctic training exercises frequently, as in the aforementioned Cold Response NATO exercise.¹⁵³ However, the military lacks the capability to enforce and patrol the large Arctic claims it has promulgated. While the Air Force has 60 F-16 fighter jets – with 56 F-35s on order, these aircrafts’ capabilities are largely neutered given the Air Force’s lack of tanker aircraft that would allow them to patrol outside of mainland Norway.¹⁵⁴ Additionally, its P-3 Orion maritime patrol aircraft are few and in need of replacement –a recent refurbishment added 20-25 years to their service life, but the fact that there are only six airframes in service limits their capability.¹⁵⁵

The Norwegian Navy and Coast Guard similarly face an Arctic capabilities gap. Only one of its naval ships – the NoCGV Svalbard, possesses the ability to break the ice. The rest of its naval fleet is comprised of five *Fridtjof Nansen*-class frigates which are neither ice-strengthened nor generally functional. A number of the frigates have been berthed at length due to a lack of spare parts, and one has been partially cannibalized in order to have its parts sent to the other frigates.¹⁵⁶ Despite the problems, these frigates are intended to operate within the entire Norwegian operating space, Arctic or otherwise. The Navy additionally operates six *Ula*-class submarines, which have a similar, limited, Arctic capability.¹⁵⁷ The Navy plans the purchase of a large logistics support ship in

¹⁵³ "Brigade Nord." *Forsvaret Norge*. Norwegian Ministry of Defense. Web.

¹⁵⁴ "Norway Re-Winging, Refurbishing Its P-3 Orions." *Defense Industry Daily*. Defense Industry Daily, 4 Mar. 2014. Web.

¹⁵⁵ Wezeman, Siemon T. "Military Capabilities in the Arctic."

¹⁵⁶ Berglund, Nina. "Frigate Berthed for Its Spare Parts." *News In English.no*. 30 Sept. 2013. Web.

¹⁵⁷ Wezeman, Siemon T. "Military Capabilities in the Arctic."

order to facilitate future Arctic operations, as well as supplement the operational capabilities of the *Fridtjof Nansen*-class frigates.¹⁵⁸

Analysis

Norway is in a unique situation amongst the Arctic nations. Due to its administration of Svalbard, it finds itself forced to accept other countries using territory it administers as a base of operations for their own Arctic expansion. Norway also is legally limited in its response – while it may want to protect Norwegian interests on Svalbard with a local military buildup, it is prohibited from doing so by the *Spitsbergen Treaty*. As such Norwegian military expansion must be done from their own mainland, without using the advantages of the Arctic territory it possesses. Notably, however, it is perfectly able to patrol and maintain its Barents Sea holdings, considering its proximity to the Norwegian mainland.

Curiously, Norway's military capacity in the Arctic is limited by more than just international law. Even though Norway is a strong NATO partner with a strong public opinion of the military, Norway's military capacity in the region is severely limited.¹⁵⁹ Its navy especially is in huge need of improvements and addition, considering the significant amount of Arctic coastline that it has. Currently, as seen by the flawed acquisition of the *Fridtjof Nansen*-class frigates, Norway has a weak navy that lacks the capacity to protect its own Arctic holdings and potentially deter its eastern neighbor, Russia.

¹⁵⁸ *A Joint Support Ship Project Comparison – An AOR Norwegian Style*. Canadian American Strategic Review, July 2013. Web.

¹⁵⁹ Carvalho, Benjamin De, and Iver B. Neumann. *Small States and Status Seeking: Norway's Quest for International Standing*. 1st ed. New York: Routledge, 2015. Print. (98)

CHAPTER THREE: DOMESTIC CONSIDERATIONS AND SUGGESTIONS

Domestic Policy and Posture

The United States lacks a clear direction and vision for its Arctic future. Thus far, there have been only three governmental policy statements on the region. The first, a Nixon-era memorandum, proposed a few platitudes regarding international cooperation and established the Interagency Arctic Policy Group, a group meant to coordinate and advise implementation of US Arctic policy.¹⁶⁰ Since 1990, this group has been limited to defining and implementing scientific research in the Arctic.¹⁶¹

The next document, a Presidential Directive authorized by President George W. Bush in the last few days of his presidency, continues to be the most substantive Arctic policy statement issued by the US to date. The directive, referred to as NSPD-66, affirmed the United States' need to accede to UNCLOS, but more crucially rejected the concept of an independently negotiated treaty for the Arctic region, similar to the Antarctic.¹⁶² The Antarctic treaty prevents any nations other than those who already had territorial claims to the Antarctic at the time of the treaty's signing from establishing any new territorial claims to the Antarctic.¹⁶³ As such, given the United States has not acceded to UNCLOS and has no legal claim to any Arctic maritime zones, an Arctic Treaty in the pattern of the Antarctic treaty could permanently lock the United States out

¹⁶⁰ National Security Memorandum 144. December 22, 1971.

¹⁶¹ "Interagency Arctic Research Policy Committee." *Office of Science and Technology Policy*. The White House. Web.

¹⁶² National Security Presidential Directive 66/Homeland Security Presidential Directive 25. January 9, 2009.

¹⁶³ "The Antarctic Treaty." *Secretariat of the Antarctic Treaty*. Web.; Russia and the United States maintain a "basis of claim" for smaller zones within the Antarctic

of the Arctic. The document also defines the Northwest Passage and parts of the Northern Sea Route as international straits as defined by UNCLOS, something that contradicts the Arctic policies of Canada and Russia respectively.

The following document, the *National Strategy for the Arctic Region*, is a brief document from the administration of President Barack Obama that largely reaffirms the statements made in NSPD-66, while adding a minimal amount of substance to certain environmental guidelines.¹⁶⁴ As such, American Arctic policy continues to be defined by a presidential directive authorized by a President eleven days from the end of his term. President Obama authorized an Executive Order in January of 2015 authorizing the creation of an Arctic Executive Steering Committee to provide guidance and coordination between executive departments and agencies, the Alaskan government, tribal stakeholders, and other Alaskan Native organizations in Arctic policy.¹⁶⁵ This Committee is still in the planning process, and has not yet formally convened.¹⁶⁶

At present, American accession to the UN Convention of the Law of the Sea is largely blocked by domestic political concerns. Accession has large bipartisan and multilateral support, with both Presidents Bush and Obama in favor of American ratification, as well as former Secretary of Defense Leon Panetta, former Secretary of State Hillary Clinton, and Chairman of the Joint Chiefs of Staff, General Martin

¹⁶⁴ United States of America. The Office of the President. *National Strategy for the Arctic Region*. 2013. Print.

¹⁶⁵ Exec. Order No. 13689, 3 C.F.R. (2015). Print.

¹⁶⁶ Conley, Heather A. "What to Know about the New White House Executive Order on Enhancing Coordination of National Efforts in the Arctic." *Center for Strategic and International Studies*. 22 Jan. 2015. Web.

Dempsey.¹⁶⁷ Opposition to the treaty comes from Senate Republicans, who see the convention as infringing upon the national sovereignty of the United States – even referring to the treaty as LOST (Law of the Sea Treaty) as opposed to UNCLOS.¹⁶⁸ Curiously, the opposition to UNCLOS after its initial publication was only concerned with Article XI of the treaty, which gives the International Seabed Authority (ISA) the right to distribute mining rights from waters outside of any one nation’s territory.¹⁶⁹ After renegotiating the agreement to allow the United States a permanent seat on the governing council of the ISA, a move that would have allowed effective US veto power over any redistribution agreements, the United States signed the treaty and recognized the convention as international law. However, Senate refusal to ratify the treaty means that the protections and rights afforded to UNCLOS members are still not extended to the United States.

Within the State Department, the Arctic continues to be a low priority. Internally, the office responsible for handling Arctic issues is nestled within a series of different offices that report to the Under Secretary for Economic Growth, Energy, and Environment, rather than the Under Secretary for Political Affairs, who normally is responsible for diplomatic affairs. This does, however, appear to be changing. In 2014, Secretary of State John Kerry appointed retired Coast Guard Admiral Robert Papp to serve as the United States Special Representative for the Arctic. In this role, the admiral

¹⁶⁷ Patrick, Stewart M. "(Almost) Everyone Agrees: The U.S. Should Ratify the Law of the Sea Treaty." *The Atlantic*. The Atlantic Monthly Group, 10 June 2012. Web.

¹⁶⁸ Inhofe, Jim. "If the U.S. Joins LOST, the U.S. Would Become Environmental Lawsuit Target #1." *Senator James M. Inhofe*. Senate of the United State of America, 28 June 2012. Web.

¹⁶⁹ *Statement of Roger Rufe: President, The Ocean Conservancy {Private}*, Senate Committee on Foreign Relations. (2003) (testimony of Roger Rufe). Print.

has begun meeting with various stakeholders in the Arctic Council in preparation for the recent US assumption of the Arctic Council chairmanship. As the United States' Senior Arctic Official (SAO), Papp will be responsible for administering the Council and representing the interests of the United States in its proceedings.

Economic Considerations

As with any other Arctic nation, the United States has much to gain economically in the Arctic. Even though the only Arctic shipping route that the United States has access to is the Bering Strait (which it jointly administers with Russia), it stands to gain massive returns from natural resource extraction. On land, natural resources fall into the Arctic National Wildlife Refuge (ANWR), a protected zone where drilling or other resource development is completely forbidden. Offshore, the typical Arctic mélange of problems exist – ranging from expensive infrastructural investments to the difficulty of drilling in Arctic weather conditions. Currently, no offshore drilling rigs exist in the Arctic, though Shell Oil plans to resume drilling in the Beaufort Sea two years after a series of minor accidents in the Arctic.

The National Strategy for the Arctic Region places an emphasis on “responsibly develop[ing] Arctic oil and gas resources”, which is reflected in recently adopted landmark federal regulations for Arctic drilling. Notably, however, there are not vast reserves of oil and gas immediately available to American energy interests. The ANWR only holds enough oil to supply the United States for a year, and the international legal dispute over the Beaufort Wedge means that no company is willing or able, to attempt to extract the resources below. Further, access to potential oil reserves further afield is

made difficult by the lack of domestic icebreaking capacity – if oil exists, there is currently no way for American drilling operations to access it.

Military Strategy and Policy

The United States’ military has a large and visible trajectory in the Arctic. In November of 2013, the Department of Defense published its *Arctic Strategy* brief, which outlined the US military’s general approach to the Arctic. The Department divides the territory between the United States Northern Command and its European Command (NORTHCOM and EUCOM, respectively), though NORTHCOM’s commander “is responsible for advocating for Arctic capabilities”.¹⁷⁰ This designates the Commander of NORTHCOM as the military counterpart to the US Special Representative to the Arctic, and creates a leadership structure for the region. The brief further states that the Department will conduct periodic re-evaluations of Arctic operational requirements for all relevant commands, and seek to modify and improve existing infrastructure where possible. Regardless of the timeline, the Department will seek to ensure and secure an American Arctic presence with any means necessary –surface, submarine, or aerial. Notably, however, the brief strays away from defining any specific timelines or objective goals for the region, recognizing that projections about the Arctic ice melt may vary greatly from year to year, and that fiscal constraints – especially following the wars in Iraq and Afghanistan, prevent a full-fledged engagement of the Arctic region.

Presently, the United States Air Force is the most visible of the United States’ Arctic military forces. The Air Force maintains two large bases in Alaska – Eilsen Air Force Base and Joint Base Elmendorf. The former, which was reduced in size and scope

¹⁷⁰ United States of America. Department of Defense. *Arctic Strategy*. 2013. Print. (8)

after 2005, supports a fighter wing and an Alaskan Air National Guard refueling wing.¹⁷¹ Joint Base Elmendorf, by contrast, is home to 12,000 military personnel and the entirety of the Eleventh Air Force, comprised of fighter, airlift, and other support capacity. The Eleventh Air Force similarly supports a number of radar and early warning installations located throughout Alaska as part of NORAD's extensive radar network.¹⁷² The Air Force continues to maintain a number of air bases and runway facilities throughout Alaska that were drawn down after the Cold War but retain the capacity to support future Arctic aviation capability beyond Eilsen and Elmendorf.¹⁷³ Outside of Alaska, the Air Force maintains a sizeable presence at Thule Air Force Base in Greenland. While Thule no longer has an active air wing located at the base, it still retains the facilities necessary for long-range maritime patrol and bomber aircraft, as well as the world's northernmost deep-water port.¹⁷⁴ The Air Force similarly maintains the institutional understanding and knowledge necessary for Arctic operations through its support operations for its research stations in Greenland.¹⁷⁵

Notably, however, the military in general lacks significant long-range maritime patrol capability in the Arctic. A small portion of the military's HC-130 search and rescue aircraft operate from Coast Guard Station Kodiak Island and Elmendorf, in addition to a few E-3 early warning radar aircraft from Elmendorf. As such, the US military is entirely dependent on ground-based early warning systems leftover in the area

¹⁷¹ United States of America. Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage*. 2011. Print.

¹⁷² "About NORAD." North American Aerospace Defense Command. Web.

¹⁷³ Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage*.

¹⁷⁴ Wezeman, Siemon T. "Military Capabilities in the Arctic." (12)

¹⁷⁵ Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage*.

from the Cold War. Additionally, there are no anti-submarine/surface warfare airframes in Alaska or Greenland.

American naval priorities in the Arctic are defined by the US Navy's *Arctic Roadmap 2014-2030*, which outlines the Navy's long-term plans in the Arctic operating space. A key portion of the *Roadmap* is a lengthy study detailing the potential navigability of the Arctic Ocean in the decades to come. The report is rather bearish on the potential for increased Arctic shipping, noting that it would likely take until 2030 for there to be significant open water in all four of the major Arctic shipping routes.¹⁷⁶ Even then, the routes will only be open for a fraction of the year, with significant amounts of shoulder ice even in the summer season. The Navy's ability to patrol in these straits, however, is largely limited by their international legal status. If, as Canada holds in the case of the Northwest Passage, and Russia in the case of the Northern Sea Route, these straits are internal or territorial waters, then the US Navy would lack the legal right to transit or patrol these waters, rendering the discussion of US naval preparedness in the area moot. As mentioned previously, this discussion has been the root of diplomatic conflict between the United States and Canada previously, though the situation remains unresolved.

American naval capability is limited even within domestic waters. While the Navy has standard operating capacity south of the Bering Strait, it loses operational capacity in ice-infested waters. None of the US Navy's surface ships are currently ice-strengthened, meaning that they will not be able to operate in or north of the Bering Strait

¹⁷⁶ Navy Task Force Climate Change. *U.S. Navy Arctic Roadmap 2014-2030* (11)

for half of the year, even in 2030.¹⁷⁷ Further, naval capabilities are limited by a lack of port facilities in the Arctic region. While Thule AFB maintains a deep-water port, there are no similar facilities in the Alaskan Arctic. Currently, there are plans to expand the Port of Nome to be able to accommodate larger ships, but neither the Navy nor the Coast Guard has announced plans to place a facility there.¹⁷⁸

There is, of course, the much ballyhooed question of the United States' icebreaker fleet, or lack thereof. Currently, the United States Coast Guard only operates three icebreakers, the USCGC *Polar Sea*, *Polar Star*, and *Healy*. These icebreakers are generally in limited condition. The *Polar Star*, for instance, was out of commission between 2006 and 2012 while waiting for funding for repairs to its engines. Even after the repairs were funded in 2010, Admiral Papp (who was Admiral of the Coast Guard at that point) was "uncertain" as to the potential future life of the vessel.¹⁷⁹ The *Polar Sea* is currently out of service, and is in limbo, as parts were stripped from it to facilitate the *Polar Star*'s refit, and Congress has yet to decide on whether or not to fund repairs or decommission the ship entirely. The *Healy* has only been in service for fifteen years, but has lower icebreaking ability than its larger siblings. A fourth icebreaker serves with the National Science Foundation, but is only able to support Antarctic research.¹⁸⁰

However, this does not imply that the United States lacks the ability to facilitate its current icebreaking needs. Currently, the *Polar Star* and the *Healy* are used on

¹⁷⁷ Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage*. (17); Navy Task Force Climate Change. *U.S. Navy Arctic Roadmap 2014-2030*

¹⁷⁸ "Alaska Deep Draft Arctic Port Study." *Alaska Regional Ports*. US Army Corps of Engineers. Web.

¹⁷⁹ United States of America. Congressional Research Service. *Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress*. By Ronald O'Rourke. 2015. Print.

¹⁸⁰ *ibid*

research patrols and to rescue the occasional abandoned ship in the Arctic or Antarctic.¹⁸¹ US Transportation Command (USTRANSCOM) is also able to support the annual strategic sealift necessary to resupply Thule AFB with its ice-class general cargo ship and its ice-class tanker.¹⁸² Further, given the scarce population in Northern Alaska, there is no civilian need for icebreakers to resupply Arctic Alaskan communities. These communities are instead served by regularly scheduled air service and access facilitated by the Pan-American Highway. By contrast, rural communities in Russia are spread out and lack airport facilities, necessitating resupply by sea.¹⁸³

A bright spot for US naval capabilities in the Arctic continues to be the operation capabilities of its nuclear submarine fleet. The Navy conducts regular submarines patrols under the Arctic, frequently surfacing through thick ice at the North Pole.¹⁸⁴ The Navy similarly has eleven SSBNs stationed at Naval Base Kitsap in Washington State, giving the Navy's nuclear submarine fleet quick and easy access to the Arctic operating environment. Given the nature of submarines, they are not limited by weather conditions, and can operate under the ice year-round.¹⁸⁵ To further the capabilities of American submarines operating underneath the Arctic surface, the Navy operates an Arctic Submarine Laboratory in San Diego, California.¹⁸⁶ Additionally, US Naval forces

¹⁸¹ United States Coast Guard. 11th District Pacific Southwest. *US Coast Guard Cutter Polar Star to Assist Vessels in Antarctica. News Releases.* United States Coast Guard, 4 Jan. 2014. Web.

¹⁸² Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage.*

¹⁸³ Østreng, Willy. *Shipping in Arctic Waters: A Comparison of the Northeast, Northwest and Trans Polar Passages.* Heidelberg: Springer, 2013. Print.

¹⁸⁴ Wezeman, Siemon T. "Military Capabilities in the Arctic." (13)

¹⁸⁵ "Environment: Operations." *All About Sea Ice.* National Snow & Ice Data Center. Web.

¹⁸⁶ Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage.*

conduct a semi-annual Ice Exercise (ICEX) in the Arctic to test submarine operations and tactics in conjunction with surface warfare requirements.¹⁸⁷

Whatever further steps are taken to bolster US military efforts in the Arctic will be complemented by a wealth of internal planning and military simulations. The aforementioned military shortcomings became readily apparent after the US Naval War College conducted the Fleet Operations Arctic Game in 2011 to simulate responses to a number of different potential scenarios in an Arctic becoming more widely trafficked.¹⁸⁸ Further, the US military plans and executes a number of war simulations and field training exercises in the Alaskan Arctic environment annually, including the semiannual RED FLAG-Alaska, and the annual Northern Edge exercise.¹⁸⁹ Northern Edge in particular is a joint training exercise, allowing the Navy and the Air Force to gain valuable institutional knowledge about Arctic operations.

Key Findings

Based on the previous findings and information, the following observations about the Arctic can be made:

1. The United States lacks a concerted policy direction and goals for its role in the Arctic

Each of the other major Arctic nations has a detailed public policy document outlining their general goals and visions for the Arctic operating space. These documents include everything from military strategies, affirmations of certain national beliefs, and a

¹⁸⁷ *ibid*

¹⁸⁸ United States of America. United States Navy. United States Naval War College. *Fleet Arctic Operations Game: Game Report*. By Walter A. Berbrick. Ed. Christopher Gray. 2011. Print.

¹⁸⁹ "Alaska's Exercise Info." *Joint Base Elmendorf-Richardson*. United States Air Force. Web.

vision for the nations' roles in the Arctic moving forward. The United States lacks such a document, and the close approximations that it does have – NSPD 66 and the *National Strategy for the Arctic Region* – have led to a holding pattern for US Arctic policy. Specific stakeholders within the United States are developing their own discrete Arctic policies, as evidenced by the Arctic policies of the State Department, Department of Defense, and the US Navy. However, a lack of top-level policy direction – created by either Congress or the Executive Branch – is hindering any US progress on the Arctic issue. Key policy holes identified by each of the aforementioned stakeholders cannot be filled without the approval or buy-in of either Congress or the Executive, and as such, these branches cannot act on the shortcomings that they discover.

2. The United States is at an international legal disadvantage in regards to securing its Arctic claims as a result of it not acceding to the UN Convention on the Law of the Sea

Functionally, the United States abides by the UN Convention on the Law of the Sea. However, even though it has signed the document, the fact that it has not acceded to the Convention means that the United Nations will not protect American maritime interests – especially in the Arctic. Even though the United States considers a large swath of the Arctic as its own territory, this claim cannot and will not be defended by international law given the United States' non-participation in UNCLOS. As such, the United States faces a situation in which the Commission on the Limits of the Continental Shelf makes decisions on Arctic maritime boundaries that do not consider American interests. Considering that the Convention has been amended to consider, and be

favorable to, American interests, it is foolhardy for the United States to continue to be the only Arctic nation that is not a party to the Convention.

3. The United States Navy is at a severe relative operating deficiency in the Arctic due to top-level dithering on Arctic issues

Currently, American operational influence in the region is limited by a total lack of naval resources. The Navy can only patrol north of the Bering Strait when it is free of ice, and lacks the ability to conduct long-range maritime patrols over the territory that it is tasked with defending. While SSBNs and attack submarines maintain a powerful and convincing dominance under the Arctic seas, above, American naval power is nowhere to be found. In the event of an oil spill, humanitarian disaster, or foreign incursion, American military power will be either incumbent on its aging and decrepit trio of icebreakers or on foreign aid. While Canada, the United States' closest ally is preparing its own military in a way that will allow it to defend its own Arctic holdings, continued and protracted diplomatic irritations over the Northwest Passage and Beaufort Wedge prevent the guarantee that Canada will be as supportive of the United States in the Arctic as it is elsewhere. Though the Navy is well aware of their operating limits within the Arctic and the steps necessary to fix the problem, Congressional and Executive inaction means that these solutions cannot be pursued.

4. Alarm over foreign Arctic military buildups – especially that of Russia – is misplaced

While each of the other Arctic nations is investing large amounts of capital into their Arctic operational capacities, each comes with a large set of footnotes that reduces the magnitude of their threat to the United States. In each case, a much vaunted Arctic

militarization equates simply to a protection of economic interests and strategic defense. While Russia is indeed leading the pack in terms of its Arctic military buildup, and engaging in particularly bellicose rhetoric regarding the region, the actual threat is rather benign. Russia (for once) is following international law in the region. It has limited its Arctic buildup to undisputedly Russian territories, and the majority of its military buildup is oriented at protecting its oil and gas interests and securing the Northern Sea Route as a viable maritime shipping route. While its actions in the region may seem more provocative to a US audience – especially in the context of its more overarching foreign policy and other international actions – its Arctic policy is based on protecting the interests afforded to it by its accession to the UN Convention on the Law of the Sea.

5. The “Icebreaker Gap” is not as severe as it is made out to be

It is irrefutable that the United States possesses one of the worst-equipped icebreaker fleets of the major Arctic powers. It is sorely in need of supplementation – something that the United States Coast Guard and other public figures have called for repeatedly in the past. However, the American lack of icebreakers is not as severe a situation as it may appear. The United States still manages to conduct the work necessary to its present Arctic position with its current fleet of icebreakers. While the increased workload caused by potential offshore Alaskan drilling and increased maritime traffic through the Bering Strait will necessitate additional icebreaking capacity, the total absence of both at present means that current American capacity is not as deficient as it is made out to be. Even as shipping and resource exploitation increases, the United States has far less need for icebreaking, given that Northern Alaska is unlikely to become an urban area anytime soon.

A New Arctic Strategy: Cautious Icebreaking

The United States must develop an Arctic Strategy that takes into consideration its domestic military shortcomings in conjunction with its international aims. If the United States is to be acknowledged in the Arctic space as the global power that it is elsewhere, then it must join the rest of the Arctic nations on the same international legal level. However, given the uncertainty and timeline of the Arctic's future, the United States needn't approach a new Arctic policy with a sense of existential dread, but rather cautious path finding. The Arctic ice, as an example, is irrefutably receding every year. However, the pace of this disappearance varies annually, and follows an unpredictably declining trend with a long time frame. As such, the United States is afforded the luxury of time in approaching its Arctic deficiencies.

The timeline calls for a slow approach to Arctic policy that solves current problems without tying the United States to a specific agenda or ideology in the region. First and foremost, a new Arctic policy should facilitate the US Coast Guard and Navy's desired expansion of their Arctic capabilities. This needn't be a major affair, but rather provide enough support to meet current needs, and lay the framework to accommodate future growth at whatever pace it may come. Any new Arctic Policy must also follow and acknowledge the UN Convention on the Law of the Sea that the rest of the world's Arctic powers follow. While the United States enjoys the power of supremacy in the rest of the world, it is too late to the Arctic to direct events in its own exclusive interests. Instead, the policy must acknowledge the fact that other parties are at the table, and accommodate the pre-existing policies that have been created by UNCLOS. Finally, the policy should avoid making provocative statements against other Arctic powers – specifically Russia –

and focus instead on areas for international collaboration. While US policy in general may be based on countering Russia, poking the bear has the potential to accelerate Russia's military buildup in the Arctic past protection into aggression. The Arctic is one of the few areas in the world where traditionally opposed powers have the ability to cooperate. Thus far, the Arctic Council has proven an excellent example of this, as its members engage in a number of confidence-building measures ranging from Search and Rescue arrangements to cultural exchanges. A new American Arctic policy should acknowledge this status quo – which American officials have been participating in for many years as well – and seek to encourage, rather than destroy it.

Specific Policy Recommendations

Based on the above findings and strategic suggestions, the United States should:

1. Create an “American Arctic Policy” document at the Executive level

While the *National Arctic Strategy* is a start, the President should take steps to create specific policy goals and aims that not only bolster current international standards but also apply them to domestic Arctic spaces as well. This document should follow the pattern of other nations' Arctic policy documents in outlining the specific ties of the United States to the region, and the actions that it will take to protect the area. Such a document will not only signal to the rest of the world's Arctic powers that the United States is now taking the Arctic seriously, but also telegraph an American commitment to the existing international legal system

2. Accede to the UN Convention on the Law of the Sea

The President and interested parties should seek to assuage outdated Congressional concerns over diminished sovereignty and resource protection in the

Arctic and elsewhere by pointing to the numerous benefits afforded to the United States by the Convention. The United State cannot stand alone in the Arctic without accession to the document, lest forthcoming international legal decisions ignore or invalidate American claims and potential in the region.

3. Approve or facilitate funding for a new heavy icebreaker, while solving the question of the *Polar Sea*

The United States Congress should either approve of the US Coast Guard's request for increased funding for a new heavy icebreaker, or increase the Coast Guard's budget in a way that would allow it to facilitate the addition of another icebreaker to active service. At present, the *Polar Sea* remains laid up due to a lack of a Congressional mandate on the matter. Either the *Polar Sea* should be deactivated and decommissioned, or funds should be allocated to its repair. In the event of the former, Congress should appropriate funds to the Coast Guard necessary to facilitate the construction of a new heavy icebreaker to replace the loss in icebreaking capacity represented by the incapacitation of the *Polar Sea*. This will also aid in potential American exploration of natural resource exploitation in traditionally unreachable Arctic zones.

4. Adjudicate an appropriate compromise on the Beaufort Wedge dispute with Canada

The United States loses out on massive potential revenues from fishing and commercial resource extraction in the region by not coming to an agreement with Canada on the matter of the wedge's ownership. The two nations' continued dispute over the matter has resulted in a lose-lose scenario, wherein neither is able to reap the massive economic benefits that lay beneath the waves. Even if the United States were to split the

region in half with Canada, it would still gain from being able to harvest half the region's resources, as opposed to the present lack of resource extraction in the area. Most importantly, however, the United States would solve a lasting diplomatic issue with its closest regional and global ally, building confidence and mutual trust.

5. Improve bilateral capabilities and create agreements with Russia in the Bering Strait and Canada in the Beaufort Sea

While the Northern Sea Route is a Russian-oriented maritime shipping route, any vessel transiting through the route will eventually pass through the Bering Strait, which is a strait that both Russia and the United States have jurisdiction over. Similarly, both Canada and the United States have jurisdiction over portions of the Beaufort Sea. As such, if a disaster such as a sinking ship or oil spill were to occur, the United States would have to respond in tandem with either Russia or Canada. Creating bilateral search and rescue agreements in both bodies of water and beginning joint training and information sharing would not only improve relations between either nations, but also ensure an appropriate and swift response to potentially harmful situations.

6. Strengthen international cooperation through strong Arctic Council leadership

The United States' chairmanship of the Arctic Council during the time in which the Arctic is coming to the forefront of Arctic nations' policies allows the United States a fast track to leadership in an issue where it has traditionally lagged behind. The United States, therefore, has the ability to use its chairmanship of the Council to advocate a particular agenda or goal that will help its case for being acknowledged as a leader in the Arctic space. This will also have the joint benefit of creating the basis for further international cooperation in the region.

Concluding Thoughts

The United States has not “lost” the Arctic, and no other major Arctic nation has “won” the Arctic. However, the United States certainly is losing the Arctic by failing to play at the same level as the rest of the world’s Arctic nations. By refusing to accede to UNCLOS, modernize its fleet of icebreakers and naval equipment, and facilitate compromises with its closest allies, the United States risks being left behind in the race to capitalize on the vast resources of the Arctic. Fortunately for the United States, each of the other Arctic nations has not been able to take a decisive lead in the region, with each suffering military, economic, or other domestic policy obstacles to regional leadership. These nations – even those that traditionally do not – are generally cooperating under various international frameworks, something which makes the Arctic unique amongst the regions of the world. Ultimately, the United States has the ability to rise to its traditional leadership role in the Arctic region as it melts if it adopts a certain few policy recommendations. However, if the United States fails to heed the Arctic’s growing importance and implement these suggestions, it risks being frozen in the Arctic’s past forever.

REFERENCES

- "About NORAD." *North American Aerospace Defense Command*. Web.
- "About the Arctic Council." *The Arctic Council*. 07 Apr. 2011. Web.
- "Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic". May 12, 2011. Nuuk, Greenland.
- "Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic". May 15, 2013. Kiruna, Sweden.
- "Alaska Deep Draft Arctic Port Study." *Alaska Regional Ports*. US Army Corps of Engineers. Web.
- "Alaska's Exercise Info." *Joint Base Elmendorf-Richardson*. United States Air Force. Web.
- "The Antarctic Treaty." *Secretariat of the Antarctic Treaty*. Web.
- "Arctic Command." *Forsvaret*. Defence Command Denmark, 13 Feb. 2015. Web. 15 Apr. 2015.
- Arctic Shipping: Navigating the Risks and Opportunities*. Marsh Risk Management Research, Aug. 2014. Web.
- "Atomic Icebreaking Fleet Is The Key Element Of Russian Geopolitical Interests Protection In The Arctic." *Northern Sea Route*. Rosatom Flot. Web.
- Barrabi, Thomas. "France Could Deliver Mistral Warship To Russia By March After Ukraine Ceasefire Agreement, Report Says." *International Business Times*. IBT Media Incorporated, 12 Feb. 2015. Web.
- Bell, Jim. "Nanisivik: Nunavut's Incredible Shrinking Naval Facility." *Nunatsiaq Online*. 22 Mar. 2012. Web. 30 Mar. 2015.
- Bennett, Mia. "Denmark's Strategy for the Arctic." *Denmark's Strategy for the Arctic*. 14 Nov. 2011. Web. 14 Apr. 2015.
- Bergh, Kristofer. "The Arctic Policies of Canada and the United States; Domestic Motives and International Context." *SIPRI Insights on Peace and Security* 2012.1 (2012). *Stockholm International Peace Research Institute*. Web.
- Berglund, Nina. "Frigate Berthed for Its Spare Parts." *News In English.no*. 30 Sept. 2013. Web.

- Boé, Julien, Alex Hall, and Xin Qu. "September Sea-ice Cover in the Arctic Ocean Projected to Vanish by 2100." *Nature Geoscience* 2.5 (2009): 341-43. Web.
- Bodner, Matthew, and Alexey Ermenko. "Russia Starts Building Military Bases in the Arctic." *The Moscow Times*. 8 Sept. 2014. Web.
- Bowes, Michael D. "Impact of Climate Change on Naval Operations in the Arctic." Center for Naval Analyses, Apr. 2009. Web.
- Braw, Elisabeth. "Putin Makes His First Move in Race to Control the Arctic." *Newsweek*. Newsweek LLC, 6 Jan. 2015. Web.
- "Brigade Nord." *Forsvaret Norge*. Norwegian Ministry of Defense. Web.
- Briggs, P. J. "The Polar Sea Voyage and the Northwest Passage Dispute." *Armed Forces & Society* 16.3 (1990): 437-52. Web.
- Brigham, Lawson W., and Ben Ellis. "Arctic Marine Infrastructure." *Arctic Marine Shipping Assessment 2009 Report*. Akureyri, Iceland: Arctic Council, PAME, Protection of the Arctic Marine Environment, 2009. 154-87. Print.
- Brown, April. "Unmapped Routes May Pose Dangers for Shipping Boom in Arctic Waters." *Newshour*. PBS, 17 Sept. 2013. Web. 29 Oct. 2014.
- "By the Numbers." *CBC News*. Canadian Broadcasting Corporation, 12 Mar. 2009. Web.
- Canada. Department of Foreign Affairs, Trade, and Development. *Partial Submission of Canada to the Commission on the Limits of the Continental Shelf regarding Its Continental Shelf in the Atlantic Ocean: Executive Summary*. Government of Canada, 6 Dec. 2013. Web.
- Canada. National Defence and the Canadian Armed Forces. Office of the Minister of Defence. *Canada First Defence Strategy*. Web. 29 Mar. 2015.
- "Canada to Claim North Pole as Its Own." *The Guardian*. 9 Dec. 2013. Web.
- "Canada's Northern Strategy." *Prime Minister of Canada*. 16 Aug. 2013. Web. 29 Mar. 2015.
- Carvalho, Benjamin De, and Iver B. Neumann. *Small States and Status Seeking: Norway's Quest for International Standing*. 1st ed. New York: Routledge, 2015. Print.
- Casey, Kevin. "Greenland's New Frontier: Oil and Gas Licenses Issued, Though Development Likely Years Off." *The Arctic Institute | Center for Circumpolar Security Studies*. 20 Jan. 2014. Web.

- Conley, Heather A. "What to Know about the New White House Executive Order on Enhancing Coordination of National Efforts in the Arctic." *Center for Strategic and International Studies*. 22 Jan. 2015. Web.
- "Danish Oil Production Decline Continues." *Offshore Energy Today*. 26 June 2014. Web.
- "Devon's Paktoa a Giant Beaufort Oil Find." *Oil and Gas Journal*. PennWell Corporation, 26 Oct. 2013. Web.
- Dobie, Greg, ed. *Safety and Shipping Review 2014*. Allianz Global Corporate & Specialty SE, Mar. 2014. Web.
- Ebinger, Charles, John P. Banks, and Alisa Schackmann. *Offshore Oil and Gas Governance in the Arctic. The Energy Security Initiative*. The Brookings Institution, Mar. 2014. Web.
- Engel's. Weapons of Mass Destruction (WMD)*. Global Security, 24 June 2011. Web.
- "Environment: Operations." *All About Sea Ice*. National Snow & Ice Data Center. Web.
- Exec. Order No. 13689, 3 C.F.R. (2015). Print.
- "Extensive Barents Sea Experience." *Our Operations*. Statoil Inc, 19 June 2014. Web.
- Fergusson, James. "Up in the Air, North of 60." *The National Post*. Postmedia Network Inc., 6 Feb. 2013. Web. 29 Mar. 2015.
- Fielder, Axel. "For Militaries, Co-operation Comes First." *The Arctic Journal*. The Bank of Greenland Business Foundation, 25 Feb. 2015. Web.
- Frear, Thomas, Lukasz Kulesa, and Ian Kearns. *Dangerous Brinkmanship: Close Military Encounters Between Russia and the West in 2014. Publications*. European Leadership Network, 10 Nov. 2014. Web.
- Gallucci, Maria. "Russian Oil Giant Rosneft Is Delaying Arctic Drilling Plans Amid Western Sanctions Against Moscow." *International Business Times*. IBT Media Incorporated, 30 Jan. 2015. Web.
- "Gazprom Neft Continues Evaluating Siberian Fields." *WorldOil*. Gulf Publishing Company, 15 Apr. 2015. Web.
- "Germany Cancels Major Arms Deal with Russia: Report." *Deutsche Welle*. 4 Aug. 2014. Web.
- Gorenburg, Dmitry. "Russian Interests and Policies in the Arctic." *War on the Rocks*. 7 Aug. 2014. Web.

- Gorst, Isabel. "Russian Military Budget Sapped by Corruption." *Financial Times*. The Financial Times Ltd., 24 May 2011. Web.
- Greenland. Ministry of Industry and Natural Resources. *Letter of Invitation to Apply for Exclusive Licences for Exploration for and Exploitation of Hydrocarbons in Greenland in a Licensing Round*. 2014. Print.
- "Greenland Profile - Overview." *BBC News*. British Broadcasting Corporation, 19 Feb. 2015. Web.
- "Greenland's Premier Boycotts the Arctic Council in "Drastic" Protest." *Nunatsiaq Online*. 15 May 2013. Web. 15 Apr. 2015.
- Gronewold, Nathaniel. "A Peek Inside the U.N.'s Continental Shelf Commission." *The New York Times*. The New York Times Company, 14 Sept. 2009. Web.
- Hains, Denis. "Status of Arctic Hydrography and Nautical Charting." Proc. of PAME II-2014, Canada, Whitehorse Yukon Territory. Arctic Regional Hydrographic Commission, 16 Sept. 2014. Web.
- Higgins, Andrew, and Steven Erlanger. "Gunmen Seize Government Buildings in Crimea." *The New York Times*. The New York Times, 27 Feb. 2014. Web. 31 Jan. 2015.
- Higgins, Andrew. "A Rare Arctic Land Sale Stokes Worry in Norway." *The New York Times*. The New York Times Company, 27 Sept. 2014. Web.
- Holland, Marika M., Cecilia M. Bitz, and Bruno Tremblay. "Future Abrupt Reductions in the Summer Arctic Sea Ice." *Geophysical Research Letters* 33.23 (2006). Web.
- Hovland, Kjetil M. "Norway Summons Ambassador After Banned Russian Visits Svalbard." *The Wall Street Journal*. Dow Jones and Company, 20 Apr. 2015. Web.
- Humpert, Malte, and Andreas Raspotnik. "The Future of Arctic Shipping." The Arctic Institute, 11 Oct. 2012. Web. 29 Oct. 2014.
- Inhofe, Jim. "If the U.S. Joins LOST, the U.S. Would Become Environmental Lawsuit Target #1." *Senator James M. Inhofe*. Senate of the United State of America, 28 June 2012. Web.
- "Interagency Arctic Research Policy Committee." *Office of Science and Technology Policy*. The White House. Web.
- "International Arctic Partners." *Ministry of Foreign Affairs, Trade, and Development*. Government of Canada, 15 Mar. 2013. Web.

- "International Continental Shelf Survey." *International Continental Shelf Survey*. PolarTREC, 2010. Web. 30 Oct. 2014.
- International Maritime Organization. Maritime Safety Committee and the Marine Environment Protection Committee. *Guidelines for Ships Operating in Arctic Ice-Covered Waters*. 2002. Print.
- Iridium Communications Incorporated. *Iridium Awarded Contract From Defense Information Systems Agency Worth Up to \$47 Million*. 31 Oct. 2012. Web.
- Jacobsen, Stine. "RPT-Statoil Hands Back Three Greenland Exploration Licences." *Reuters*. Ed. Terje Solsvik and Jason Neely. Thomson Reuters, 14 Jan. 2015. Web.
- Johnson, Chalmers. *The Sorrows of Empire: Militarism, Secrecy, and the End of the Republic*. 1st ed. New York: Henry Holt and LLC, 2004. Print.
- "Joint Strategic Command." *Military*. Global Security, 2 Jan. 2015. Web.
- A Joint Support Ship Project Comparison – An AOR Norwegian Style*. Canadian American Strategic Review, July 2013. Web.
- Jones, Bruce. "Shoigu Expands Arctic Military Presence, While Lavrov Rejects NATO Involvement in Far North." *IHS Jane's 360*. IHS Inc., 2 Oct. 201. Web.
- Keller, John. "Sikorsky to Support Nine MH-60R Maritime Helicopters to Danish Navy in \$115.7 Million Contract." *Military and Aerospace Electronics*. Pennwell Corporation, 24 June 2014. Web. 15 Apr. 2015.
- Kenny, Collin, and Bill Rompkey. "Wrong Decisions on Ships Could Sink Canada's Navy." *Senator Colin Kenny*. Senate of Canada, 1 July 2009. Web.
- Kingdom of Denmark. Ministry of Foreign Affairs. *Kingdom of Denmark Strategy for the Arctic 2011–2020*. Ministry of Foreign Affairs, Aug. 2011. Web.
- Kingdom of Denmark. Parliament of Denmark. *Danish Defence Agreement 2012 - 2014*. 24 June 2009. Web.
- Kingdom of Denmark. Parliament of Denmark. *Danish Defence Agreement 2013 - 2017*. 30 Nov. 2012. Web.
- Kingdom of Denmark. Royal Danish Ministry of Climate, Energy, and Building. Geological Survey of Denmark and Greenland. . *Partial Submission by the Kingdom of Denmark in respect of the North-Eastern Continental Shelf of Greenland*. Royal Danish Ministry of Climate, Energy, and Building, Nov. 2014. Web.

- Kingdom of Norway. Ministry of Defence. *Norway Suspends Bilateral Military Activities with Russia until the End of 2015*. 12 Dec. 2014. Web.
- Kingdom of Norway. Ministry of Foreign Affairs. *New Building Blocks in the North The next Step in the Government's High North Strategy*. 12 Mar. 2009. Web.
- Kingdom of Norway. Office of the Prime Minister. *The Soria Moria Declaration on International Policy*. 4 Feb. 2007. Web.
- Klimenko, Ekaterina. *Russia's Evolving Arctic Strategy: Drivers, Challenges and New Opportunities*. Stockholm: Stockholm International Peace Research Institute, 2014. Print. Position Paper 42.
- Kvamstad-Lervold, Beate. "What Is the Problem with Communication in the Arctic?" *Norwegian Marine Technology Research Institute*. SINTEF. Web. 29 Oct. 2014.
- Laruelle, Marlène. *Russia's Arctic Strategies and the Future of the Far North*. New York: M.E. Sharpe, 2014. Print.
- Lewis-Koskinen, Simone. "U.S. - Canada Dispute Over Offshore Territory." *Inventory of Conflict and Environment*. American University, Dec. 2010. Web. 06 Nov. 2014.
- Ljunggren, David. "Clinton Rebuke Overshadows Canada's Arctic Meeting." *Reuters*. Thomson Reuters, 29 Mar. 2010. Web.
- "A Look at Dome Petroleum's Ill-fated Drilling Program in the Beaufort Sea." *Alberta Oil Magazine*. 26 Feb. 2014. Web.
- McGwin, Kevin. "Shipping." *The Arctic Journal*. Mediehuset Sermitsiaq A.G., 16 Sept. 2014. Web. 29 Oct. 2014.
- "Melkøya." *Store Norske Leksikon*. Kunnskapsforlaget, 19 Jan. 2012. Web.
- "Murmanskaya Rig Starts Drilling Offshore Vietnam." *Oil and Gas Eurasia*. 16 Dec. 2013. Web.
- National Security Memorandum 144. December 22, 1971.
- National Security Presidential Directive 66/Homeland Security Presidential Directive 25. January 9, 2009.
- "New Russian Military Doctrine Labels NATO as Main Threat." *Defense News*. Gannett Company, 19 Dec. 2014. Web.
- "Northwest Passage Gets Political Name Change." *Canada.com*. The Edmonton Journal, 9 Apr. 2006. Web. 06 Nov. 2014.

- "Norway Government Pension Fund Global." *Sovereign Wealth Fund Institute*. Web.
- "Norway Re-Winging, Refurbishing Its P-3 Orions." *Defense Industry Daily*. Defense Industry Daily, 4 Mar. 2014. Web.
- Numminen, Lotta. *The Spitsbergen Treaty | Multilateral Governance in the Arctic*. Ed. Diana Wallis and Stewart Arnold. Print.
- Nunez, Christina. "Norway Offers New Arctic Leases, Stoking Polar Energy Rush." *National Geographic*. The National Geographic Society, 24 Jan. 2015. Web.
- "Observers." *The Arctic Council*. 27 Apr. 2011. Web.
- O'Dwyer, Gerard. "Denmark Boosts Resources for Arctic Security." *Defense News*. Gannett Government Media Corporation, 8 Oct. 2013. Web. 15 Apr. 2015.
- An Overview of Current, On-Going Danish Naval Projects 2005-2009. Danish Navy Arctic and North Atlantic "Inspection Ships" - the Knud Rasmussen Class*. Canadian American Strategic Review, July 2008. Web. 15 Apr. 2015.
- Padrtova, Barbora. *Russian Approach Towards the Arctic Region. CENAA Analysis*. Centre for European and North Atlantic Affairs, 2012. Web.
- Patrick, Stewart M. "(Almost) Everyone Agrees: The U.S. Should Ratify the Law of the Sea Treaty." *The Atlantic*. The Atlantic Monthly Group, 10 June 2012. Web.
- Petersen, Nikolaj. "Negotiating the 1951 Greenland Defense Agreement: Theoretical and Empirical Aspects." *Scandinavian Political Studies* 21.1 (1998): 1-28. Web.
- Petterson, Trude. "Ecologists: Prirazlomnaya Unprofitability Approaches \$600 Million." *Barents Observer*. Norwegian Barents Secretariat, 25 Mar. 2015. Web.
- Petterson, Trude. "Russian Arctic Brigades Put off to 2015." *Barents Observer*. Norwegian Barents Secretariat, 22 Feb. 2012. Web.
- Pickard, Ann. "Arctic: Questions Answered." Interview. *Shell Sustainability Report 2014* 2014: 32-33. Print.
- "Prirazlomnoye Oil Field." *Gazprom Projects*. Gazprom. Web.
- Pugliese, David. "Canada Breaking Logjam on Arctic Equipment." *Defense News*. 11 Mar. 2015. Web. 30 Mar. 2015.
- Ragner, Claes Lykke. "Den Norra Sjövägen (The Northern Sea Route)." *Barents – Ett Gränsländ I Norden (Norden Association's Yearbook)*. Ed. Hallberg Torsten. Stockholm: Arena Norden, 2008. 114-27. Print.

- "Report: Ottawa Set to Spend \$9B on New U.S. Fighter Jets from Single Source." *The Canadian Press*. The Guardian, 8 June 2010. Web. 29 Mar. 2015.
- "Research Stations in Ny-Ålesund." *Kings Bay AS*. Norwegian Ministry of Trade and Industry. Web.
- "Resources: Hidden Treasure." *The Economist*. The Economist Newspaper Limited, 16 June 2012. Web.
- Reynolds, Paul. "Russia Ahead in Arctic Gold Rush." *BBC News*. British Broadcasting Corporation, 1 Aug. 2007. Web.
- Reynolds, Richard. "Who Owns Hans Island?" *NPR*. NPR, 12 Aug. 2005. Web. 06 Nov. 2014.
- Riddell-Dixon, Elizabeth. *Canada's Arctic Policy*. The Canada US Institute. The University of Western Ontario. Web.
- Rogozin, Dmitry (Rogozin). "Арктика - русская Мекка" ("*Arctic - Russian Mecca*") trans. from Russian. 19 April 2015, 9:05 AM. Tweet
- "Russia Activates New Arctic Joint Strategic Command." *IHS Jane's 360*. IHS Inc., 1 Dec. 2014. Web.
- "Russia Plants Flag on Arctic Floor." *CNN*. Cable News Network, Turner Broadcasting System, 4 Aug. 2007. Web.
- "Russia Plants Flag under North Pole." *BBC News*. BBC, 02 Aug. 2007. Web. 30 Mar. 2015.
- "Russia to Form Air Army in Arctic in 2015: Army Chief." *Sputnik News*. Sputnik Online Media, 29 Dec. 2014. Web.
- "Russian Drillship Returns to Arctic." *Oil and Gas Eurasia* 10 Apr. 2015. Print.
- Russian Federation. *Основы государственной политики Российской Федерации в Арктике на период до 2020 года и дальнейшую перспективу*. Trans. Willy Østreng. Российская газета, 2009. *Basics Of The State Policy Of The Russian Federation In The Arctic For The Period Till 2020 And A Further Perspective*. ARCTIS Knowledge Hub. Web.
- Russian Federation. Ministry of Foreign Affairs of the Russian Federation. *Presentation on "Potential of Social-Economic Development of Murmansk Region"* Web.
- "Russian Military Exercises 'logical Response' to NATO Troops on Its Border." *RT*. TV-Novosti, 18 Mar. 2015. Web.

- "Russian Nuclear Submarines to Resume Patrols in Southern Seas." *United Press International*. 3 June 2013. Web.
- Schmidt, Charles W. "Offshore Exploration in the Arctic: Can Shell's Oil-Spill Response Plans Keep Up?" *Environmental Health Perspectives* 120.5 (2012): 194-99. Web.
- Schultz, Colin. "Oil Companies Are Pausing Plans to Drill the Arctic." *Smithsonian.com*. The Smithsonian Institution, 19 Dec. 2014. Web.
- "Sevastopol's Olympic-Sized Take On Ukraine: Bikers, Ballet, And Swastikas." *RadioFreeEurope/RadioLiberty*. Web. 31 Jan. 2015.
- "Shtokman." *Gazprom Projects*. Gazprom. Web.
- Staalesen, Alte. "In Russian Arctic, a New Major Sea Port." *The Barents Observer*. Norwegian Barents Secretariat, 6 Aug. 2012. Web.
- Staalesen, Alte. "Lukoil Eyes New Arctic Licenses." *Alaska Dispatch News*. Alaska Dispatch Publishing, 5 Feb. 2015. Web.
- Staalesen, Alte. "Yard Delays Delivery of Icebreaker." *Barents Observer* 21 Nov. 2014. Print.
- Statement of Roger Rufe: President, The Ocean Conservancy {Private}, Senate Committee on Foreign Relations Cong. (2003) (testimony of Roger Rufe)*. Print.
- Østreg, Willy. *Shipping in Arctic Waters: A Comparison of the Northeast, Northwest and Trans Polar Passages*. Heidelberg: Springer, 2013. Print.
- Struzik, Ed. "As Arctic Melts, Inuit Face Tensions with Outside World." *Yale Environment 360*. Yale University, 01 Oct. 2012. Web. 29 Oct. 2014.
- "Submission by the Russian Federation." *Outer Limits of the Continental Shelf beyond 200 Nautical Miles from the Baselines: Submissions to the Commission*. United Nations Division for Ocean Affairs and the Law of the Sea: Commission on the Limits of the Continental Shelf, 20 Dec. 2001. Web.
- "Tasks in the Arctic and the North Atlantic." *Forsvarsministeriet (Ministry of Defence)*. 27 Mar. 2015. Web. 15 Apr. 2015.
- Translation of "Basics of the State Policy of the Russian Federation in the Arctic for the Period Till 2020 and for a Further Perspective" Arctic Resources and Transportation Information System Knowledge Hub*. Centre for High North Logistics, 30 Mar. 2009. Web.
- "2014 Melt Season in Review." *Arctic Sea Ice News and Analysis*. National Snow and Ice Data Center, 07 Oct. 2014. Web. 29 Oct. 2014.

- United States and Canada. *Arctic Cooperation: Agreement between the United States of America and Canada, Signed at Ottawa January 11, 1988*. Washington, D.C.: Dept. of State, 1993. Print.
- United States Coast Guard. 11th District Pacific Southwest. *US Coast Guard Cutter Polar Star to Assist Vessels in Antarctica. News Releases*. United States Coast Guard, 4 Jan. 2014. Web.
- United States. Cong. *40-2 Vote No. 140 (Canadian Northwest Passage)*. 40th Cong., 2nd sess. Cong Res. 140. 2 Dec. 2009. Web. 29 Mar. 2015.
- United States. Department of the Navy. Navy Task Force Climate Change. *U.S. Navy Arctic Roadmap 2014-2030*. Print.
- United States. Government Accountability Office. *Maritime Infrastructure, Key Issues Related to Commercial Activity in the U.S. Arctic over the next Decade: Report to Congressional Requesters*. 2014. Print.
- United States of America. Congressional Research Service. *Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress*. By Ronald O'Rourke. 2015. Print.
- United States of America. Department of Defense. *Arctic Strategy*. 2013. Print.
- United States of America. Department of Defense. *Report to Congress on Arctic Operations and the Northwest Passage*. 2011. Print.
- United States of America. The Office of the President. *National Strategy for the Arctic Region*. 2013. Print.
- United States of America. United States Air Force. Los Angeles Air Force Base. *Enhanced Polar System*. 2014. Print.
- United States of America. United States Coast Guard. Office of Waterways and Ocean Policy. *Major Icebreakers of the World*. 2013. Print.
- United States of America. United States Department of Transportation. Committee on the Marine Transportation System. *A 10-Year Projection of Maritime Activity in the U.S. Arctic Region*. Print.
- United States of America. United States Geological Survey. Circum-Arctic Resource Appraisal Assessment Team. *Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*. 2008. Print.
- United States of America. United States Navy. United States Naval War College. *Fleet Arctic Operations Game: Game Report*. By Walter A. Berbrick. Ed. Christopher Gray. 2011. Print.

Vuille-Kowing, Kira. "Hans Island: An Arctic Border Dispute Between Canada and Denmark." *Inventory of Conflict and Environment*. American University, Dec. 2011. Web. 06 Nov. 2014.

Weiss, Michael. "The Return of Russian Hard Power?" *The Daily Beast*. The Daily Beast Company, 23 Nov. 2013. Web.

Wezeman, Siemon T. "Military Capabilities in the Arctic." *SIPRI Background Papers*. Stockholm International Peace Research Institute, Mar. 2012. Web.