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**NAVAL
POSTGRADUATE
SCHOOL**

MONTEREY, CALIFORNIA

THESIS

**THE NORTHERN SEA ROUTE AND RUSSIAN
STRATEGY**

by

Peter S. Donahue

March 2022

Thesis Advisor:
Second Reader:

Emily L. Meierding
Sean P. Hays

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THE NORTHERN SEA ROUTE AND RUSSIAN STRATEGY

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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

The Northern Sea Route (NSR) has been important to Russian strategy since the 1930s. Climate change has increased average global temperature and caused sea ice to melt. Access to the NSR has been steadily increasing, creating new potential for the route. This thesis seeks to determine Russia's primary aim for developing the NSR. It first analyzes Russia's stated objectives for the NSR and identifies three main potential incentives: international transportation route development, natural resource development, and national security. Next, the thesis analyzes the actions that Russia has actually taken to develop the NSR in each of these categories. It finds that there is evidence to support both an economic incentive of natural resource development and a strategic incentive of national security development for the NSR. The thesis did not find support for the incentive of an alternate global trade route. The evidence suggests that Russia is taking steps to propel itself both economically and strategically on a global scale. The study recommends follow-on research to determine whether resource development or national security is more important to the Russian government.

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LIST OF ACRONYMS AND ABBREVIATIONS

AZRF	Arctic Zone of the Russian Federation
CNPC	Chinese National Petroleum Corporation
GIN	Greenland-Iceland-Norway
GIUK	Greenland-Iceland-United Kingdom
LNG	Liquid Natural Gas
NAADSN	North American and Arctic Defense and Security Network
NSR	Northern Sea Route
SAM	Surface to air missile
UNCLOS	United National Convention for the Law of the Sea

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I. INTRODUCTION

A. RESEARCH QUESTION

Over the past 100 years, climate change has transformed the world and in particular the Arctic. Average global temperatures have increased, polar sea ice has retreated, and sea levels have risen. As a result, the Arctic Ocean has less ice cover, for longer periods of the year. This is opening up the possibility of new and increasingly viable transportation routes in the region. One of these is the Northern Sea Route, which is located along the northern coast of Russia. The Northern Sea Route connects the Barents Sea to the Bering Strait, and ultimately connects the Atlantic and Pacific Oceans. Russia is responding to these changes by developing its Arctic infrastructure, especially along the Northern Sea Route. This thesis responds to the question, what is Russia's primary aim in developing the Northern Sea Route?

B. SIGNIFICANCE OF RESEARCH QUESTION

It is important to try and understand what Russia aims to achieve through its development of the Northern Sea Route (NSR). If the route becomes a viable alternative for transporting goods and materials between the Atlantic and the Pacific, there is potential for Russia to gain a monopoly over this portion of the Arctic transportation network. Currently, all Arctic transit routes are unpassable without major assistance for most of the year; however, as global temperatures continue to increase and Arctic Sea ice retreats, the NSR is becoming more easily traversable for more time each year.¹ The various NSR transportation routes are depicted in Figure 1.

¹ Nathanael Melia, Keith Haines, and Ed Hawkins, "Sea Ice Decline and 21st Century Trans-Arctic Shipping Routes," *Geophysical Research Letters* 43, no. 18 (2016): 9724, <https://doi.org/10.1002/2016GL069315>.

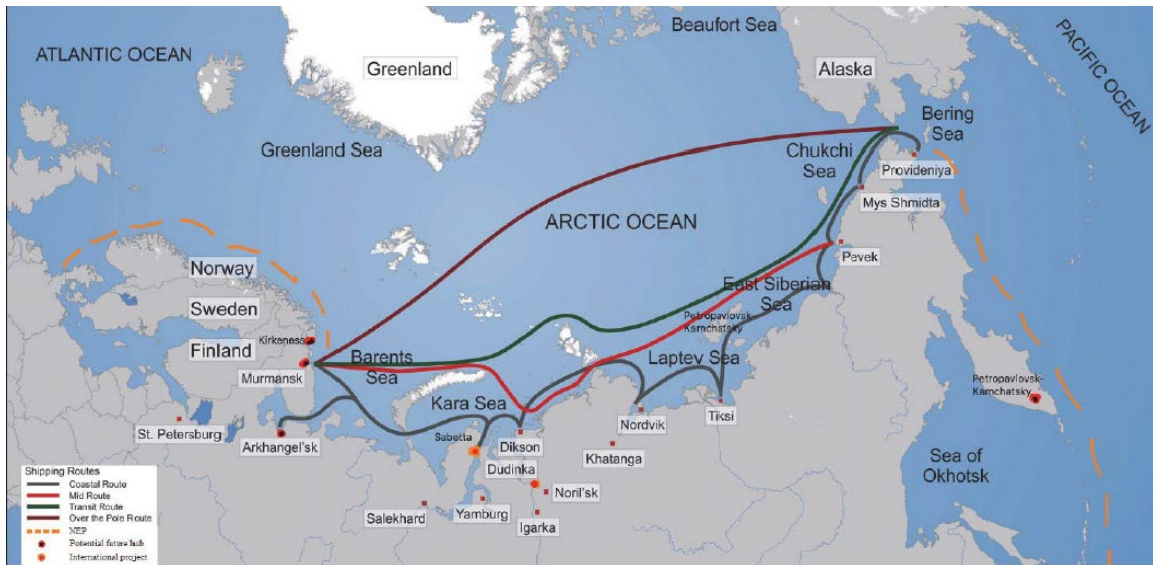


Figure 1. Overview of transportation routes.²

Russia has the longest border of any Arctic country and the most potential to gain from increased use of the NSR. By controlling the NSR, Russia will be able to dominate the movement of oil and natural gas in the region. Russian military forces have also increased their activities in the region, including conducting multiple large-scale exercises, since 2008.³ Left unchecked, the Russian Navy could achieve regional dominance and prevent other Arctic states from establishing influence on the route or trade.

It currently appears that Russia is set on making the NSR a feasible and cost-effective option for transportation and trade, while other Arctic nations have taken a less assertive or reactionary approach to their sectors of the Arctic. Russia has the largest and most effective icebreaker fleet, and they continue to bolster their numbers.⁴ Due to the NSR being obstructed by sea ice for most of the year, transit along the route requires use

² Source: Alina Kovalenko, Maria Morgunova, and Victoria Gribkovskaia, “Infrastructural Synergy of the Northern Sea Route in the International Context,” *Энергетическая Политика* 4 (August 1, 2018): 4.

³ Katarzyna Zysk, “Russia’s Military Build-Up in the Arctic: To What End?,” *CNA’s Occasional Paper Series*, September 1, 2020, 21.

⁴ Charles K. Ebinger and Evie Zambetakis, “The Geopolitics of Arctic Melt,” *International Affairs (Royal Institute of International Affairs 1944-)* 85, no. 6 (2009): 1220, <http://www.jstor.org/stable/40389013>.

of an ice-class vessel and an icebreaker escort.⁵ Russia also views the NSR as being internal waters and therefore under Russian control.⁶ Control of the icebreaker fleet, coupled with control of the transportation route, would allow Russia to prosper from any trade that would traverse the NSR. This issue is a point of contention between Russia and other Arctic nations, especially the United States, who do not interpret the law the same way.

Natural resources and fossil fuels are abundant in the Russian offshore Arctic but historically have been untouchable due to the difficulty of extraction and transportation. As the ice retreats, extraction has become more viable.⁷ The NSR could provide an additional transportation route for the region's resources and also facilitate their extraction by making it easier to transport supplies to the region.

Since the fall of the Soviet Union, the remoteness of the majority of the ports along the NSR has made it difficult task for Russia to maintain and develop them. Without a developed and modernized port range along the NSR, the route is not appealing to international shipping interests. However, as the Arctic sea ice retreats, the potential for upgrades and further developments has become a reality.⁸ The successful development of a reliable waterway across the Arctic could disrupt current global trade patterns. The NSR would reduce the reliance upon current trade routes, such as the flow of trade from Asia to Europe through the Suez Canal.⁹ The economies of port countries along the current trade routes could also be affected. Additionally, China has built relationships and international infrastructure to support their trade systems; China has financed Russian Liquid Natural

⁵ Karel van Hussen et al., "Commercial Navigation Along the Northern Sea Route: Prospects and Impacts" (Rotterdam: Ecorys Netherlands B.V., 2020), 10.

⁶ Arild Moe, "A New Russian Policy for the Northern Sea Route? State Interests, Key Stakeholders and Economic Opportunities in Changing Times," *The Polar Journal* 10, no. 2 (2020): 6, <https://doi.org/10.1080/2154896X.2020.1799611>.

⁷ Moe, 11.

⁸ Chuan-Ying Liu et al., "The Arctic Policy and Port Development along the Northern Sea Route: Evidence from Russia's Arctic Strategy," *Ocean & Coastal Management* 201 (2021): 7, <https://doi.org/10.1016/j.ocecoaman.2020.105422>.

⁹ A. Schneider, "Northern Sea Route: A Strategic Arctic Project of the Russian Federation," *Problems of Economic Transition* 60, no. 1–3 (2018): 202, <https://doi.org/10.1080/10611991.2018.1456212>.

Gas (LNG) in the Yamal Peninsula and has expressed interest in gaining more power in the Arctic.¹⁰ China is already a global superpower and regional hegemon in the Eastern Hemisphere; a partnership between Russian and China will increase the global standing of both countries, potentially to the detriment of the United States.

C. LITERATURE REVIEW

In recent years there has been a lot of speculation regarding Russia's strategic aim in developing the Northern Sea Route. Scholars and politicians have varying ideas as to the underlying strategy and agenda motivating Russia to develop and implement the route. There are also multiple motives that will continue to have influence upon development in the Russian Arctic.

In their attempts to explain Russia's strategic aims in the region, authors have examined the different Russian policies and regulations involving the Arctic and the NSR since the fall of the Soviet Union. Arild Moe discussed the key actors that have influence in the Arctic and are stakeholders in the outcome and aim of strategy.¹¹ Some authors present the state and the military as separate actors and argue that each have different ultimate interests. Others state that the Russian government had different end goals in 2013 and 2020 for what it considered successful use of the Northern Sea Route. In 2013, Russia's objective was to bring international trade and activity into the region, while maintaining control of the route itself.¹² Arild Moe and Björn Gunnarsson argue that, by 2020, Russian focus had shifted to domestic shipping and natural resource exploitation.¹³

Some authors emphasize economic motives to explain Russia's attempts to develop the NSR. Scholars from Russian universities view the further development of the NSR and the Russian Arctic Port Range as a necessity to strengthen the backbone of a larger logistic and transportation system across Russia, to include highways, trains, and rivers. Didenko

¹⁰ Liu et al., "The Arctic Policy and Port Development along the Northern Sea Route," 7.

¹¹ Moe, "A New Russian Policy for the Northern Sea Route?," 3.

¹² Moe, 1.

¹³ Björn Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," *Marine Policy* 124 (2021): 7, <https://doi.org/10.1016/j.marpol.2020.104369>.

and Cherenkov argue that the use of the Trans-Siberian Railway and rivers systems will play an important role in international shipping via the NSR, with the NSR being the main logistics route in a larger infrastructure grid across the continent.¹⁴ Sarvut and Tkachev similarly agree that it is important for Russia to develop stable and reliable cross-country logistical support and trade routes. However, they go further into the importance of developing social support infrastructure for populations living along these routes and in surrounding ports in order to sustain the route over the long term.¹⁵

Another economic motive for the NSR that has been discussed at length is its viability as an alternate shipping route. Björn Gunnarsson studied shipping trends along the NSR from 2016 to 2019 in order to gain better understanding of how patterns may affect the future of the route.¹⁶ He showed that the domestic and destination type shipping were the predominant form of travel along the NSR, with only 51 international transit voyages during that four-year period. The data analyzed showed that cargo throughput has increased over the years from 7.5 million tons in 2016 to 31.5 million tons in 2019; however, the majority of the cargo was exported hydrocarbons to the European market.¹⁷ Gunnarsson's study showed that domestic shipping was dominant in the region and how the Russian government appeared to shift its mindset to support growing domestic shipping versus international shipping.¹⁸

Chuan-Ying Liu et al. studied ports along the Arctic from 2003–2012 and compared cargo throughput growth to determine the impacts of Russia's Arctic Strategy in the region.¹⁹ They studied data from 59 of 65 ports in Russia including 17 ports in the Arctic

¹⁴ N. I. Didenko and V. I. Cherenkov, "Economic and Geopolitical Aspects of Developing the Northern Sea Route," vol. 180, no. 1 (Conference Series: Earth and Environmental Science, IOP Publishing, 2018), 9, <https://doi.org/10.1088/1755-1315/180/1/012012>.

¹⁵ T. O. Sarvut and V. N. Tkachev, "Singularity Point of the Russian Arctic," in *IOP Conference Series: Materials Science and Engineering*, vol. 1079 (IOP Publishing, 2021), 5, <https://doi.org/10.1088/1757-899X/1079/4/042060>.

¹⁶ Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," 1.

¹⁷ Gunnarsson, 3.

¹⁸ Gunnarsson, 7.

¹⁹ Liu et al., "The Arctic Policy and Port Development along the Northern Sea Route," 1.

to determine throughput and efficiency. They utilized a difference-in-difference method to analyze the Russian Arctic ports compared to other Russian ports. Their study showed that, between 2003 and 2012, Russia's Arctic Strategy did not have a positive effect on port development along the NSR. Instead, any positive influence on port development came from energy exploration.²⁰ The authors conclude that any sustainable growth that occurred in NSR shipping after 2015 was most likely brought about by Russia relaxing restrictions on foreign investment in Arctic energy projects such as the Yamal Peninsula LNG project, which is backed by Russia's Novatek, France's Total, Chinese National Petroleum Corporation (CNPC), and China's Silk Road Fund.²¹

There is heavy skepticism regarding the feasibility of the NSR as a transportation route. Schneider pointed out the flaws in the NSR that, if left unaddressed, would prevent the route from being a viable alternate to traditional routes such as the Suez Canal.²² He stated that, despite the NSR being geographically the shortest route between Europe and the Far East and Western North America, there are multiple issues that need to be addressed prior to the route becoming a competitive option. The harsh climate has made it difficult to develop and maintain support structures throughout the Russian Arctic Port Range. Russia lacks the overland infrastructure to provide adequate support for the ports along the range. Gunnarsson argues that communication and navigational support services need to be improved, a search and rescue plan needs to be established, and the icebreaker fleet needs to be strengthened.²³ The transport-logistical infrastructure along the NSR is inconsistent and often nonexistent. Additionally, Moe cites Russian regulations that restrict the use of vessels that are not Russian-built or Russian-flagged on the route.²⁴ Schneider argues that the current unreliability of logistical support along the route, combined with

²⁰ Liu et al., 6.

²¹ Liu et al., 7.

²² Schneider, "Northern Sea Route," 202.

²³ Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," 6.

²⁴ Moe, "A New Russian Policy for the Northern Sea Route?," 5.

tariff rates being four to six times higher than that for the Suez Canal, automatically eliminates the NSR as an option for many commercial shipping companies.²⁵

Other authors have emphasized Russia's long-term strategic goals for the Arctic. Examining the public Russian *Strategy for the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period through 2035*, signed by President Vladimir Putin in October 2020, authors from the North American and Arctic Defense and Security Network (NAADSN) analyzed the potential future for Russian Arctic.²⁶ They posited that Russia's leading strategic goal is to legitimize its military operations and legal claims in the Arctic. They also proposed that, during Russia's tenure as the Chairman of the Arctic Council, the state will promote issues and topics that further its own agenda in the Arctic.²⁷

Some scholars have suggested that mobilization of military forces in the Arctic is against Russia's best interest. Moe argues that using increased military presence to enforce regulations and restrictions in the Arctic Zone of the Russian Federation (AZRF) and on the NSR would directly conflict with Russia's attempt to increase shipping and international investment.²⁸ The scholars point to the different interpretations of the United Nations Convention for the Law of the Sea (UNCLOS) regarding straits and internal waters.²⁹ Others argue that Russia still aims to project its national security agenda in the Arctic over governance of the NSR by claiming other legal reasons than defense.

Katarzyna Zysk asserts that Russia has modernized its Arctic defenses and strengthened its hold in the region.³⁰ She observes that, officially, Russia claims that its Arctic military bases aim to enhance the much-needed search and rescue capabilities across

²⁵ Schneider, "Northern Sea Route," 201.

²⁶ Troy Bouffard and P Whitney Lackenbauer, "The Development of the Russian Arctic Council Chairmanship: A Strategic Plan of Preparation and Pursuit," *North American and Arctic Defence and Security Network*, 2021, 2.

²⁷ Bouffard and Lackenbauer, 1.

²⁸ Moe, "A New Russian Policy for the Northern Sea Route?," 5.

²⁹ Moe, 6.

³⁰ Zysk, "Russia's Military Build-Up in the Arctic: To What End?," 33.

the NSR; however, unofficially, Russia appears to be amassing defense-oriented assets.³¹ Troy Bouffard and Whitney Lackenbauer share the sentiment that Russia does not want to directly talk about their military intentions in the region, but instead is working to control the narrative and set the agenda through propaganda and campaigning.³² Moe attests that the Russian Ministry of Defense aims at maintaining defensive security capabilities in the Arctic which includes the restriction of international actors along the route.³³ Zysk asserts that Russian power projection toward North America, via the Arctic, has increased along with the ability to deny outsider access to the region along the NSR.³⁴

D. POTENTIAL EXPLANATIONS AND HYPOTHESES

The existing literature emphasizes two sets of explanations for Russia's efforts to develop the NSR. One potential explanation is Russia's desire to gain economically: through control of a new global transportation route or increased resource extraction. The second is that Russia is attempting to further itself strategically, with preemptive defense installations to protect against national security threats or to control the waterways within the region and increase their perceived legitimacy. This section elaborates on each set of explanations and presents the hypotheses in Table 1.

There are two leading economic goals that Russia could be striving for. First, Russia could be attempting to create a viable and effective transportation route by strengthening and developing the Arctic port range infrastructure. As of January 2022, the Russian economy has suffered severe inflation, shrinking market opportunities, and growing public discontent from a surge in prices due to both the global pandemic and Western sanctions.³⁵ The current domestic economic situation has heightened Russian interest in the Arctic and

³¹ Zysk, 18.

³² Bouffard and Lackenbauer, "The Development of the Russian Arctic Council Chairmanship: A Strategic Plan of Preparation and Pursuit," 9.

³³ Moe, "A New Russian Policy for the Northern Sea Route?," 7.

³⁴ Zysk, "Russia's Military Build-Up in the Arctic: To What End?," 32.

³⁵ Jake Cordell, "Russia's Economy Set to Face Old Problems in New Year," *The Moscow Times*, January 4, 2022, <https://www.themoscowtimes.com/2022/01/04/russias-economy-set-to-face-old-problems-in-new-year-a75842>.

its increased activities aim to expand domestic industry and give Russian interests an advantage when the NSR does become a viable alternative to current global maritime trade routes.³⁶ Russian policies and regulations have effectively shut out the influence of international players along the NSR, unless they work with Russian companies.³⁷

These policy shifts promote Russian shipping and energy industries whereas, previously, international firms had played larger roles in these sectors. This policy shift could also be an attempt to strengthen the Arctic Port Range through increasing investments in port infrastructure. This development would vastly improve the readiness and effectiveness of support facilities along the NSR and ultimately make the route an appealing alternative for international transportation. In order for the NSR to be a viable option, Russia must continue to develop its long-term transportation support infrastructure along the Russian Arctic Port Range. Development of these support structures will take time; however, if the structures are established prior to the NSR becoming free of ice year-round, then Russia will benefit from a strong logistical support system that can rival other trade routes.³⁸ This could strengthen Russia economically and bolster Russian industries.

Russia's second economic goal could be that it desires to increase the volume of natural resources extracted along the NSR. Warming temperatures and the reduction in annual sea ice has made exploration in the Russian offshore Arctic easier, which has increased the viability of natural resource extraction in the region.³⁹ The desire to maintain current levels of oil and gas production by increasing extraction from existing fields and developing new fields could be a motive for Russia to increase support for the NSR. The route could provide an alternative means of transporting oil and gas resources to Europe and Asia. Construction and development of a larger permanent support system across the

³⁶ Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," 7.

³⁷ Moe, "A New Russian Policy for the Northern Sea Route?," 12.

³⁸ Schneider, "Northern Sea Route," 201.

³⁹ Olivier Faury, Yann Alix, and Nicolas Montier, "From the USSR to the Polar Silk Road: The Rise of the Strategic Russian Arctic Port Range," *Post-Communist Economies* 0, no. 0 (February 8, 2021): 10, <https://doi.org/10.1080/14631377.2020.1867428>.

Arctic Port Range would allow for a cheaper and safer system of resource extraction in the region.⁴⁰

There are two possible strategic explanations for Russia’s development of the NSR. First, Russia could desire to strengthen defense installations and procedures in the Arctic to preserve national security.⁴¹ The prevention of foreign influence along the Arctic could be an attempt to project a strong deterrent capability and defend Russian interests in the region through fortification. Russia could continue to develop the Arctic Port Range in an effort to further long-range defense systems which can reach across the Arctic.⁴²

The second strategic explanation is that Russia wants to control waterways and increase the legitimacy of their Arctic claims. Control over the NSR and the Russian Arctic Zone provides Russia with the legitimacy necessary to defend their claims to contested portions of the region, such as the central polar area, including the Lomonosov Ridge.⁴³

Table 1. Hypotheses

Hypothesis 1	Russia is developing the NSR for economic reasons
Hypothesis 1a	Russia is developing the NSR to create a new transportation route.
Hypothesis 1b	Russia is developing the NSR to facilitate development of Arctic resources
Hypothesis 2	Russia is developing the NSR for strategic reasons
Hypothesis 2a	Russia is developing the NSR to defend its national security
Hypothesis 2b	Russia is developing the NSR to increase the legitimacy of its Arctic claims

E. RESEARCH DESIGN

To conduct the research necessary to answer the question, I first examined Russia’s stated objectives to assess their publicly projected goals. I then compared these with the

⁴⁰ Schneider, “Northern Sea Route,” 201.

⁴¹ Zysk, “Russia’s Military Build-Up in the Arctic: To What End?,” 18.

⁴² Zysk, 17.

⁴³ Bouffard and Lackenbauer, “The Development of the Russian Arctic Council Chairmanship: A Strategic Plan of Preparation and Pursuit,” 10.

actions Russia has actually taken in the Arctic. I have studied speeches, strategy, and policy documents from the Russian government, as well public news sources to determine Russia's stated objectives. I primarily utilized journal articles, news articles, and military data reports to conduct my research on the NSR. I utilized military reports and examined strategic documents to determine defense procurement and capabilities. I studied data and reports that researchers have accumulated on the Russian NSR over the past twenty years.

In order to evaluate the potential hypotheses, I looked for any mention of regional development in the Arctic along the NSR as well as any increase in overland infrastructure. I also searched for increases and development of military infrastructure and activity along the NSR. I studied the number of Russian military exercises as well as the scope, in order to track any changes in Russian military activity within the Arctic. I have attempted to forecast the Russian policy and strategy based on actions of the last twenty years. To test the reliability of Russia's stated objectives, I have searched for journal and news sources from states not aligned with Russia to see if there is any conflicting information or bias.

In order to determine whether an explanation is accurate, I need to see evidence of long-term change that supports either economic, strategic, or alternative motives. An economic motive could be supported by evidence of a sizeable increase in extraction of natural resources or similar increase in trade infrastructure and ships transiting the NSR. A strategic motive could be supported by evidence of an increase in military development in the Arctic without corresponding economic growth in the region. Strong evidence of military alliances or trade partnerships with other countries could support an alternative motive. I have had to weigh the evidence of my research in order to determine which hypothesis is the strongest, or if there is another hypothesis I have not considered. This thesis will not be evaluating hypothesis 2b due to the difficulty of identifying viable metrics for assessing this explanation

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II. RUSSIA'S OFFICIAL STATEMENTS ON THE NORTHERN SEA ROUTE

In the late 2000s, Russia began to revive its activities in the Arctic. Many of these activities are connected to the development of the Northern Sea Route (NSR). Russia has expressed its aims for the NSR in a number of official documents and forums. In 2020, the Russian Federation issued an official strategy for developing the Arctic through 2035. To a lesser degree, Russia has also articulated its interests in the NSR through its statements as Chair of the Arctic Council. This chapter summarizes Russia's goals for the NSR, as presented in these official documents and public statements.

A. RUSSIA'S OFFICIAL ARCTIC STRATEGY

According to *Foundations of Russian Federation State Policy in the Arctic for the Period up to 2035* ("Arctic Strategy"), Russia has six primary national interests in the Arctic. These are: maintaining control over territory of the Russian Federation; ensuring that the Arctic remains peaceful and beneficial for all; improving the quality of life for Russian citizens living in the Arctic; developing the Arctic for resources and increasing economic growth; making the Northern Sea Route competitive for global trade; and protecting the Arctic environment.⁴⁴ The strategy therefore includes development of the NSR as a stand-alone Arctic interest. However, most of the other five interests have some connection to NSR development, so this analysis drew on the entire strategy document to identify Russia's claimed NSR goals. It found that they fall into three main categories: transportation route development, resource development, and national security.

In the first category, the strategy document describes the NSR as "the Russian Federation's competitive national transportation passage in the world market."⁴⁵ Russia aims to develop the NSR to form a transportation route that competes globally, accelerating the country's economic growth and strengthening its position in the global trade market.

⁴⁴ Russian Federation, "Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035," trans. Anna Davis and Ryan Vest, *Russian Maritime Studies Institute, U.S. Naval War College*, March 5, 2020, 3.

⁴⁵ Russian Federation, 4.

The Arctic strategy sets an objective of “construction of a sufficient number of icebreaker, rescue and auxiliary fleets with the capabilities necessary to ensure year-round, safe, uninterrupted, and cost-effective navigation” on the NSR.⁴⁶ Additionally, the strategy calls for development of a network that monitors navigation and traffic along the route to ensure safety.⁴⁷ Russia also plans to build and modernize seaports along the NSR.⁴⁸ Russia aims to increase exports of goods by building railroads to connect the European and Asian regions of Russia to the NSR.⁴⁹

However, Russia’s Arctic Strategy document also identifies several challenges to the development of the Arctic Port Range along the NSR. First, the Russian Arctic lacks sound infrastructure. Russia recognizes that, for the NSR to become a feasible method of transportation for international shipping, as well as the logistical backbone of the state’s natural resource extraction, it must continue to fund development of the Arctic Zone. The state is prioritizing projects that develop an integrated infrastructure along the NSR. The infrastructure will provide hydrographic and navigational support and logistical support.⁵⁰ Currently, the lack of infrastructure along the NSR makes it difficult for responders to react in the event of an emergency. Additionally, the minimal support structures in place make navigating the route more costly.

A second obstacle to developing the NSR as a transportation route is regional population decline.⁵¹ Worldwide, approximately four million people live along the Arctic and two-and-a-half million of those reside in the Russian Federation.⁵² Russia understands that, without a working population to operate the ports, the NSR cannot operate successfully. Russia’s goal is therefore to improve the quality of life for the population

⁴⁶ Russian Federation, 8.

⁴⁷ Russian Federation, 8.

⁴⁸ Russian Federation, 8.

⁴⁹ Russian Federation, 8.

⁵⁰ Russian Federation, 4.

⁵¹ Russian Federation, 4.

⁵² Russian Chairmanship, “Russia’s Chairmanship Priorities for the Arctic Council 2021–2023,” Arctic Council, May 2021, <https://arctic-council.org/about/russian-chairmanship-2/>.

living in the Russian Arctic, to prevent population decline and encourage population growth.⁵³ The Arctic Strategy states that both social and economic development are priorities for the region. Social objectives include increasing the availability and quality of healthcare, education, cultural opportunities, and fitness. Additionally, Russia plans to modernize housing, establish a state support network to deliver food and fuel, and increase the availability for regional and inter-regional transportation to allow for more connectivity with mainland Russia.⁵⁴

Russia plans to sustain the Arctic population economically by supporting small businesses and increasing private investments.⁵⁵ Russia also plans to develop tourism along the Arctic and promote environmental studies to counter climate change.⁵⁶ Russia's push for tourism would include cultural, environmental, and industrial tourism. Tourists would visit the Russian Arctic through cruises, primarily on the NSR. Travel to the Arctic by air will also become more accessible through improved airports and runways. Russia appreciates that climate change has presented new opportunities for development of the NSR, but it also has the potential to damage infrastructure in the region.⁵⁷

The Arctic Strategy also pledges to increasing the quality of life for the region's indigenous population, specifically.⁵⁸ It states that Russia will promote local culture and preserve traditional indigenous economies. It also asserts that the government will create more employment opportunities, provide access to natural resources, and bring indigenous populations into decision-making processes.⁵⁹ The Strategy commits the Russian government to aiding indigenous populations that want to develop cross-border cooperation with other Arctic indigenous groups located outside of Russia.

⁵³ Russian Federation, "Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035," 5.

⁵⁴ Russian Federation, 6.

⁵⁵ Russian Federation, 7.

⁵⁶ Russian Federation, 7.

⁵⁷ Russian Federation, 9.

⁵⁸ Russian Federation, 5.

⁵⁹ Russian Federation, 7.

The Arctic Strategy generally emphasizes Russia's intention to cooperatively develop the NSR. This will include private and state actors financing port infrastructure projects as well as natural resource extraction sites.⁶⁰ Russia has also encouraged international cooperation between groups that will study and protect the environment.⁶¹ The Arctic Strategy highlights several environmental concerns in the region, related to NSR development. These include climate change and its future impact on NSR infrastructure. The strategy proposes international cooperation to develop advanced monitoring systems that will provide a more thorough understanding of climate hazards.

Russia's second leading incentive for NSR development, according to its Arctic strategy, is expanding extraction of the region's oil and natural gas resources. According to the Russian Arctic Strategy, expansion of the region's resource extraction will improve Russia's economic growth. Russia's objectives for economic development include promoting new investors in Arctic natural resource projects and improvement of resource logistical hubs along the NSR.⁶² Additional natural resource objectives from the Arctic Strategy include expansion of resource exploration, development of projects to recover difficult to obtain reserves, and increasing oil and gas production.⁶³

The Arctic Strategy states that Russia needs to develop the NSR to improve natural resource development. The objective is to connect the natural resource extraction sites to transportation hubs, which will allow the resources to be exported, primarily along the NSR. Development of the NSR is necessary to make the actual transportation of these resources possible. Additional development of the NSR allows for improved supply chain routes into and out of the region, increasing resource exports as well as support of local infrastructure.⁶⁴ Increased NSR development also allows for the continued support of remote communities that sustain natural resource extraction, and ultimately boosts the Russian economy.

⁶⁰ Russian Federation, 7.

⁶¹ Russian Federation, 9.

⁶² Russian Federation, 7.

⁶³ Russian Federation, 7.

⁶⁴ Russian Federation, 8.

Russia's third leading objective for developing the NSR is promoting national security, including military security and "defending and safeguarding the Russian Federation borders."⁶⁵ The Arctic Strategy does not identify a specific threat; however, it claims that foreign states that intend hamper Russian economic activities in the Arctic are a threat to national security.⁶⁶ Russia views the NSR as the landscape to develop and preserve its military strategy in the Arctic and propel Russia forward as a global power. Russia has multiple goals for the Russian military in the Arctic.⁶⁷ These include establishing countermeasures to prevent the use of force against Russia, increasing the capabilities of Arctic combat troops, and improving upon existing military infrastructure facilities. In addition, Russia intends to improve the integrated control system for air, surface, and underwater activities. Russia's overarching objective is to have a capable military force in the region to act as a deterrent to, or successful countermeasure for, an attack on the Russian Federation.⁶⁸ Russia specifically states that an objective for defending its borders includes updating the measurements of their territorial seas and the exclusive economic zone.⁶⁹

Developing the NSR will provide Russia the means to support its military forces and secure the Arctic. The NSR gives the military and coast guard a means to secure the border and monitor the territorial seas and airspace through use of patrols and updated surveillance stations.⁷⁰ Development of the NSR additionally provides increased support for improvements to military bases and ports across the Arctic and the NSR through an improved supply chain. Russian objectives for development of the NSR include bolstering defense capabilities and "preventing military hostilities against the Russian Federation in the Arctic."⁷¹

⁶⁵ Russian Federation, 11.

⁶⁶ Russian Federation, 5.

⁶⁷ Russian Federation, 11.

⁶⁸ Russian Federation, 14.

⁶⁹ Russian Federation, 11.

⁷⁰ Russian Federation, 11.

⁷¹ Russian Federation, 14.

B. STATEMENTS AT THE ARCTIC COUNCIL

In June 2021, Russia assumed the Chairmanship of the Arctic Council, which it will hold through 2023. The Arctic Council’s member states are the eight states that have territory within the Arctic Circle. Non-Arctic states can obtain observer status and observe the Arctic Council and working groups. The organization’s core objective is to promote cooperation between the Arctic states. As the chair, Russia has the authority to set the Council’s specific priorities for the next two years. Russian Foreign Minister Sergei Lavrov presented these priorities at the Arctic Council ministerial meeting in Reykjavik, Iceland on May 20, 2021.

As Lavrov stated in the document presented to the Arctic Council, “Russia intends to prioritize work aimed at improving the well-being, health and quality of life of Arctic inhabitants, including Indigenous peoples, and at ensuring progressive social growth, based above all, on sustainable economic development in the region.”⁷² In *Russia’s Chairmanship Priorities for the Arctic Council 2021–2023*, Russia listed four priorities for the period that it chairs the Arctic Council: “the Arctic people, environmental protection, socio-economic development in the region, and strengthening the Arctic Council.”⁷³ Some of these priorities align with the three leading goals articulated in Russia’s Arctic Strategy.⁷⁴

The priorities on the Arctic people and socio-economic development somewhat align with the Arctic Strategy goal of transportation development. Russia’s priority of “Arctic people, including Indigenous peoples of the North” includes “development of human capital in the Arctic,” “indigenous peoples of the Arctic,” and “Arctic youth.”⁷⁵ This priority promotes better quality of life for all peoples who live in the Arctic and mirrors Russia’s official Arctic Strategy by emphasizing Indigenous people and

⁷² Russian Chairmanship, “Russia’s Chairmanship Priorities for the Arctic Council 2021–2023,” 7.

⁷³ Russian Chairmanship, 8.

⁷⁴ Alexander Sergunin, “Thinking about Russian Arctic Council Chairmanship: Challenges and Opportunities,” *Polar Science*, Special Issue on “The Sixth International Symposium on Arctic Research (ISAR-6),” 29 (September 1, 2021): 7, <https://doi.org/10.1016/j.polar.2021.100694>.

⁷⁵ Russian Chairmanship, “Russia’s Chairmanship Priorities for the Arctic Council 2021–2023,” 11.

development of Arctic youth.⁷⁶ The priority also calls for “strengthening search and rescue capacities and effective implementation of the Agreement on Cooperation for Aeronautical and Maritime Search and Rescue in the Arctic” as well as overall improvement of emergency response.⁷⁷

The priority to promote “socio-economic development in the region” includes “economic cooperation,” “development of infrastructure and sustainable shipping,” “Arctic tourism,” and “Cultural Programme.”⁷⁸ The socio-economic development priority mentions the anticipated future increase in Arctic shipping and the need to “develop safe shipping” in the region, including the Northern Sea Route.⁷⁹ Russia’s focus, as stated in the *Chairmanship* document, is to establish safe, environmentally-friendly, and economically competitive shipping routes. The priority also calls for the improvement to tourism infrastructure and an increase in cultural awareness in the region.⁸⁰

The *Chairmanship* document is less attentive to the economic advantages of resource development along the NSR than Russia’s Arctic Strategy. It instead addresses the topic of natural resources under the priority of “environmental protection, including climate change.”⁸¹ The priority addresses the need to effectively manage and preserve resources in the Arctic as well as prevent any environmental emergencies.⁸² The topic primarily discusses management of flora and fauna in the Arctic and mentions the need for increased oil spill response as production increases along the NSR.⁸³ The priority on “socio-economic development” mentions energy as a focus, but shifts attention to address societal needs over economic developments such as resource extraction.⁸⁴

⁷⁶ Russian Chairmanship, 11.

⁷⁷ Russian Chairmanship, 20.

⁷⁸ Russian Chairmanship, 23.

⁷⁹ Russian Chairmanship, 24.

⁸⁰ Russian Chairmanship, 27.

⁸¹ Russian Chairmanship, 16.

⁸² Russian Chairmanship, 16.

⁸³ Russian Chairmanship, 19.

⁸⁴ Russian Chairmanship, 23.

The priorities for the Arctic Council do not align with the Arctic Strategy goal of national security. The Chairmanship document states that it “will pay particular attention to promoting the strategic dimension of the Arctic Council’s activities.”⁸⁵ It states that it will continue policies of previous Arctic Council Chairmanships with the effort to maintain peace in the region.⁸⁶ However, the document does not address any plans to discuss military activity or mobilization in the region, as this is prohibited at the Arctic Council.

There are no NSR-related goals stated in the Russian priorities for the Arctic Council that are not articulated in Russia’s Arctic Strategy. The priorities for the Arctic Council concentrate on issues involving social development and environmental protection. Issues solely involving development of the NSR for the goals of transportation, resource development, and national security appear to remain as a secondary agenda to quality-of-life improvements and environmental protection.

Russia’s Chairmanship Priorities for the Arctic Council 2021–2023 also places greater emphasis on environmental protection and international cooperation, in comparison to the Arctic Strategy. The priority for “environmental protection, including climate change” calls for international cooperation to protect the ecosystem.⁸⁷ Russia states that it will hold an Arctic meteorological summit during its chairmanship and promote cooperation through working groups such as the working group on Conservation of Flora and Fauna.⁸⁸ The priority on socio-economic development focuses on the improvement of infrastructure in the Arctic by utilizing advanced environmentally-friendly technologies.⁸⁹ The priority of “strengthening the Arctic Council” aims to promote international cooperation to “maintain peace and stability” in the Arctic and to continue support for international cooperation for scientific research.⁹⁰ During its tenure as the chair of the Arctic Council, Russia “intends to promote greater synergies with other regional platforms,

⁸⁵ Russian Chairmanship, 31.

⁸⁶ Russian Chairmanship, 31.

⁸⁷ Russian Chairmanship, 16.

⁸⁸ Russian Chairmanship, 16.

⁸⁹ Russian Chairmanship, 23.

⁹⁰ Russian Chairmanship, 31.

such as the Arctic Economic Council, the Arctic Coast Guard Forum, the University of the Arctic, the Barents Euro-Arctic Council, the Northern Dimension, and cross-border and transboundary cooperation programmes.”⁹¹

⁹¹ Russian Chairmanship, 31.

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III. RUSSIAN DEVELOPMENT OF THE NORTHERN SEA ROUTE

This chapter addresses the actions Russia has taken in the Arctic with respect to development of the Northern Sea Route (NSR). There are three main domains identified in the previous chapter under Russia's stated objectives for the NSR. This chapter is split up to address each of these domains: transportation infrastructure and international transit route, natural resource development, and national security. This chapter analyzes the development that has occurred in each of these domains to discern whether Russia's actual activities related to the NSR align with the objectives articulated in its strategic documents.

A. TRANSPORTATION INFRASTRUCTURE AND INTERNATIONAL TRANSIT ROUTE

Russia claims it intends to develop the NSR to become a viable international trade route. Russia has stated that it intends to improve upon existing port infrastructure, including facilities, search and rescue capabilities, and navigational support systems, to attract commercial transportation. For Russia to accomplish its goal of transforming the NSR into a competitive international waterway, the state must develop its port and logistical support infrastructure. Russia will also have to entice international companies as well as Russian citizens to the Arctic region in order to make the NSR successful. If developing the NSR as a transportation route is actually a core goal for Moscow, we can expect to see Russian actions that will encourage foreign traffic along the NSR.

Development of the Russian Arctic Port Range began in the 1930s, following the discovery of oil and gas in the region. The Russian Arctic Port Range consists of the system of ports along the NSR between Murmansk and Provideniya. In 1936, the Soviet Union established the Chief Directorate of the Northern Sea Route (Glavsevmorput) as a Soviet national ministry, which oversaw the development of the NSR as well as the promotion of economic growth in the Russian Arctic.⁹² During the Soviet era, development along the NSR

⁹² Aleksey Kontorovich, "Oil and Gas of the Russian Arctic: History of Development in the 20th Century, Resources, and Strategy for the 21st Century," trans. I. Pertsovskaya, *SCIENCE First Hand - NSU* 41, no. 2 (August 30, 2015): 42–61, <http://scfh.nsu.ru/papers/59929>.

primarily consisted of infrastructure for resource exploration and military support. Shipping along the NSR was managed by the Directorate, but for decades remained extremely limited due to the harsh environment. Tensions between the East and the West during the Cold War kept the NSR isolated from international investment. However, in a 1987 speech, Mikhail Gorbachev spoke to a new vision to de-secure the NSR and open the route for international trade.⁹³ By this, he meant to promote international cooperation in the Arctic: specifically in the development of a shipping corridor

Following the collapse of the Soviet Union, traffic on the NSR dipped drastically and didn't recover to Soviet-era levels until 2016, when it reached above 6 million tons of cargo transported annually.⁹⁴ During the 1990s, there was little government funding available for sustaining or upgrading Arctic port infrastructure. An economic recession in post-Soviet Russia, combined with the lower numbers of transits along the NSR, caused further economic hardships for those in the Russian Arctic.

Most of the Soviet-era infrastructure along the NSR was constructed on top of the permafrost layer, which has been gradually decreasing due to climate change since the 1980s.⁹⁵ The warming of the permafrost layer caused degradation and failure of infrastructure along the NSR during the 1990s and roads, bridges, piers, and buildings were left to erode in disrepair. The degradation of the logistical support infrastructure, including road networks, further weakened the already deteriorating Russian Arctic port system. As a result, in the immediate post-Soviet era, the NSR was not viewed as a viable alternate to traditional supply routes.⁹⁶ In a study of shipping traffic patterns, Liu et al. concluded that, between 2003 and 2012, Russia's Arctic strategy did not promote throughput of cargo along the NSR.⁹⁷ The

⁹³ Kristian Åtland, "Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate: Relations in the Arctic," *Cooperation and Conflict* 43, no. 3 (2008): 1, <http://www.jstor.org/stable/45084526>.

⁹⁴ Marlene Laruelle, "Russia's Arctic Policy: A Power Strategy and Its Limits," *Russie Nei Visions, Ifri* 117 (April 1, 2020): 17.

⁹⁵ Nikolay I. Shiklomanov et al., "Climate Change and Stability of Urban Infrastructure in Russian Permafrost Regions: Prognostic Assessment Based on GCM Climate Projections," *Geographical Review* 107, no. 1 (January 1, 2017): 126, <https://doi.org/10.1111/gere.12214>.

⁹⁶ Schneider, "Northern Sea Route," 196.

⁹⁷ Liu et al., "The Arctic Policy and Port Development along the Northern Sea Route," 7.

authors determined that, during this period, there was insufficient funding for transportation infrastructure and that Russia relied heavily upon the region's natural resource extraction to achieve growth in cargo transportation along the NSR.⁹⁸

Since the early 2000s, Russia has attempted to redevelop the Russian Arctic Port Range to support the NSR. Russia funded several projects along the NSR to improve upon the existing infrastructure. Most of the projects during the 2000s were focused on the western part of the Arctic and aimed at enhancing the transportation of goods to and from natural resource extraction hubs along the Yamal peninsula.⁹⁹ These projects included improving existing Soviet-era ports, as well as constructing new ports.

Port development in the western Arctic has been supported through government funding as well as private investment, primarily in support of energy exploration and extraction in the Yamal-Nenets Autonomous Okrug. Port Sabetta and Port Novy are the major projects that were developed in the 2010s to support transportation infrastructure along the NSR.¹⁰⁰ These ports received funding from Russian energy companies to build infrastructure to load crude oil and liquified natural gas onto Arctic class tankers. Additional investments have been made in port infrastructure at each end of the NSR, in Murmansk and Kamchatka, so these can act as transshipment terminals.¹⁰¹ The intent for these terminals is to enable cargo to be transported along the entirety of the NSR in ice-class vessels and then transferred to traditional tankers and cargo ships when clear of the Arctic sea ice. Construction on deep water channels and floating LNG storage units is underway. When complete, the Murmansk and Kamchatka terminals will each have a floating storage unit with a 360,000 cubic meters capacity and ship-to-ship transfer capability.¹⁰²

⁹⁸ Liu et al., 7.

⁹⁹ Faury, Alix, and Montier, "From the USSR to the Polar Silk Road," 2.

¹⁰⁰ Faury, Alix, and Montier, 5; E G Katysheva, "Developing Gas Fields in the Yamal Peninsula as a Factor of Economic Development of the Arctic Zone of Russia," in *IOP Conference Series: Earth and Environmental Science*, vol. 302 (IOP Publishing, 2019), 4, <https://doi.org/10.1088/1755-1315/302/1/012127>.

¹⁰¹ Laruelle, "Russia's Arctic Policy," 14.

¹⁰² NS Energy Staff Writer, "Total Energies Acquires 10% Stake in Novatek's LNG Transshipment Project," *NS Energy* (blog), accessed December 2, 2021, <https://www.nsenergybusiness.com/news/totalenergies-novatek-lng-transshipment-project/>.

Over time, Russia aims to develop the NSR as a transportation route for more than oil and LNG. It claims that it is developing Arctic port infrastructure to attract a range of international traffic and investment in the region. To accomplish this, Russia has focused its attention on development of social structures and support systems in Arctic ports. In February 2020, the Russian government formulated legislation that provides tax benefits for private investors willing to invest more than 10 million rubles (approximately 150,000 USD) in Arctic projects.¹⁰³ Russia estimates that these tax incentives will lead to more private investment in the Russian Arctic and create hundreds of thousands of jobs.¹⁰⁴ It also expects that more jobs in the region will entice citizens to relocate for economic opportunity. Russia has set out to garner financial support for these development projects in the eastern Arctic.

Several East Asian states have also shown interest in contributing to the development of the NSR. In 2018, China announced its strategy for developing the Polar Silk Road as a Sino-Russia partnership and as a part of their larger Belt and Road Initiative.¹⁰⁵ This partnership is a move to include the NSR in China's global trade network. On September 3, 2021, Russia held the Eastern Economic Forum and invited several Asian states to contribute to the development of the Arctic and NSR.¹⁰⁶ At the forum, Putin stated that Russia welcomes foreign interest to the NSR and that Russia will not restrict any access to the route.¹⁰⁷ China, India, and Japan expressed interest in part developing the NSR as a trade route. Putin went on to state that Russia will continue to adhere to the international governance established by the 1982 UNCLOS.¹⁰⁸ In his speech Putin stated that "Russia is open to mutually beneficial partnership with all countries in the Asia-Pacific Region."¹⁰⁹ He stated that tax incentives

¹⁰³ Pavel Devyatkin, "Russian Government Supports Tax Breaks for Arctic Investments," High North News, February 19, 2020, <https://www.highnorthnews.com/en/russian-government-supports-tax-breaks-arctic-investments>.

¹⁰⁴ Devyatkin.

¹⁰⁵ Trym Aleksander Eiterjord, "China's Busy Year in the Arctic," The Diplomat, January 30, 2019, <https://thediplomat.com/2019/01/chinas-busy-year-in-the-arctic/>.

¹⁰⁶ President of Russia, "Plenary Session of the Eastern Economic Forum," President of Russia, September 3, 2021, <http://en.kremlin.ru/events/president/transcripts/66586>.

¹⁰⁷ President of Russia.

¹⁰⁸ President of Russia.

¹⁰⁹ President of Russia.

will be available to both Russian and foreign parties interested in investing in local infrastructure at Russian Far-East Ports.¹¹⁰ Improved support infrastructure along the NSR will allow ships to gain easier access to ports and improve logistical and emergency support during their transits. Russia believes that helping the Russian Arctic Port Range to become self-sufficient and accessible will increase the overall viability of the NSR.

Russia is also trying to increase traffic along the NSR by overcoming its historical lack of navigation support infrastructure, such as radar, hydrology and meteorology sensing equipment, and communication networks.¹¹¹ Russia is also attempting to strengthen the extremely limited search and rescue capabilities along the NSR. The Russian government plans to purchase 16 search and rescue vessels to patrol the route and improve reaction time.¹¹² Russia aims to have this fleet of search and rescue assets available by 2024. In addition, Russia has funded the state-owned Rosatomflot to increase their nuclear-powered icebreaker fleet to ten vessels.¹¹³ Rosatomflot's icebreaker fleet is expected to be utilized for both commercial and military activity along the NSR.¹¹⁴ Russia has improved its radar and communication network across the NSR, through the implementation of dual-use systems built at military installations.¹¹⁵ The Sopka-2 radar is intended to be dual-use, for military and civilians. Its capabilities include monitoring air and maritime traffic, providing meteorological data, and bolstering defense coverage along the eastern portion of the NSR.¹¹⁶ The Sopka-2 radar provides radar coverage for much of the NSR which was previously unmonitored.

¹¹⁰ President of Russia.

¹¹¹ Liu et al., "The Arctic Policy and Port Development along the Northern Sea Route," 7.

¹¹² Atle Staalesen, "Government Wrangles over Arctic Search and Rescue," *The Independent Barents Observer*, December 9, 2020, <https://thebarentsobserver.com/en/2020/12/government-hassles-over-arctic-search-and-rescue>.

¹¹³ Laruelle, "Russia's Arctic Policy," 17.

¹¹⁴ Zysk, "Russia's Military Build-Up in the Arctic: To What End?," 19.

¹¹⁵ Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., "The Ice Curtain: Hunting for Russia's Newest Military 'Treasures in the Far North'*" (Center for Strategic & International Studies), 4, accessed November 3, 2021, <https://www.csis.org/analysis/ice-curtain-hunting-russias-newest-military-treasures-far-north>.

¹¹⁶ Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., "The Ice Curtain: Why Is There a New Russian Military Facility 300 Miles from Alaska?" (Center for Strategic & International Studies, March 2020), 3, <https://www.csis.org/analysis/ice-curtain-why-there-new-russian-military-facility-300-miles-alaska>.

In a meeting with Putin on August 9, 2021, the director of Rosatom stated that there has been significant growth in traffic along the NSR. He stated that, over the last year, the company has seen 18 percent growth in revenue and estimates that there will be increased interest in the NSR as an alternative waterway due to the blockage of the Suez Canal by the Ever Given bulk carrier in May 2021.¹¹⁷ However, recent shipping trends along the NSR have primarily supported natural resource extraction and domestic shipping. The NSR remains obstructed by sea ice for most of the year and transit along the route requires both an Arctic ice-class vessel and the assistance of an icebreaker.¹¹⁸ Due to these factors, full transits of the NSR remain low.

Vladimir Putin has set a goal to have 80 million tons of cargo shipped annually along the NSR by 2024.¹¹⁹ Cargo volume has steadily increased from 2.8 million tons in 2013 to 31.5 million tons in 2019 due to increased oil and gas exports along the NSR.¹²⁰ Domestic and regional shipment of natural resources and cargo originating and/or terminating within Russia account for approximately 90 percent of traffic along the NSR.¹²¹ In 2019, of the 31.5 million tons shipped, only 300,000 tons were transported on vessels conducting international transit of the NSR.¹²² During a four-year study from 2016–2019, Gunnarsson observed that only 51 international transits were conducted, and 28 of them originated in Asia.¹²³

The weak support infrastructure along the NSR has been a hinderance to its viability as a global trade route. Although maritime support systems are being introduced and developed on the periphery of the NSR, in the central Russian Arctic, support systems remain

¹¹⁷ Team of the Official website of the President of Russia, “Meeting with Rosatom CEO Alexei Likhachev,” President of Russia, August 4, 2021, <http://en.kremlin.ru/events/president/news/66320>.

¹¹⁸ van Hussen et al., “Commercial Navigation Along the Northern Sea Route: Prospects and Impacts,” 10.

¹¹⁹ Faury, Alix, and Montier, “From the USSR to the Polar Silk Road,” 2.

¹²⁰ Laruelle, “Russia’s Arctic Policy,” 17; Gunnarsson, “Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping,” 4.

¹²¹ Gunnarsson, “Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping,” 4.

¹²² Gunnarsson, 4.

¹²³ Gunnarsson, “Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping.”

insufficient for commercial traffic.¹²⁴ Ports in the central part of the Russian Arctic are the most remote and have had insufficient transportation routes to allow for resupply and further development.¹²⁵ Ports and support infrastructure in the eastern portion of the NSR are not developed enough to support commercial shipping operations, such as offloading and onloading cargo, and navigational support.¹²⁶ There is limited overland access to transportation networks to support the facilities in the most isolated parts of Russia. The lack of access has slowed growth and limited the viability of commercial vessels from utilizing the NSR as a reliable means of transportation.

Compared to traveling through the Suez Canal, the cost of traversing the NSR remains significantly higher due to the necessity of an icebreaker escort and other navigational requirements, such as increased crew numbers to operate in harsh conditions, and high insurance premiums. The existence of sea ice along the NSR and poor support infrastructure keep carriers from selecting the NSR.¹²⁷ Safety requirements add additional costs that prevent the NSR from being an optimal transit route. Additional personnel are required for lookouts whenever sea ice is present in the water, and ships need to transit at slower speeds. Poor communication structure and navigation network throughout the Arctic can cause potential hazards and delays. The nature of the transit leads to higher insurance premiums for shipping companies.

The director of Rosatomflot is seeking approval to further develop the NSR by improving upon existing infrastructure as well as building new support networks with the hope that the NSR will eventually become a major transportation corridor.¹²⁸ Russia has stated that it intends to develop infrastructure to support international shipping along the route; however, current development of ports along the NSR in the central and eastern Arctic is low or nonexistent. The development that has occurred along the NSR has been underwhelming

¹²⁴ Faury, Alix, and Montier, “From the USSR to the Polar Silk Road,” 3.

¹²⁵ Schneider, “Northern Sea Route,” 197.

¹²⁶ Faury, Alix, and Montier, “From the USSR to the Polar Silk Road,” 3.

¹²⁷ van Hussen et al., “Commercial Navigation Along the Northern Sea Route,” 17.

¹²⁸ Russia, “Meeting with Rosatom CEO Alexei Likhachev.”

with respect to radar and communication coverage as well as emergency response in the central and eastern portions of the NSR.

In 2013, Russia's Arctic Strategy took a more liberal approach than its predecessor set in the 2008 *Foundation for Arctic Policy*, and seemed to encourage international interest in the region.¹²⁹ However in 2018, the Duma passed a law that reversed the liberalization approach of the 2013 Arctic Strategy.¹³⁰ The law is a nationalist and protectionist economic practice that limits operation within Russia's exclusive economic zone and cabotage between ports along the NSR exclusively to Russian-flagged vessels.¹³¹ In January 2019, the law was adjusted to limit the transport of hydrocarbons to only vessels built in Russia.¹³² Additionally, in March 2019, Russia passed legislation that requires a 45-day notification for any foreign warship to utilize the NSR.¹³³ Russia claims that the NSR traverses internal waters and this justifies the restrictive legislation in an effort to preserve economic development.¹³⁴ Russia's legislation appears to be more restrictive to foreign access of the NSR than Russia's published strategies suggest.

Russia has funded development projects throughout the Arctic to expand the use of the NSR and create an international transportation corridor. Russia claims that these developments throughout the region will enhance the safety and port capabilities along the NSR; however, the dual-use capabilities of these developmental projects appear to focus on either resource extraction or militarization aspects and treat the civilian use as an afterthought. Major projects have begun in the western Arctic and have focused on developing ports in support of resource extraction. Other projects have included the improvement of a national icebreaker fleet to support shipments along the NSR as well as the development of search and rescue assets to assist with emergency response. Improvements have also been made to

¹²⁹ Moe, "A New Russian Policy for the Northern Sea Route?," 4.

¹³⁰ Moe, 4.

¹³¹ Moe, 4.

¹³² Moe, 5.

¹³³ Laruelle, "Russia's Arctic Policy," 18.

¹³⁴ Matthew Melino and Heather A. Conley, "The Ice Curtain: Russia's Arctic Military Presence," Center for Strategic & International Studies, accessed November 3, 2021, <https://www.csis.org/features/ice-curtain-russias-arctic-military-presence>.

increase radar and communication coverage in remote parts of the NSR. For the past decade shipping patterns have shown a steady increase in traffic along the NSR; however, most of the traffic remains domestic or regional shipping. International trade has yet to utilize the NSR as a viable alternative to traditional trade routes. This is due to high costs that are associated with the harsh environment and the inconsistency of traversing the route.

B. NATURAL RESOURCE DEVELOPMENT

Russia claims that one of the primary interests in development of the Northern Sea Route is to increase resource extraction and transportation from the Russian Arctic.¹³⁵ Russia has stated its intent to establish the Arctic as a resource base and develop the region through public and private investment, which will increase the viability of the NSR.¹³⁶ The NSR has seen an increase in development over the past decade, particularly in the Yamal-Nenets Autonomous Okrug, an autonomous district in Western Siberia, with respect to oil and gas extraction. Russia has also increased investments in improving transportation along the NSR, particularly with respect to icebreakers, ice-class tankers, and port terminals. Russia's actions appear to align with their stated goals for development of the NSR for resource extraction. Multiple private and state-owned corporations have invested billions into development of the region, and Russia intends it to be a viable route. However, it could be interpreted that Russia is not fully convinced about the possibility of the NSR. Gazprom, a Russian state-operated entity, appears to have shifted its focus to overland transportation routes versus utilizing the NSR for transportation.

In 2008, the United States Geological Survey estimated that “approximately 90 billion barrels of oil, 1669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquid” are located under the Arctic.¹³⁷ The Russian Arctic, in particular, holds a large percentage of

¹³⁵ Russian Federation, “Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035,” 7.

¹³⁶ Russian Federation, 2.

¹³⁷ Kenneth J. Bird et al., “Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle,” U.S. Geological Survey Fact Sheet 2008–3049, Fact Sheet, 2008, <http://pubs.usgs.gov/fs/2008/3049/>.

these untapped resources as shown in Figure 2.¹³⁸ The Russian economy remains heavily dependent on natural resources from the Russian Arctic, such as crude oil and natural gas.¹³⁹ Due to the harsh Arctic environment these resources have been difficult to obtain. Climate change has caused warmer Arctic temperatures over the past few decades and made extraction of natural resources easier than before. Still, the Arctic is a dangerous environment containing extreme hazards for laborers and the infrastructure they operate.

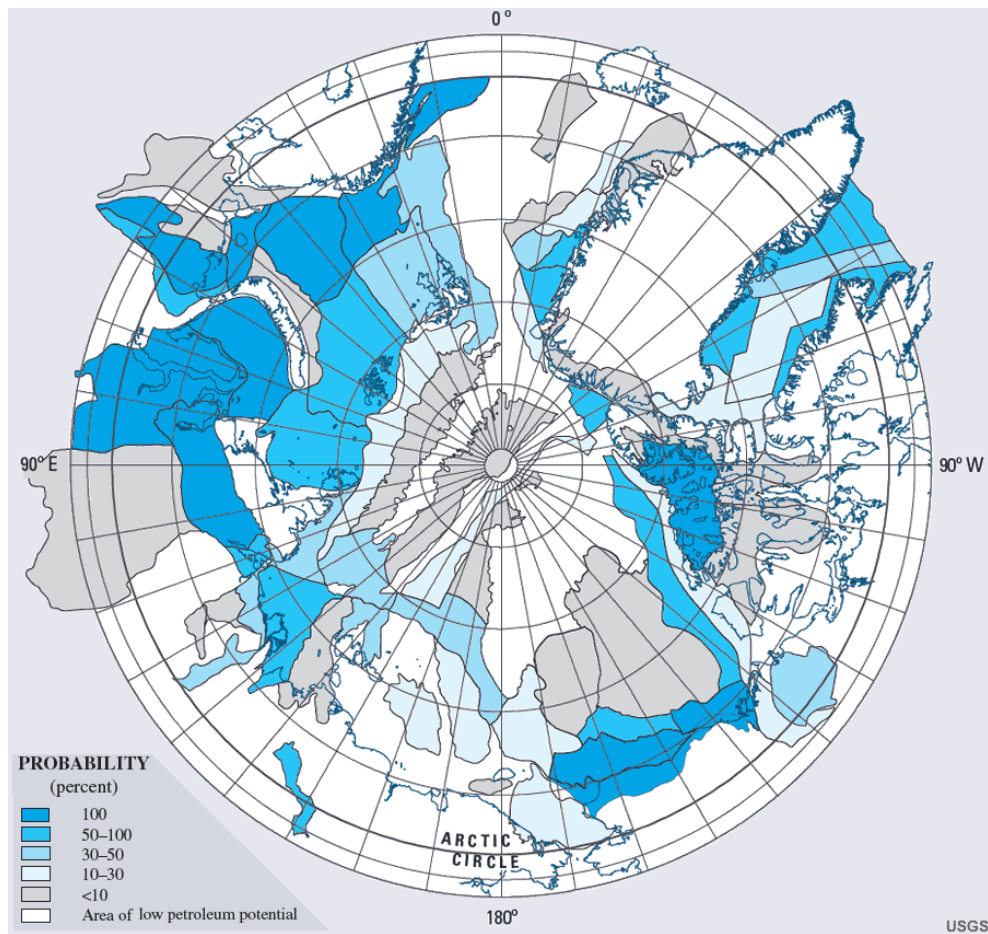


Figure 2. USGS survey, probability of the presence of undiscovered oil.¹⁴⁰

¹³⁸ Bird et al.

¹³⁹ “Russia (RUS) Exports, Imports, and Trade Partners | OEC,” OEC - The Observatory of Economic Complexity, accessed September 18, 2021, <https://app-ant.oec.world/en/profile/country/deu>.

¹⁴⁰ Source: Bird et al., “Circum-Arctic Resource Appraisal.”

The Soviet Union began development of natural resource extraction in the Arctic in 1930 following the discovery of oil in the Republic of Komi.¹⁴¹ Geological exploration throughout what is today's Russian Arctic continued for decades, with the Soviet Union discovering additional oil and resource reserves in the region. The Soviet Union began to develop the infrastructure needed to extract natural resources from the Arctic throughout World War II and the Cold War.¹⁴² Soviet oil and gas exports from the Arctic steadily increased throughout the Cold War and peaked in the mid-1980s. Geological exploration from the 1960s to 1970s showed that massive amounts of oil and natural gas deposits existed in Western Siberia, particularly in the Yamal Peninsula.¹⁴³ The Soviet Union had existing plans to develop the Yamal Peninsula for natural gas extraction since the 1970s.¹⁴⁴ However, these plans to develop infrastructure to extract natural resources from the Russian Arctic disappeared as the Soviet Union collapsed.¹⁴⁵ Moscow was forced to focus its attention on matters closer to home for several years before returning attention to the Russian Arctic. The Russian revitalization of the Arctic developed over two decades, starting in the late 1990s.¹⁴⁶ Private and state-operated companies began to develop means for resource extraction in the Arctic.

Following the collapse of the Soviet Union, the oil industry was split into multiple private and state-owned companies, eventually encompassing eleven entities.¹⁴⁷ Throughout the 1990s, oligarchs who owned the oil companies used their companies to amass personal wealth, which caused oil production to drop from approximately 11 million barrels per day (bpd) to under 6 million bpd.¹⁴⁸ Following an economic recession in 1998,

¹⁴¹ Kontorovich, "Oil and Gas of the Russian Arctic."

¹⁴² Kontorovich.

¹⁴³ Masaaki Kuboniwa, "Estimating GDP and Foreign Rents of the Oil and Gas Sector in the USSR Then and Russia Now," *Bank of Finland, BOFIT*, 2016, 9.

¹⁴⁴ Faury, Alix, and Montier, "From the USSR to the Polar Silk Road," 13.

¹⁴⁵ Faury, Alix, and Montier, 2.

¹⁴⁶ Fiona Hill and Florence Fee, "Fueling the Future: The Prospects for Russian Oil and Gas," *Demokratizatsiya* 10, no. 4 (2002): 1.

¹⁴⁷ Hill and Fee, 4.

¹⁴⁸ Hill and Fee, 5.

oil prices began to increase rapidly and the Russian oligarchs began to reinvest in resource extraction infrastructure.¹⁴⁹ When Vladimir Putin became president in 2000, he partially re-nationalized the oil industry by forcing oligarchs out of their positions and appointing his political allies to fill the empty roles.¹⁵⁰ By 2004, Russian oil production returned to the levels of the Soviet Union and new ports were developed in the Gulf of Finland to assist with oil exports to the Russian market.¹⁵¹ Further development of existing oil infrastructure was accomplished by encouraging international investment from western corporations such as British Petroleum, ExxonMobil, and Shell.

Following the fall of the Soviet Union, the natural gas industry remained a singular entity. Gazprom, the Russian-state owned natural gas company, was able to monopolize gas extraction in the Arctic. Gazprom continued searching the Russian Arctic for oil and gas, and, although it was Russia's singular natural gas company, it still needed foreign investment in order to fund its projects.¹⁵²

Over the past decade, Russia has invested in infrastructure to further the development of natural resource extraction in the Arctic, specifically in the Yamal-Nenets Autonomous Okrug. The development of the Prirazlomnoye Oil Field in the Pechora Sea was the first major oil and gas project started during Russia's revitalization of Arctic natural resource infrastructure.¹⁵³ The Prirazlomnoye oil platform is a floating oil platform on the Russian Arctic shelf that can withstand the region's harsh environment. Gazprom is the owner and operator of the project. The rights to drill for oil in the Pechora Sea were obtained by Gazprom in 2002 and construction of the oil platform was complete in

¹⁴⁹ Hill and Fee, 6.

¹⁵⁰ Hill and Fee, 20.

¹⁵¹ Fiona Hill, "Energy Empire: Oil, Gas and Russia's Revival," *The Foreign Policy Centre*, September 2004, 12.

¹⁵² Hill, 56.

¹⁵³ Elena Katysheva and Anna Tsvetkova, "The Future of Oil and Gas Fields Development on the Arctic Shelf of Russia," in *International Multidisciplinary Scientific GeoConference : SGEM*, vol. 17 (Sofia, Bulgaria: Surveying Geology & Mining Ecology Management (SGEM), 2017), 1, <http://dx.doi.org/10.5593/sgem2017/53>.

2011.¹⁵⁴ Oil production began in December 2013 and commercial operation began in April 2014.¹⁵⁵ The Prirazlomnoye Oil Field is estimated to hold 70 million tons of oil and the platform will have the capacity to produce up to 5.5 million tons annually. Currently, 23 of its 32 proposed oil wells are in operation and the platform produced 3.27 million tons of oil in 2020.¹⁵⁶

The second major oil and gas project in the Russian Arctic began in 2006 when Gazprom obtained the license to develop the Novoportovskoye Oil and Gas Condensate Field. Exploration of the Novoportovskoye field began in the 1980s; however, development of the field didn't occur until 2010.¹⁵⁷ The project included development of the Gates of the Arctic terminal at the Port of Novy, which was complete in 2015.¹⁵⁸ Commercial production of oil and gas at the Novoportovskoye field began in 2014 and shipping through the Port of Novy began in February 2015.¹⁵⁹ As of 2018, the project was producing 7 million tons of oil equivalent, a measurement that equates an energy resource to a barrel of crude oil, annually, and is expected to increase to 8 million tons annually.¹⁶⁰

The third major project that Russia invested in is the Yamal Peninsula Liquid Natural Gas (LNG) Project. The Yamal LNG project was awarded to Novatek by the Russian government in 2010. The project became an international joint venture; Russia's Novatek owned a 50.1% share, France's Total owned 20%, China's CNPC owned 20%, and China's Silk Way Fund owned 9.9%.¹⁶¹ The project consisted of drilling rigs to extract

¹⁵⁴ Gazprom Neft Shelf, "History - Gazprom Neft Shelf LLC," Gazprom Neft Shelf, accessed October 20, 2021, <https://shelf.gazprom-neft.ru/about/history/>.

¹⁵⁵ Gazprom Neft Shelf.

¹⁵⁶ Gazprom, "Prirazlomnoye Field," Gazprom, accessed October 20, 2021, <https://www.gazprom.ru/projects/prirazlomnoye/>.

¹⁵⁷ Gazprom Neft, "The Novy Port Project — the Arctic Gates Terminal," Gazprom Neft PJSC, accessed October 24, 2021, <https://www.gazprom-neft.com/company/major-projects/new-port/www.gazprom-neft.com/company/major-projects/new-port/>.

¹⁵⁸ Faury, Alix, and Montier, "From the USSR to the Polar Silk Road," 5.

¹⁵⁹ Gazprom Neft, "The New Port Project Is 10 Years Old!," Gazprom Neft, September 30, 2021, <https://yamal.gazprom-neft.ru/press-center/news/79086/>.

¹⁶⁰ Gazprom Neft, "The Novy Port Project — the Arctic Gates Terminal."

¹⁶¹ Katysheva, "Developing Gas Fields in the Yamal Peninsula as a Factor of Economic Development of the Arctic Zone of Russia," 3.

the resources, a plant to produce LNG, and the development of a multi-use sea port at Sabetta for resource transportation along the Northern Sea Route.¹⁶² Commercial operation of the Yamal project began on December 8, 2017 and a specially built Arc7 ice-class tanker was loaded at the Port of Sabetta for transportation along the NSR.¹⁶³ The Yamal LNG project currently produces 17.5 million tons of LNG annually.¹⁶⁴ The Arctic LNG-2 and the OB LNG, two subprojects within the Yamal LNG Projects, are expected to be complete and fully operational by 2023.¹⁶⁵ The Arctic LNG-2 project is expected to become one of the world's leading LNG producers by 2030, generating between 55 and 70 million tons of LNG annually.¹⁶⁶ The OB LNG project is projected to produce 4.8 million tons of LNG annually beginning in 2023 and is fully operated by Russia's Novatek.¹⁶⁷

Russia plans to further develop the NSR in conjunction with overland transportation methods, such as rail and pipelines, to transport LNG. Since 2014, sanctions from the United States and Western Europe have increasingly caused Russia to target Asian markets. East Asian states have increased energy imports from Russia over the last decade. Meanwhile, climate change has caused warmer temperatures across Europe, which has caused a decreased demand for energy imports.¹⁶⁸ East Asian demand for energy imports from Russia is expected to increase over the next decade.

Although Russia originally intended the NSR to be utilized for international transit, most of the shipping from the last decade has been domestic and destination shipping:

¹⁶² Laruelle, "Russia's Arctic Policy," 14; Katysheva, "Developing Gas Fields in the Yamal Peninsula as a Factor of Economic Development of the Arctic Zone of Russia," 3.

¹⁶³ Katysheva, "Developing Gas Fields in the Yamal Peninsula as a Factor of Economic Development of the Arctic Zone of Russia," 3.

¹⁶⁴ Alexey Cherepovitsyn and Olga Evseeva, "Parameters of Sustainable Development: Case of Arctic Liquefied Natural Gas Projects," *Resources* 10, no. 1 (2021): 3, <http://dx.doi.org/10.3390/resources10010001>.

¹⁶⁵ Laruelle, "Russia's Arctic Policy," 13.

¹⁶⁶ Laruelle, 13.

¹⁶⁷ Cherepovitsyn and Evseeva, "Parameters of Sustainable Development," 3.

¹⁶⁸ I. A. Dets, "Reasons for Changing the Vector of Russian Exports and the New Role of the Arctic," in *IOP Conference Series: Earth and Environmental Science*, vol. 629 (Irkutsk, Russia: IOP Publishing, 2021), 4, <https://doi.org/10.1088/1755-1315/629/1/012088>.

voyages originating or terminating within Russian waters.¹⁶⁹ Björn Gunnarsson found that, between 2016 and 2019, oil and gas cargo made up the majority of the traffic along the NSR originating from the Port of Sabetta or the Arctic Gate oil terminal at Port Novy.¹⁷⁰ This trend will most likely continue as the other Yamal Peninsula LNG projects are further developed and become fully operational in 2023. The Port of Sabetta and the Port of Novy have been developed by Novatek and Gazprom, respectively. When all LNG projects in the Yamal peninsula are complete, these ports will be capable of managing the projected increase in oil and gas production. Additionally, Novatek, assisted by Russian-state funds, has plans to increase throughput of natural resource cargo along the NSR by developing a transshipment terminal in both Murmansk and Kamchatka, located at the extreme ends of the route.¹⁷¹ These terminals will allow oil and gas to be transported via appropriate ice-class vessels along the NSR and then transferred to traditional tankers once clear of the Arctic sea ice.

Russia plans to continue development of its nuclear-powered icebreaker fleet through state-operated and private energy companies. Increased development of Arctic oil tankers will further the reach of Russian oil and gas companies to transport the Arctic's resources. Rosatomflot owns the majority of Russia's nuclear-powered icebreakers, with four in its fleet and six more in development.¹⁷² Rosatomflot is the state-owned corporation that traditionally has had the authority to decide whether a vessel can operate along the NSR without icebreaker assistance.¹⁷³ The main Russian-operated energy companies, Novatek and Gazprom, are also developing their own nuclear-powered icebreakers and Arctic tanker fleets to support the exportation of oil and gas to markets

¹⁶⁹ Moe, "A New Russian Policy for the Northern Sea Route?," 15; Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," 7.

¹⁷⁰ Gunnarsson, "Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping," 4.

¹⁷¹ Laruelle, "Russia's Arctic Policy," 14.

¹⁷² Laruelle, 17.

¹⁷³ Laruelle, 17.

outside of Russia.¹⁷⁴ Novatek’s priority is to develop second generation ARC7 ice-capable tankers, which are capable of acting as its own icebreaker and operate independently of a Rosatomflot icebreaker guide.¹⁷⁵ Novatek has ordered forty-two ARC7 tankers to accompany its existing fleet of twenty ice-capable tankers.¹⁷⁶ This will allow Novatek to transport oil and gas from the Yamal peninsula to their transshipment terminals at each end of the NSR without the assistance of the Russian state-owned Rosatomflot.¹⁷⁷ Gazprom Neft, a subsidiary of Gazprom, has built two icebreakers and is developing ARC7 ice-capable tankers to assist with transportation of oil and gas along the NSR.

However, Gazprom is not solely focusing on the NSR to increase oil and gas transportation from the Russian Arctic. It is also developing overland pipelines to transport oil and gas to Europe and Asian markets.¹⁷⁸ Additionally, Russia has stated that it intends to utilize railroads to connect the Russian Arctic ports to the Trans-Siberian railway and other transportation networks throughout the country. The latter development will also enhance the viability of the NSR as a transportation route for commercial shipping, including natural resources. In 2019, Vladimir Putin stated that a railway connection between the Port of Sabetta on the Yamal Peninsula and the central Russian logistics network is necessary to continue natural resource development along the NSR.¹⁷⁹ Russia claims that these connections will increase the ports’ ability to process resources and

¹⁷⁴ Laruelle, 17.

¹⁷⁵ Malte Humpert, “A New Dawn for Arctic Shipping – Winter Transits on the Northern Sea Route,” High North News, January 19, 2021, <https://www.highnorthnews.com/en/new-dawn-arctic-shipping-winter-transits-northern-sea-route>.

¹⁷⁶ Malte Humpert, “Novatek To Order Up To 42 New Arc7 LNG Carriers Totaling \$12bn,” High North News, January 27, 2020, <https://www.highnorthnews.com/en/novatek-order-42-new-arc7-lng-carriers-totaling-12bn>.

¹⁷⁷ Humpert.

¹⁷⁸ Gazprom Neft Shelf, “Gazprom Neft Increases the Competence for the Ice Conditions Management on the Arctic Shelf,” Gazprom Neft Shelf, accessed October 24, 2021, <https://shelf.gazprom-neft.com/press-center/news/46821/>; Gazprom, “Yamal,” Gazprom, accessed October 24, 2021, <https://www.gazprom.com/projects/yamal/>.

¹⁷⁹ Atle Staalesen, “Putin Wants New Connection between Arctic Coast and Indian Ocean,” The Independent Barents Observer, October 7, 2019, <https://thebarentsobserver.com/en/arctic/2019/10/putin-wants-new-connection-between-arctic-coast-and-indian-ocean>.

increase shipment along the NSR.¹⁸⁰ Russia also claims that a railway connection will reduce the remoteness of Arctic ports, allow for delivery of cargo and materials to support port infrastructure, and increase output of natural resource exportation along the NSR.¹⁸¹ Additionally, Russia claims that increased supplies to the Arctic will improve support structures for navigation along the NSR, which will increase oil and gas transportation.¹⁸² Currently, the NSR is not usable for year-round transportation due to the extensive sea ice during winter and the limitations of Arctic class vessels and icebreakers. An overland transportation network can facilitate a more reliable flow of goods.

Another sign of Russia's commitment to developing the Arctic's oil and gas resources and the NSR are its extensive efforts to attract foreign financing and investments for these projects. Russia is actively seeking international funding to develop infrastructure in the Arctic region. Western sanctions and environmental policy changes have slashed the number of western partnerships in the region; for example, in 2018, Exxon Mobil terminated its cooperation with Rosneft.¹⁸³ In response, Russia has shifted its focus to the East and has sought partnerships with Far East states. China owns sizeable portions of resource extraction rights in the Yamal Peninsula and has shown interest in adding the NSR to their Belt and Road Initiative to connect Chinese markets to the world.¹⁸⁴ China and Mongolia have invested in a joint pipeline to bring Arctic LNG through Eastern Siberia to East Asia the region.¹⁸⁵ At the Eastern Economic Forum on September 3, 2021, Vladimir Putin actively sought out foreign investment to develop Eastern Russia and the Northern

¹⁸⁰ Staalesen.

¹⁸¹ Vladimir Putin, "Meeting of the Valdai Discussion Club," President of Russia, October 3, 2019, <http://kremlin.ru/events/president/news/61719>.

¹⁸² Analytical Department of the Council of the Federation, "The Importance of the Northern Sea Route for the Development of the Russian Arctic Area," in *Infrastructure Development Issues of the Northern Sea Route as a Part of the Integrated Arctic Transport System of the Russian Federation* (Russian Assembly, 2016), 2, <http://council.gov.ru/media/files/80F80UYvBNDS3k2LZkOgjzr927dAPcXG.pdf>.

¹⁸³ Laruelle, "Russia's Arctic Policy," 13.

¹⁸⁴ Laruelle, 20.

¹⁸⁵ Dets, "Reasons for Changing the Vector of Russian Exports and the New Role of the Arctic," 5.

Sea Route.¹⁸⁶ India, Mongolia, China, and Kazakhstan all expressed interest in investing in the Russian Arctic, with hopes to benefit from the resource extraction along the NSR.

Collectively, Russia's actions appear to support its assertion that it is developing the NSR to facilitate oil and gas extraction in the Russian Arctic. Projects such as the Prirazlomnoye oil platform, the Novoportovskoye Oil and Gas Condensate Field, and the multiple Yamal LNG projects have tapped into the vast oil and gas reserves located in the Russian Arctic. Transportation infrastructure has been constructed in the Ports of Sabetta and Novy as well as Murmansk and Kamchatka with the intent of increasing oil and gas shipments along the NSR. Novatek and Gazprom have begun developing their own icebreaker and Arctic-class tanker fleets with the intent of increasing oil and gas transports. The construction of overland pipelines from the Arctic to European and Asian countries seems to go against Russia's stated plans for the NSR; however, Russia claims the pipelines are intended to support and supplement transportation along the NSR. Since the majority of NSR development has occurred in the Yamal-Nenets Autonomous Okrug, this supports the claim that Russia's primary interest in developing the NSR is to increase natural resource extraction and production.

C. NATIONAL SECURITY

Russia states that development of the Northern Sea Route is crucial to its national security. It claims that the NSR acts as the primary support system for Russia's larger Arctic strategy to include both economic and military growth. Russia considers the NSR to be an internal waterway and aims to maintain control over it as an effort to maintain control over economic developments in the Arctic.¹⁸⁷ Russia also claims that actions of international organizations and foreign states that hinder Russian economic activities in the Arctic are a primary challenge to security of the NSR and overall national security.¹⁸⁸ If security concerns are a leading incentive for Russia's attempts to develop the NSR, we can

¹⁸⁶ President of Russia, "Plenary Session of the Eastern Economic Forum."

¹⁸⁷ Melino and Conley, "The Ice Curtain."

¹⁸⁸ Russian Federation, "Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035," 5.

expect Russia to mobilize military forces in the Arctic to secure the transportation route. We can also anticipate that military bases and support infrastructure will be developed to support Arctic missions.

During the Cold War, the NSR was militarized to protect the national security interests of the Soviet Union. In 1958, the Northern Fleet commissioned its first nuclear submarine and, over the next two decades, the fleet grew to be the largest of the Soviet fleets. By the 1980s, the Soviet military had intercontinental bombers and ballistic missile silos spread across the Russian Arctic to defend against cross-Arctic invasion from the United States.¹⁸⁹ From the 1940s to 1991, Russia's presence along the NSR primarily consisted of military movements and natural resource exploration along the coast. International actors were not welcome along the NSR during this time. However, Mikhail Gorbachev's 1987 speech called for the de-securitization of the NSR.¹⁹⁰ Gorbachev's speech was rapidly overtaken by events. Following the collapse of the Soviet Union, Russia shifted its focus to the economic problems surrounding Moscow. This shift in Russian priorities led to the degradation of Russian military presence and military facilities in the Arctic.¹⁹¹ As a result, the end of the Cold War ushered in a new era of cooperation in the Arctic. In 1996, the Arctic Council was formed by the eight Arctic states, including Russia, with the purpose of maintaining peace in the region through diplomacy.¹⁹²

Russia began to remilitarize the Russian Arctic in the mid-2000s. In 2007, Russia resumed strategic air patrols off the coast of Alaska.¹⁹³ The 2008 *Foundation for Arctic Policy* gave minor roles to the Russian military to conduct security tasks along the NSR.¹⁹⁴ This allowed the military to begin conducting patrols in coastal regions and straights along

¹⁸⁹ Charles C. Petersen, "Soviet Military Objectives in the Arctic Theater," *Naval War College Review* 40, no. 4 (1987): 1, <http://www.jstor.org/stable/44637685>.

¹⁹⁰ Åtland, "Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate," 1.

¹⁹¹ Duncan Depledge et al., "Why We Need to Talk about Military Activity in the Arctic: Towards an Arctic Military Code of Conduct," *Arctic Yearbook*, 2019, 1.

¹⁹² Depledge et al., 1.

¹⁹³ Thomas Graham and Amy Myers Jaffe, "There Is No Scramble for the Arctic: Climate Change Demands Cooperation, Not Competition, in the Far North," *Foreign Affairs*, July 27, 2020, 3, <https://www.foreignaffairs.com/articles/russian-federation/2020-07-27/there-no-scramble-arctic>.

¹⁹⁴ Moe, "A New Russian Policy for the Northern Sea Route?," 5.

the NSR to control navigation along the route. The policy also called for the creation of specialized military organizations designed to operate in the harsh Arctic environment to assist with monitoring the NSR. Later changes in the state's 2013 and 2020 Arctic policies allowed for the military to increase the size and presence of these patrols. Initially they were small contingents: usually a single vessel or aircraft. They later grew into large scale military exercises.

Since 2007, Russia has reopened 50 Soviet-era military bases in the Arctic and begun modernizing existing infrastructure.¹⁹⁵ The primary projects have focused on developing military posts on the Kola Peninsula to support the Northern Fleet and secure the western Arctic. Russia has reopened several Soviet-era bases and constructed six new military facilities that provide logistical support along the NSR, to support the Northern Fleet in enhancing Russia's security from the North.¹⁹⁶ These newly constructed facilities, depicted in Figure 3, include air bases on Alexandra Land, Novaya Zemlya, Kotelny Island, Wrangle Island, Sredny, and at Cape Schmidt.¹⁹⁷ The bases are equipped with long, medium, and short-range missiles.¹⁹⁸ They also possess updated radar and weapons systems as well as capabilities for maritime search and rescue in remote parts of the NSR.¹⁹⁹ The new military infrastructure will provide dual-purpose coverage of radar and communication, which will better facilitate military operations and trade along the NSR.²⁰⁰

¹⁹⁵ Melino and Conley, "The Ice Curtain."

¹⁹⁶ Laruelle, "Russia's Arctic Policy," 10.

¹⁹⁷ Laruelle, 10.

¹⁹⁸ Laruelle, 10.

¹⁹⁹ Melino and Conley, "The Ice Curtain."

²⁰⁰ Laruelle, "Russia's Arctic Policy," 10.



Figure 3. Russian military posture in the Arctic²⁰¹

The first of Russia's first major military development projects in the 2000s was the remilitarization of the Kola Peninsula. In 2013, Russia initiated plans to modernize the Northern Fleet and air bases at Severomorsk.²⁰² Satellite images taken from 2012 through 2019 show slow but steady growth of multiple strategic assets on the Kola Peninsula.²⁰³ These assets include upgraded airport infrastructure at Severomorsk-1 air base, which allow for both increased search and rescue capability and maritime and aerial denial along the NSR.²⁰⁴ Satellite images also show steady improvements to storage facilities for nuclear ballistic missile submarines as well as intercontinental ballistic missile silos. These

²⁰¹ Source: Heather A. Conley et al., "America's Arctic Moment: Great Power Competition in the Arctic to 2050," March 30, 2020, 11, <https://www.csis.org/analysis/americas-arctic-moment-great-power-competition-arctic-2050>.

²⁰² Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., "The Ice Curtain: Modernization on the Kola Peninsula" (Center for Strategic & International Studies, March 2020), 2, <https://www.csis.org/analysis/ice-curtain-modernization-kola-peninsula>.

²⁰³ Melino, Conley, and Bermudez Jr., 7.

²⁰⁴ Melino, Conley, and Bermudez Jr., 4.

NSR developments increase the range in power projection and nuclear deterrence.²⁰⁵ The Northern Fleet, which has been headquartered in Severomorsk, has added an icebreaker to its fleet to reduce its reliance on Rosatomflot's civilian operated icebreakers.²⁰⁶ Putin signed a decree that made the Northern Fleet into its own military district, as of January 1, 2021.²⁰⁷ It indicates that development of the NSR is strategically important to enhancing Russian national security.

After installations on the Kola Peninsula, Nagurskoye Airbase, located on Alexandra Land Island, is Russia's most important NSR military base developed to protect Russia.²⁰⁸ Nagurskoye is the northernmost Russian military facility and is located at the western end of the NSR. Satellite images from 2013 through 2019 show that there has been significant expansion of the Soviet-era military post. An improved airfield has been under construction and will support multiple types of aircraft, including both fighter and tanker aircraft.²⁰⁹ Russia has also built an upgraded Sopka-2 radar and communications system that can provide early warning coverage across the Arctic.²¹⁰ The upgraded and newly constructed military facilities on Alexandra Land drastically increase power projection capabilities across the Arctic. Nagurskoye allows Russia to project power into North America as well as the Greenland-Iceland-Norway (GIN) and Greenland-Iceland-United Kingdom (GIUK) sea lanes.²¹¹

Additionally, Russia has increased its air protection by deploying S-400 surface-to-air missile (SAM) weapon systems across their Arctic bases. These upgraded SAM weapon systems are deployed at Rogachevo in Novaya Zemlya and at Nagurskoye on Alexandra

²⁰⁵ Melino, Conley, and Bermudez Jr., 13.

²⁰⁶ Laruelle, "Russia's Arctic Policy," 9.

²⁰⁷ Malte Humpert, "Russia Elevates Importance of Northern Fleet Upgrading It to Military District Status," High North News, January 13, 2021, <https://www.highnorthnews.com/en/russia-elevates-importance-northern-fleet-upgrading-it-military-district-status>.

²⁰⁸ Laruelle, "Russia's Arctic Policy," 10.

²⁰⁹ Melino, Conley, and Bermudez Jr., "The Ice Curtain: Hunting for Russia's Newest Military 'Treasures in the Far North'," 2.

²¹⁰ Melino, Conley, and Bermudez Jr., 4.

²¹¹ Melino, Conley, and Bermudez Jr., 6; Laruelle, "Russia's Arctic Policy," 10.

Land, both in the western Arctic.²¹² These weapon systems have also been deployed at Kotelny and Wrangel Island, and provide additional radar coverage for the central and eastern regions of the NSR.²¹³ Russia claims that their S-400 SAMs have a detection range up to 600km and an engagement range up to 400km and can be maneuvered from stowed to deployed in under five minutes.²¹⁴

The development of Russian military installations has been ongoing in the central and eastern Arctic as well, since the early 2010s. Wrangel Island improvements include an upgraded Sopka-2 radar intended to be dual-use. Additionally, in 2015, Russia began construction of a naval base on Wrangel Island.²¹⁵ The naval facilities remain under development, but will act as a logistics hub for the Northern Fleet when complete.

Russia has also revitalized military facilities on Kotelny Island in the central Arctic. Since 2014, satellite imagery has shown the construction of eight weapons pads and an accompanying radar control system across the island.²¹⁶ Military forces on Kotelny Island use the Sopka-2 radar, Pantsir-S1 air defense system, and Bastion-P weapon systems.²¹⁷ The Bastion-P system employs anti-ship cruise missiles.²¹⁸ Satellite images from 2018 record the implementation of the Bastion-P weapon systems and live-fire exercises from Kotelny Island as part of a larger Russian military exercise.²¹⁹

²¹² Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., “The Ice Curtain: S-400 Deployments and Enhanced Defense of Russia’s Western Arctic (Rogachevo Air Base)” (Center for Strategic & International Studies, March 2020), 1.

²¹³ Melino, Conley, and Bermudez Jr., “The Ice Curtain: Hunting for Russia’s Newest Military ‘Treasures in the Far North’*,” 2.

²¹⁴ Melino, Conley, and Bermudez Jr., “The Ice Curtain: S-400 Deployments and Enhanced Defense of Russia’s Western Arctic (Rogachevo Air Base),” 2.

²¹⁵ Melino, Conley, and Bermudez Jr., “Ice Curtain,” 3.

²¹⁶ Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., “The Ice Curtain: Protecting the Arctic Motherland” (Center for Strategic & International Studies, March 2020), 2, <https://www.csis.org/analysis/ice-curtain-protecting-arctic-motherland>.

²¹⁷ Melino, Conley, and Bermudez Jr., 7.

²¹⁸ Melino, Conley, and Bermudez Jr., 2.

²¹⁹ Melino, Conley, and Bermudez Jr., 3.

Russia has conducted multiple exercises in the Arctic since 2008.²²⁰ NSR development has allowed the Northern Fleet to consistently deploy and conduct large-scale exercises to improve readiness. In 2015, Russia launched an unannounced exercise across the NSR that utilized 45,000 troops, 15 submarines, and 41 surface ships.²²¹ Throughout 2018, Russia conducted over 100 naval aviation sorties across the Arctic.²²² During 2018 and 2019, the Northern Fleet supported multiple large-scale exercises in the Arctic: Vostok-18, Tsentr-19, and Grom-19.²²³ Vostok-18 took place in the Bering Sea, utilized 300,000 troops, and was the largest Russian exercise since 1981.²²⁴ Tsentr-19 centered around the NSR and tested new military equipment in the central Arctic.²²⁵ Grom-19 involved 10 submarines, as well as surface combatants from all four Russian fleets, in the Barents Sea, where units launched two nuclear warheads and multiple ballistic missiles.²²⁶

These developments support Russia's claims that the country possesses strong security interests in the NSR. They also somewhat undermine Russia's claims about developing the waterway for economic purposes. Russia has claimed that many of the ports it is developing across the Arctic are dual-use, to assist military and civilian traffic along the NSR. In fact, Russia consistently uses the need for search and rescue capabilities as justification for military development across the NSR.²²⁷ However, some of the facilities that Russia has been developing only serve military purposes. For example, Tiksi is one location that has been touted as an important dual-use port for the NSR. However, satellite imagery from 2013 through 2019 revealed that the infrastructure that had been constructed

²²⁰ Zysk, "Russia's Military Build-Up in the Arctic: To What End?," 21.

²²¹ Melino, Conley, and Bermudez Jr., "Ice Curtain," 2.

²²² Melino, Conley, and Bermudez Jr., "The Ice Curtain: Protecting the Arctic Motherland," 1.

²²³ Melino and Conley, "The Ice Curtain," 16.

²²⁴ Melino and Conley, 16.

²²⁵ Melino and Conley, 16.

²²⁶ Melino and Conley, 16.

²²⁷ Zysk, "Russia's Military Build-Up in the Arctic: To What End?," 18.

served only military purposes.²²⁸ Development of military infrastructure on the Kola Peninsula as well as Alexandra Land, Novaya Zemlya, Kotelny Island, Wrangle Island, Sredny, and at Cape Schmidt support Russia’s claim that the NSR is an important national security interest. The construction of airbases and improvements of advanced radar and weapon systems appear to be an effort to support the growing military presence along the NSR and leave the civilian use of the systems as an afterthought.

²²⁸ Matthew Melino, Heather A. Conley, and Joseph S Bermudez Jr., “The Ice Curtain: Tiksi Airbase—Many Russian Announcements, Little Equipment” (Center for Strategic & International Studies), 7, accessed November 3, 2021, <https://www.csis.org/analysis/ice-curtain-tiksi-airbase%E2%80%94many-russian-announcements-little-equipment>.

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IV. CONCLUSION

The Northern Sea Route (NSR) has been important to Russian strategy since the 1930s. Following the collapse of the Soviet Union, economic crisis forced Russia to shift its attention to issues closer to Moscow. In the early 2000s, Russia's focus shifted again to the Arctic, and in particular, to development of the NSR. As climate change has increased temperatures in the region, sea ice has retreated, allowing easier access to the waterway.

This thesis aimed to identify Russia's primary aim in developing the NSR. To do so, it developed two main hypotheses for why Russia is developing the NSR: economic reasons and strategic reasons. Two leading goals were identified under the economic hypothesis: development of an international transportation route, and development of natural resources. Additionally, two reasons were identified under the strategic hypothesis: national security development, and an increased legitimacy of Russia's Arctic claims. To test these hypotheses, the thesis first examined Russia's stated objectives for development of the NSR by examining Russia's *Arctic Strategy* and the document it issued when it assumed the Chairmanship of the Arctic Council in 2021

The Arctic Strategy identifies three main incentives for Russia to develop the NSR: transportation route development, natural resource development, and national security.²²⁹ In 2021, Russia became the Chair of the Arctic Council and issued priorities for its tenure in the position. These priorities align with one of the primary objectives of the Arctic Strategy: they include developing the Arctic as a transportation route, which will create economic growth in the region, improving the quality of life of people living in the Arctic, increasing international cooperation, and increasing Arctic environmental protection.²³⁰ However, Russia's Arctic Council priorities place more emphasis on quality of life improvements and environmental protection than on natural resource

²²⁹ Russian Federation, "Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035," 4.

²³⁰ Russian Chairmanship, "Russia's Chairmanship Priorities for the Arctic Council 2021–2023," 7.

development. Additionally, they do not address national security concerns or military activity.

The thesis then analyzed the actions Russia has actually taken to develop the NSR in each of these categories. The thesis found some support for both sets of explanations. On the economic side, it determined that natural resource development is a leading motive for Russia's development of the NSR. On the strategic side, it found that strengthening national security was a leading objective. However, the thesis did not find that Russia is developing the NSR as a viable alternate global trade route. Based on the information available, the thesis was not able to determine whether the resource development goal or the national security goals were more important to the Russian government; this will be an important topic for future research.

It is clear that, in the development of the NSR, forging an international transportation route is not Russia's primary objective. Revitalized infrastructure has improved shipping along the NSR; however, the increase in shipping along the NSR has primarily been domestic or regional shipping in support of resource development. Russia has claimed that it is developing dual-use capable ports and navigation systems along the NSR that support a wide variety of commercial vessels. However, rather than supporting commercial maritime activity, these improved systems are mostly being used to support military activities. Similarly, Russia has increased its state-owned icebreaker fleet that can assist both military and civilian vessels along the NSR. Yet, support for civilian transit has been limited due to low traffic. Development of transportation support infrastructure has been slow, especially in the eastern sectors of the route. Search and rescue and emergency response capabilities also remain limited for most of the NSR. Navigational and communication support remains low to nonexistent for large portions of the route. These shortfalls in development have made the NSR an unreliable trade route for international commercial actors. Without a significant change in Russian activity, the NSR is unlikely to become a viable alternate trade route in the next twenty years. This lack of effort indicates that promoting the NSR as a transportation route is not a leading Russian goal.

The growth in resource production sites and the increase in resource exports along the NSR support the hypothesis that Russia is developing the NSR to increase resource extraction. Resource development along the NSR has increased dramatically over the past decade. Novatek and Gazprom have established or expanded several major projects in the vicinity of the Yamal Peninsula. Novatek and Gazprom have also developed their own icebreaker and Arctic-class tanker fleets to increase resource transportation on the NSR. These projects will continue to increase resource exports along the NSR as the projects become fully operational. Since 2016, 90 percent of the shipping along the NSR has contained natural resource exports or supported natural resource extraction.²³¹ The majority of strategic development on the NSR has occurred in the western region, which is also where the majority of natural resource extraction occurs.

The continued development of military bases and increased military activity on the NSR support the hypothesis that the NSR is being developed for national security purposes. Russia has constructed six new bases and reopened several Soviet-era military facilities along the NSR.²³² In 2021, Russia made the Northern Fleet an independent military district within the Russian military.²³³ The military facilities on the Kola Peninsula and several islands on the NSR have been developed for dual-use, to support both civilian and military populations. However, the facilities are predominantly utilized by military forces and are incapable of supporting civilian assets. These strategic developments support the conclusion that the NSR is being developed to protect security interests in the region.

The recent increase in largescale military exercises on and surrounding the NSR supports evidence for the hypothesis that the NSR is being developed to increase legitimacy in the Arctic. New Russian legislation, requiring a 45-day notification for

²³¹ Gunnarsson, “Recent Ship Traffic and Developing Shipping Trends on the Northern Sea Route—Policy Implications for Future Arctic Shipping,” 4.

²³² Laruelle, “Russia’s Arctic Policy,” 10.

²³³ Humpert, “Russia Elevates Importance of Northern Fleet Upgrading It to Military District Status.”

foreign warships to utilize the NSR also supports this hypothesis.²³⁴ However, the unequal development across the NSR suggests that strengthening national security is more important to Russian strategy than increasing legitimacy throughout the region.

The conclusion that Russia's development of the NSR is fueled by resource and national security objectives has several ramifications. From a regional perspective, Russia's developments of the NSR will continue to strain relationships with other Arctic states. Russia understands that developing the NSR for natural resources is a promising way to maintain or improve its global economic standing. Oil and gas production from the Yamal Peninsula is expected to increase through 2030, as projects continue to become operational. Russia currently supplies natural resources to European markets and will continue to be competitive globally in natural resource markets. Russian strategy limits the participation of foreign actors in development of the NSR; this has allowed Russia to become more selective of which actors are involved in resource development in Russian territory. Current legislation restricts the transportation of certain goods, such as hydrocarbons, to only Russian built vessels.²³⁵ Restrictions like these force international actors to utilize Russian companies and equipment to obtain resources. They also allow the Russian-backed corporations to thrive from a regional monopoly on natural resources.

The United States and other western states have continued to impose sanctions on Russia in response to its international actions, such as the annexation of Crimea. Additionally, climate change has caused global temperatures to increase and subsequently caused the European demand for oil and gas to fall.²³⁶ The decrease in demand of Russian natural resource exports has led Russia to seek increased partnerships with East Asian states in order to compensate for the market difference.²³⁷ The energy demand from East Asian states, such as China, is expected to increase over

²³⁴ Laruelle, "Russia's Arctic Policy," 18.

²³⁵ Laruelle, 18.

²³⁶ Dets, "Reasons for Changing the Vector of Russian Exports and the New Role of the Arctic," 4.

²³⁷ Dets, 4.

the next decade, which makes the Asian markets more appealing than the United States and Europe. China offers Russia a large consumer market and a potential alignment against the West. A shift toward China, combined with the sanctions imposed by western actors, could cause Russia to increase restrictions of foreign actors on the NSR and turn further away from western diplomacy. An increase in restrictions on the NSR would likely result in an increased Russian military presence to execute patrols and area denial.

Russia will continue to develop the NSR strategically to secure its growing economic interests in the region. The buildup of military forces in the Arctic could completely close the NSR to western states. Russia and the United State have different interpretations over international transits on the NSR. Russia claims that the NSR is an internal waterway and exclusively under its control. The United States disagrees with Russia's claim and considers the NSR an international strait. The United States asserts that vessels should be allowed to traverse the NSR, protected under the principle of freedom of navigation. The United States has strategic concern that the Russian military will close the NSR and attempt to prevent freedom of navigation.²³⁸ Russian military forces are capable of executing large scale exercises along the NSR and in the surrounding Arctic. Additionally, the Russian military, from its Arctic position, could execute military strikes across the Arctic into North America as a first strike.²³⁹ The threat of Russian military buildup and potential blockage of the NSR could heighten tension between Russia and the United States.

In past disagreements between Russia and other Arctic states, Russia has followed its interpretation of international maritime law but has also been willing to negotiate. The *Treaty Concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean*, signed September 15, 2010, peacefully resolved a decades-long maritime border dispute between Norway and Russia.²⁴⁰ Russia and the

²³⁸ Conley et al., "America's Arctic Moment," 18.

²³⁹ Melino, Conley, and Bermudez Jr., "The Ice Curtain: Hunting for Russia's Newest Military 'Treasures in the Far North'," 4.

²⁴⁰ Marcus Matthias Keupp, *The Northern Sea Route: A Comprehensive Analysis*, 2015th ed. (Wiesbaden: Springer Fachmedien Wiesbaden GmbH, 2015), 21, <https://doi.org/10.1007/978-3-658-04081-9>.

United States' disagreement over use of the NSR is the most probable cause of a future conflict in the Arctic and could lead to mobilization of forces on both sides. Russia has the largest military presence in the Arctic and has the ability to execute a preemptive strike from the region, utilizing Northern Fleet assets. However, it is not in Russia's best interest to strike another Arctic state. Russia is aware that an unprovoked strike against another Arctic state would result in a retaliatory strike on Russian natural resource production sites. This would completely undermine Russia's primary economic objective and ultimately be counterproductive to the Arctic Strategy. A Russian strike in the Arctic, regardless of the state attacked, would likely result in a conflict between the United States and Russia, because the United States would defend other Arctic states. Therefore, diplomacy is the best course for achieving a resolution to the difference of interpretations and preventing future conflict in the region.

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