Andrew Holland Senior Fellow for Energy and Climate American Security Project

House Committee on Foreign Affairs, Subcommittee on Europe, Eurasia, and Emerging Threats

Hearing: The United States as an Arctic Nation: Opportunities in the High North

December 10, 2014 2200 Rayburn House Office Building Washington, DC 20515

National Security in a Rapidly Changing Arctic

How a Lack of Attention to the Arctic Is Harming America's Interests

Thank you Chairman Rohrabacher, Ranking Member Keating and members of the Committee for inviting me to testify at today's hearing on "The United States as an Arctic Nation: Opportunities in the High North."

I should begin by noting that I cannot claim to be an expert on Arctic affairs, though I have written and spoken about extensively about it – mostly because I have not yet been above the Arctic Circle.

My research specialty at the American Security Project focuses on energy, environment, and how they affect America's national security. This means that I care more about geopolitics than I do about Polar Bear habitats.

The American Security Project is a non-partisan national security think tank that focuses on issues of America's long term national security, ranging from non-proliferation to counterterrorism, American competitiveness to energy security. Our board of Directors include Governor Christine Todd Whitman, former Senator Gary Hart, and retired senior flag officers from all four military services.

The reason I have researched the Arctic is because there is nowhere else in the world in which the combination of energy resources, environmental change, and geopolitics come together. As the Arctic opens, we have a brief opportunity to mold the region into an area where the United States can advance its interests and the interests of humanity at large.

I think my role in today's hearing will be to offer a perspective as an outsider – someone who understands international relations and America's national security needs more than I am familiar with the intricacies of how the Arctic Council works.

For most of human history, the annual melt and re-freezing of the Arctic Ocean was a consistent trend that kept it closed to all but the most intrepid explorers.

It was only in 1909 that Admiral Robert Peary's expedition became the first to reach the North Pole. In a telegram to then-President Howard Taft, he said "I have the honor to place the North Pole at your disposal." Taft replied: "Thanks for your interesting and generous offer, I do not know exactly what to do with it."

One of the causes of this hearing and the renewed interest in the Arctic here in Washington is that the U.S. will take the Chair of the Arctic Council next April. I am

As I will explain, I believe that American policy to the Arctic has not changed that much since Taft wrote that message: we still *do not know exactly what to do with it*.

Today, temperatures in the Arctic are rising at twice the rate as the rest of the world. Starting in the 1970s, the annual trend in ice melt began to slowly change, and the yearly minimum extent of sea ice, reached every September, began to drop.²

Then, in 2007, observers saw an unprecedented and unanticipated drop in sea ice coverage: 24 percent below the previous record (set in 2005) and 38 percent below the 1979-2000 average.³ Over the ensuing years, sea ice never returned to its historical averages, and in 2012, summer sea ice retreated to its lowest level on record.⁴ In the short time since 2007, the story of how countries have reacted to the opening of the Arctic Ocean shows how climate change can impact geopolitics and national security considerations.

In less than a decade, we now understand that the Arctic is undergoing a fundamental change in state, from an ocean enclosed in ice to one open to transit and human exploitation, for at least part of the year. One of the main reasons for this is that sea ice has a high albedo (reflective capability) compared to open ocean. This means that while ice reflects solar energy back into space (snow covered ice has an even higher albedo), open ocean water, darker in color than ice or snow, absorbs that energy as heat. In this way, the absence of sea ice allows the ocean to absorb more heat, which contributes to further warming in a feedback loop – a "death spiral" for Arctic ice. This tipping point is so complete that many scientists now expect that the Arctic will be entirely ice-free during the summer within a decade or two.

These developments have encouraged some observers in the media and even governments to proclaim a new "Arctic Gold Rush" or a "Scramble for the Arctic" (to cite two recently published books). 89

In the years since the Arctic has begun to open, governments around the world have responded. As governments do, they have written reams of reports detailing how their country and their businesses will seize the opportunities presented by an opening Arctic. As would be expected, the eight Arctic countries have each updated their Arctic strategic guidance. However, countries as diverse as Singapore, Italy, South Korea, India, and China have joined the Arctic Council as observers and have also updated their strategic guidance.

Is this a rush to secure scarce resources in the High North? Will there be a new "Cold War" over disputed borders and resources. No: that threat is overblown because the legal institutions for governing territorial disputes, particularly the United Nations Convention of the Law of the Sea, are strong and generally recognized by all parties. All recent evidence shows that parties are inclined to resolve disagreements under the principles of the law, using both bilateral negotiations and multilateral fora like the Arctic Council.

However, one country has been nearly absent in the rush to the Arctic: the United States. While countries around the world make plans to exploit the Arctic and are building the infrastructure and equipment to seize the opportunities, the U.S. has thus far failed to go further than issuing defense and foreign policy planning documents. Such strategy papers, issued by both the Bush and Obama Administrations have merely served to show how low the Arctic is prioritized, from the President throughout the bureaucracy and into the Congress. In the end, I contend that the United States has simply not invested the resources needed to meet the challenges of an opening Arctic.

How Melting Ice Affects International Security

The melting ice is opening up the Arctic Ocean region to human presence and industrialization in a way that it has never seen. We are seeing the Arctic Ocean becoming a major passageway for international trade and perhaps the next region to 'boom' from oil and gas resource extraction. As the region warms and the ice melts, Arctic nations are constructing new military bases and building new ships to survive in the harsh environment. They are placing new legal claims on hitherto inaccessible resources. At the same time, countries far from the Arctic, including the two most populous nations in the world, China and India, are scrambling to exert their influence in the Arctic in any way they can.

At first glance, there is a clear story line of how climate change is causing melting ice, opening a new region to human exploitation, leading to a gold rush. As that story goes, countries rush military units to the region in order to protect their claims and expand their sphere of influence. This inevitably leads to tension in areas of overlapping claims and this could lead to conflict. This is a story that has already been written in the media, the scholarly literature, and even a major video game. ¹⁰

Historians and international relations experts are familiar with this story as well. A race for resources is reminiscent of the nineteenth century "Scramble for Africa," the "Great Game" in Central Asia, or the fifteenth century Treaty of Tordesillas splitting the undiscovered world into Portuguese and Spanish territories.

Yet, as tempting as it may be to squeeze a twenty-first century "Scramble for the Arctic" into this familiar storyline, it does not fit. The institutions governing the Arctic are strong: the five littoral states follow the rules of the UN Convention on the Law of the Sea (even though the U.S. Senate has not ratified the Convention) for resolving issues with maritime borders. The Arctic Council, an intergovernmental organization of the eight countries with Arctic territory,

has proven itself to be a useful forum since it was established in 1996 for promoting cooperation and resolving differences among the Arctic States and their indigenous communities.

That does not mean, however, that there is no threat of conflict over the Arctic. The danger, in fact, comes from an imbalance of attention. While the United States has largely ignored the Arctic, Russia and non-Arctic powers, especially China, have actively sought to find new geopolitical advantages in the melting ice. As the Arctic develops, it is clear there is a disparity of attention to the region, with some countries seeing it as central to their national affairs, while others, particularly the United States, pay little more than lip-service to their status as an Arctic power. It is this imbalance, and the uncertainty about the priority that the United States places on Arctic affairs, that could cause international misunderstandings or even conflict. This imbalance is apparent in the rush to resources, the promotion of new international trade routes, and—especially—the military power available in the Arctic.

A Rush to Resources

The U.S. Geological Survey estimates that 90 billion barrels of oil, or 13 percent of the world's undiscovered reserves, are within the Arctic.¹¹ It is important to note that these reserves are still notional, we cannot know how much oil and gas there is for certain until more extensive exploration is done. Unlike other areas of the world, the remoteness and extreme climate of the Arctic have prevented the exploration for and exploitation of these reserves. Today, with persistently high oil prices and new drilling and extraction technology that allows for offshore oil and gas drilling in even the most extreme conditions, these huge new energy resources are in high demand and available for the taking.

Russia has been proactive about exploiting its Arctic resources. The Russian government is implementing plans, backed with a century of Arctic infrastructure development, to develop oil and gas throughout its Arctic coast. Russia's "Policy for the Arctic to 2020" identified the Arctic as "a strategic resource base" that can provide "the solution of problems of social and economic development of the country." Russian oil and gas giants Rosneft and Gazprom require significant investments in both capital and technology to exploit these offshore resources, and they have looked to foreign partnerships to supply them.

They have signed cooperation agreements with the Chinese National Petroleum Corporation (CNPC) and Sinopec of China, Petrovietnam of Vietnam, and others to provide funds and expertise to develop oil in Arctic. ¹³¹⁴ In 2011, Exxon Mobil had signed a deal with Rosneft to drill in the Arctic – a deal personally approved by President Putin – that produced its first oil over the summer. However, in September, with the implementation of increased sanctions on Russia over the Ukraine crisis, Exxon Mobil and other western firms have been forced to pull out of these deals.

Gazprom has developed a platform it considers to be ice-resistant, and it has initiated its first deliveries of Arctic oil from the Prirazlomnoye in 2012, delivering about 2.2 million barrels throughout 2014. 15

Likewise, other countries like Norway, Denmark, and Canada have also sought to increase their presence in the Arctic. Norway, in particular, has been active in drilling its Arctic waters (which are predominantly ice free throughout the year due to warmer ocean currents).

On the other hand, while the Obama administration has supported energy development in the Arctic as part of its "all-the-above" energy strategy, a string of setbacks has, for now, delayed plans for offshore drilling north of Alaska. Royal Dutch Shell's attempts in 2012 to drill exploratory wells in the Chukchi and Beaufort Seas can only be described as a failure: both the government and the company committed a string of mistakes and delays that led to the grounding of a drill ship and only limited time actually drilling. While Shell has not announced plans for drilling its leases next year, I would be very surprised if they proceeded.

Since the attempts to drill in American Arctic waters in 2012, the U.S. Department of the Interior has conducted a review of Arctic energy exploration. However, it is unclear at this time that the U.S. government has the plans or policies in place to allow energy development to proceed in a safe manner.

Promoting New International Trade Routes

While energy companies begin plans to drill for oil and gas beneath the sea, commercial freighters and tanker are regularly plying the Arctic Ocean for the first time. Some of this shipping is required to service, supply, and transport the expanding energy exploration in the region, but a growing amount of seasonal commercial shipping in the Arctic Ocean is purely for transit as the sea ice disappears.

Transit through the Arctic can dramatically reduce shipping distances: travel from Shanghai to Hamburg is four thousand miles shorter over Russia's Northern Sea Route than via the Suez Canal. It is 4,300 miles less from Shanghai to New York via Canada's Northwest Passage than through the Panama Canal. Previous to the summer of 2013, commercial shipment through the Northwest Passage was a sixteenth century dream that had only been achieved once before when the *SS Manhattan*, a massive oil tanker tested the viability of shipping oil from Alaska's Prudhoe Bay to markets on the U.S. East Coast, in 1969. The difficulty of that journey convinced Alaskans to build the Trans-Alaska Pipeline and foreclosed commercial shipping in the Arctic for more than 40 years.

These passageways are opening for seasonal passage today. As of 9 December, 2014, the Russian Government had given permission to 614 ships for navigation in the waters of the Northern Sea Route, more than doubling in two years since 2012. While most of these are local ships, in 2013, at least forty were vessels in transit with either a destination or a port of origin not in the Russian Arctic and ten of those vessels had traversed the Russian Northern Sea route purely as means of passage (note: Russian government numbers for 2014 are not as clear). Also in 2013, the first commercial freighter, the Nordic Orion, passed through Canada's more treacherous Northwest Passage with a cargo of metallurgical coal bound for Finland. Passing through the Northwest Passage allowed it to carry fifteen thousand tons more than it would have been able to carry through the Panama Canal.

While there is significant questions about the viability of both Arctic sea routes for commercial shipping, due to the vagaries of schedule caused by weather and ice, there is a growing market for pleasure cruises. For August 2015, interested parties could book passage on cruise ships at rates ranging from \$8,000 to almost \$50,000.²⁰ This raises important questions about how to prepare for disaster response for such shipping.

In Alaska, there is insufficient infrastructure to ensure safe navigation north of the Bering Strait, with the closest deep-water harbor at Dutch Harbor, more than seven hundred miles south of Nome (which has a small harbor that can handle medium-draft ships) and 1,100 miles from much of the projected energy exploration activity in the Chuchki Sea. The nearest permanent Coast Guard presence is at Coast Guard Air Station Kodiak, and the Commandant of the Coast Guard has characterized their operations in the Arctic as "only temporary and occasional." ²¹

The United States Coast Guard only has two icebreakers in service today, the USCGC Healy and the heavy icebreaker USCGC Polar Star (which has recently returned to service after an extensive retrofit). On the other hand, Russia operates twenty-five polar icebreakers, Finland and Sweden each have seven, and Canada has six.²² Russia is currently constructing what will be the world's largest nuclear-powered icebreaker.

Militarization of the Arctic?

In nowhere else in the world is the U.S. Navy so clearly outclassed in its ability to perform operations than in the Arctic. Today, the U.S. Department of Defense (DoD) says there is no need for a U.S. Navy presence, other than the strategic patrols that U.S. Navy submarines have been doing since early in the Cold War because the DoD does not view disputes in the Arctic as a likely source of conflict. For this reason, there are no DoD plans for building any additional Arctic bases or deep draft ports through 2020. ²⁴

On the other hand, the Russian Northern Fleet is its largest and most powerful fleet and has conducted extensive exercises in Arctic waters along Russia's Northern Sea Route. ²⁵ In October 2013, the Russian Air Force re-opened a Cold War-era air base on Kotelny Island, far to the east of the Northern Fleet's home port of Severomorsk. ²⁶ In November 2013, Russia's Minister of Defense announced plans to create a new class of ice-protected vessels to patrol their Arctic coast. ²⁷ On October 3, 2014 Russian military radar installations on Wrangel Island and Cape Schmidt on the Arctic Coast started operations – these installations are only 300 miles from the Alaska coast, and would be much closer to any drilling operations in US waters than any US military or Coast Guard installation. ²⁸

The three other Arctic littoral nations (Canada, Denmark, and Norway) have also demonstrated their commitment to increasing their military presence in the region, improving infrastructure and augmenting fleet and troop levels rapidly. Canada is converting a deep-water port on Baffin Island into a major naval base, building eight new vessels via the Arctic Patrol Ship Project, and considering establishing training facilities in Resolute Bay near the Northwest Passage. The Danish military is creating an Arctic Response Force, and Norway has committed to purchasing 48 F–35 aircraft for the continued presence of core areas in the High North.

Today, neither the U.S. Navy nor the U.S. Coast Guard have the infrastructure, the ships, nor the political ambition to be able to sustain surface operations in the Arctic in a similar manner. While the Department of Defense's 2013 Arctic Strategy provides an important outline for U.S. defense operations in the region, it fails by stating: "There is some risk that the perception that the Arctic is being militarized may lead to an "arms race" mentality that could lead to a breakdown of existing cooperative approaches to shared challenges." When the other players are actively expanding their capability, to so obviously ignore the challenge is a problem.

Perceived American Weakness Affects the Balance of Power

A changing Arctic provides new opportunities for Arctic states and for the world. However, the extreme conditions in the Arctic mean that planning is necessary. In the harsh environment of the Arctic, a *laissez-faire* approach will not work: governments must put in place the policies, appropriate the funds, and give political legitimacy to Arctic development in order to be able to assert their will and exploit these opportunities. The United States has notably combined only tentative policies with very little funding and no high-level political visibility.

Perhaps the lack of interest from the United States in the Arctic is because Alaska is so remote and sparsely populated. In contrast, for countries like Russia, Norway, or Canada, the Arctic is more central to their national identity.

This lack of attention has consequences. For example, because the U.S. Senate has refused to ratify the UN Convention on the Law of the Sea, U.S. diplomats are not privy to decisions about claims to extended Exclusive Economic Zones in the Arctic Ocean. Russia has claimed the undersea Lomonosov Ridge under the North Pole as an extension of their continental shelf. Denmark (via Greenland) and Canada dispute that claim. These decisions about borders will be made in the coming months and years, and U.S. diplomats will have little say.

Russian President Vladimir Putin has given direct speeches about developing the Arctic, saying, "Russia is carrying out intensive work in the Arctic regions to explore and develop new oil and gas fields and minerals deposits. We are building big transport and energy facilities and reviving the Northern Sea Route." 32

Meanwhile, President Bush released his Arctic policy statement only days before leaving office in January 2009 and President Obama released an updated Arctic policy statement in 2013 on a quiet Friday afternoon without any publicity or press statement. In substance, both statements exhibited remarkable consensus in both the need for a legal dispute settlement system, including ratification of the UN Convention on the Law of the Sea, increased search and rescue capabilities, and the need to exploit energy resources.

However, neither Administration pushed Congress to actually appropriate the funds necessary to meet these challenges. Over the last four years, the White House (of both parties) has released toothless Arctic policy papers, while the Kremlin places exploiting the Arctic at the center of national affairs and puts significant resources behind its policies; the difference in priority level at the presidential level could not be clearer.

Below the level of head of state, the lack of attention persists. Although I commend Admiral Papp as a credible and important voice, with support from Secretary Kerry, I am concerned that his role does not have institutional support, and may not last beyond his tenure. While countries as diverse as Japan, Denmark, Sweden, Finland, Iceland, Russia, and Singapore have an ambassador-level position responsible for managing Arctic affairs, the U.S. Department of State's senior Arctic official is not even a Senate-confirmed position.³⁴

As new countries join the Arctic Council, they could change the balance of power in the Arctic. China's actions in the Arctic since becoming a Permanent Observer to the Arctic Council have led to many questions about its intentions. Chinese mining firms have begun exploration for gold, copper, and iron ore in Greenland. Additionally, the China National Offshore Oil Corporation has entered into an agreement to explore for oil off Iceland's coast. Combined with their strong campaign to join the Arctic Council, it is clear that China will seek to be a major player in the Arctic, both for resource extraction and the transit routes.

The danger in the Arctic comes from an imbalance of power and of attention, not from a scramble for resources. While Russia has declared the Arctic to be "a strategic resource base" and has promulgated plans to promote the Northern Sea Route over Russia as a major route for international trade, the U.S. government, under the leadership of both Republican and Democratic administrations, has all but ignored the Arctic.³⁵

The question of 'why' this is so is complicated. Perhaps the political paralysis on climate policy in Congress has stifled debate about the role of the U.S. in the Arctic; so long as a large portion of our political system refuses to acknowledge the very existence of climate change, it is difficult to find a consensus, even in the face of clear evidence. Perhaps it also has to do with a difference of culture; for Russia and the other members of the Arctic Council, their cold northern expanse holds a mystique akin the popular American conception of the Western frontier. For most Americans, though, Alaska and the Arctic are simply too distant and almost foreign to stir any passions. Finally, perhaps we should follow the principle of Occam's razor: action and strategy in the Arctic is not prioritized by the United States because, in comparison to pressing concerns like Iranian nuclear weapons, a rebalance to Asia, war in Afghanistan, or trade with Europe, the Arctic is simply not that important to the United States.

Regardless of 'why' the U.S. has failed to act on the Arctic, the result is a failed opportunity.

There are a few concrete steps that Congress could quickly take in order to exert power in the Arctic:

- 1. **Ratify the UN Law of the Sea Convention**, so that the United States can fully participate in negotiations to determine borders in the Arctic;
- 2. **Increase funding for U.S. military presence** by either the U.S. Navy or the U.S. Coast Guard in order to secure our sea lanes and provide for disaster response;
- 3. Make a final decision on whether to approve and regulate offshore oil drilling,
- 4. Elevate Admiral Papp's role to a permanent Ambassador-level position (Sensenbrunner's HR 4538 and Begich's S.270) and

5. Raise the Arctic's profile by regularly participating in Arctic-focused events. Members of Congress other than our Alaska Members should.

In 2015, the United States will assume the chair of the Arctic Council. If the United States has not made decisions, backed by resources, on these topics before then, we will have missed a great opportunity. There is a real danger of conflict in the Arctic due to a lack of clarity about U.S. intentions in the High North. There is a danger that other countries may perceive U.S. inattention as weakness. In the absence of clear statement of policy, backed up by high-level attention and resources from the United States, there is a danger of misreading U.S. intentions about what it perceives as core interests in the Arctic. There is still time for the United States to change course. The United States is an Arctic nation: it should start acting like one.

(Any further questions from the committee or others may be directed to Andrew Holland through his website, www.andrew-holland.com.)

¹ "IPCC Fourth Assessment Report: Climate Change 2007: Synthesis Report. Observations of Climate Change," Intergovernmental Panel on Climate Change, accessed October 2, 2013, http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html.

² O.M. Jhannesse, L. Bengtsson, M.W. Miles, S.I. Kuzmina, V.A. Semenov, G.V. Alekseev, A.P. Nagurnyi, V.F. Zakharov, L.P. Bobylev, L.H. Pettersson, K. Hasselmann and H.P. Cattle "Arctic climate change: observed and modelled temperature and sea-ice variability" *Tellus* 56A (2004): 328–341. Accessed November 15, 2013,

https://bora.uib.no/bitstream/handle/1956/2728/tellus_omj.pdf;jsessionid=D3FF125E7467EBF387391B701331785C.bora-uib_worker?sequence=1

³ "Record Arctic Sea Ice Loss in 2007," NASA Earth Observatory, September 27, 2007. Accessed October 2, 2013, http://earthobservatory.nasa.gov/IOTD/view.php?id=8074.

⁴ "Arctic sea ice reaches lowest extent for the year and the satellite record" National Snow and Ice Data Center (NSIDC) press release, September 19, 2012. Accessed November 15, 2013, http://nsidc.org/news/press/2012_seaiceminimum.html

⁵ "All About Sea Ice: Thermodynamics: Albedo," National Snow & Ice Data Center, last modified 2013, http://nsidc.org/cryosphere/seaice/processes/albedo.html.

⁶ Mason Inman, "Artic Ice in 'Death Spiral,' Is Near Record Low," *National Geographic News*, September 17, 2008, http://news.nationalgeographic.com/news/2008/09/080917-sea-ice.html.

⁷ James E. Overland and Muyin Wang, "When Will the Summer Arctic Be Nearly Sea Ice Free?" *Geophysical Research Letters* 40 (2013): 2097–2101, doi: 10.1002/grl.50316.

⁸ Roger Howard, *The Arctic Gold Rush: The New Race for Tomorrow's Natural Resources* (London, Continuum, 2009)

⁹ Richard Sale and Eugene Potapov *The Scramlbe for the Arctic: Ownership, Exploitation and Conflict in the Far North* (London, Frances Lincoln Ltd, 2010)

¹⁰ See, for example: Paradox International, "Naval War, Arctic Circle: 2012," Amazon, accessed October 2, 2013, http://www.amazon.com/Naval-War-Arctic-Circle-Download/dp/B007RYPZJI. ¹¹ Peter H. Stauffer, ed., *Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*, US Geological Survey, 2008, http://pubs.usgs.gov/fs/2008/3049/.

¹² "Russian Federation's Policy for the Arctic to 2020," Arctics Knowledge Hub, March 30, 2009, retrieved from *Rossiyskaya Gazeta*, September 18, 2008, http://www.arctissearch.com/Russian+Federation+Policy+for+the+Arctic+to+2020.

¹³ Atle Staalesen, "China to Drill in Barents Sea," *Barents Observer*, March 25, 2013, http://barentsobserver.com/en/energy/2013/03/china-drill-barents-sea-25-03.

¹⁴ Stephen Blank, "China's Artic Strategy," *The Diplomat*, June 20, 2013, http://thediplomat.com/2013/06/20/chinas-arctic-strategy/.

Final.pdf.

¹⁷ "Permission for Navigation on the Water Area of the Northern Sea Route," The Federal State Institution, The Northern Sea Route Administration, accessed October 2, 2013, http://www.nsra.ru/en/razresheniya/.

¹⁸ NSR Transit 2013 (as of September 30th), http://www.arctic-lio.com/docs/nsr/transits/Transits 2013 30Sept.pdf

¹⁹ "Fact Sheet-The Northwest Passage," Nordic Bulk Carriers A/S, September 19, 2013, http://www.nordicbulkcarriers.com/images/Media/Filer/pressrelease-factsheet.pdf.

For more information, see: http://www.polarcruises.com/arctic

²¹ "Fifth Symposium on the Impacts of an Ice-Diminishing Arctic," (speech, US Navy Memorial, Washington DC, July 16, 2013)

http://www.uscg.mil/seniorleadership/DOCS/Ice%20Diminishing%20Arctic%20Symposium%207_15%201430.pdf.

²² Ronald O'Rourke, Coast Guard Polar Icebreaker Modernization: Background, Issues, and Options for Congress," Congressional Research Services, April 21, 2011. p. 20, http://assets.opencrs.com/rpts/RL34391_20110421.pdf; "The Fleet of the Canadian Coast Guard," Fisheries and Oceans Canada, June 2013, http://www.dfo-mpo.gc.ca/media/back-fiche/2013/CCGC-eng.htm.

Office of the Undersecretary of Defense, "Report to Congress on Arctic Operations and the Northwest Passage," Department of Defense, May 2011, pg. 10, http://www.defense.gov/pubs/pdfs/tab_a_arctic_report_public.pdf.

OSUD, "Report to Congress on Arctic Operations and the Northwest Passage," pg. 25.

²⁵ Andrew E. Kramer, "Russia Preparing Patrols of Artic Shipping Lanes," *The New York Times*, September 14, 2013, http://www.nytimes.com/2013/09/15/world/europe/russia-preparing-patrols-of-arctic-shipping-lanes.html.

²⁶ Fred Weir, "Russian Navy Returns to Arctic. Permanently," *The Christian Science Monitor*,

²⁶ Fred Weir, "Russian Navy Returns to Arctic. Permanently," *The Christian Science Monitor*, September 16, 2013, http://www.csmonitor.com/World/2013/0916/Russian-Navy-returns-to-Arctic.-Permanently.

²⁷"Минобороны РФ создаст соединение патрульных кораблей ледового класса (Defense Ministry will Create Patrol Vessels of Ice Class)" *RIA Novosti* November 6, 2013. Accessed November 15, 2013 http://ria.ru/defense_safety/20131106/974977342.html

²⁸ http://www.adn.com/article/20141022/russians-activate-military-base-wrangel-island

²⁹ "National Shipbuilding Procurement Strategy (May 10, 2013)," Public Works and Government Services Canada, Retrieved May 22, 2013, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/snacn-nsps-eng.html.

³⁰ "Danish Defense Agreement 2010-2014 (June 24, 2009),"Danish Department of Defense, Retrieved May 22, 2013,

http://www.fmn.dk/nyheder/Documents/20090716%20Samlede%20Forligstekst%202010-2014%20inkl%20bilag%20-%20english.pdf.

³¹ State Secretary Eirik Øwre Thorshaug, "Triple A – Building Confidence in the Arctic, Amazonas and the Antarctic (November 17, 2012)," The Norwegian Department of Defense, Retrieved May 22, 2013, http://bit.ly/16UEOkV.

³² Vladimir Putin, "Speech at the Plenary Session of the Third International Artic Forum, The Artic-A Territory of Dialogue, *President of Russia*, September 25, 2013, http://eng.kremlin.ru/transcripts/6032.

³³ "National Strategy for the Arctic Region," The White House, May 2013, http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

Mia Bennet, "Begich Aims to Raise U.S. Profile in Arctic by Creating Ambassador," *Alaska Dispatch*, April 21, 2013, http://www.alaskadispatch.com/article/20130421/begich-aims-raise-us-profile-arctic-creating-ambassador.

35 "Russian Federal Policy for the Atlantic to 2020."