

A Path Towards Arctic Presence: Stricter Regulation as the First Step in Free Navigation

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The Arctic ice cap is melting. As the ice recedes, shipping lanes are opening that present shorter transport routes across the top of the globe. Industry analysts predict an Arctic shipping boom in coming years. In response, the International Maritime Organization (IMO) implemented a Polar Code (the “Polar Code” or the “Code”) to place heightened environmental and safety requirements on ships traversing the Arctic and Antarctic regions. These rules are binding on the United States, and the U.S. Coast Guard published the rulemaking for Polar Ship requirements. However, the rules have multiple shortcomings and loopholes. At the IMO, conversations have begun regarding how a “Polar Code Phase II” could be instituted to help further mitigate risk.

Meanwhile, the United States is unprepared for the coming Arctic surge. Although the gateway to these new routes runs through the Bering Sea, largely in U.S.-controlled waters, the nation lacks the ice-capable ships and northern infrastructure to facilitate safe navigation. Conversely, Russia is investing heavily in its Arctic fleet and building the infrastructure to support them. It has implemented restrictions and imposed harsh tariffs on vessels transiting this “Northern Sea Route.” While these actions run counter to the U.S. Freedom of Navigation policy (and possibly international law), the United States lacks the Arctic presence to influence its neighbor to ease restrictions on these future shipping lanes.

This Note examines how stricter U.S. regulation of Arctic shipping can lead to a greater physical presence and peaceful assertion of American geopolitical will. A Coast Guard-led rulemaking based on the proposals for Polar Code Phase II, which fills the aforementioned gaps in the current regulatory scheme, would provide increased protections for the Arctic environment. This Note predicts how this regulatory effort could set in motion a chain of events with beneficial impacts on trade, the Coast Guard, and American foreign policy goals. New rules could serve as a proof-of-concept for the IMO and incentivize the use of Arctic shipping lanes by lowering assessed risk and reducing insurance costs. The resulting shipping increase should create a natural need for more Coast Guard assets to ensure safe and secure navigation. Finally, this Note will assess how the combined presence of Coast Guard assets and multinational shippers, eager for free navigation, could place pressure on Russia to loosen its restrictions on the Northern Sea Route.

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INTRODUCTION

In August and September 2018, the cargo vessel *Venta Maersk* traversed the Arctic waters north of the Russian Federation and delivered its cargo from the Pacific port of Vladivostok to St. Petersburg.¹ While this record-setting first was only a “trial passage” through the Northern Sea Route (NSR),² *Venta Maersk*’s transit is an example of the maritime industry’s push for transport and vessel traffic through the Arctic. This follows on the heels of a Russian-built liquefied natural gas (LNG) tanker completing the journey a year prior—without the aid of an icebreaker.³ The ice is melting, and long-dreamed-of shipping lanes are opening up.⁴

The receding Arctic ice and potential shipping route revolution implicates U.S. interests in a number of ways.⁵ Transit through the Bering Strait or otherwise near the Alaska coastal zone is necessary to access either the NSR or the Northwest Passage (NWP) across the roof of Alaska and Canada.⁶ The region is hazardous to navigate due to weather extremes, remoteness, and a lack of infrastructure and U.S. Coast Guard (“the Coast Guard”) response assets in the area.⁷ An oil spill or other nautical disaster could have long-lasting impacts on the ecology and economy of the region and would be costly to the U.S. government and maritime industry stakeholders.⁸ This includes some of the largest fisheries and fishing fleets in the world.⁹

1. Tom Embury-Dennis, *Container Ship Crosses Arctic Route for First Time in History Due to Melting Sea Ice*, INDEPENDENT (Sept. 18, 2018, 4:32 PM), <https://www.independent.co.uk/news/world/europe/maersk-container-ship-arctic-ocean-northern-sea-route-venta-global-warming-a8543431.html>; L.G., *What is the Northern Sea Route?*, ECONOMIST (Sept. 24, 2018), <https://www.economist.com/the-economist-explains/2018/09/24/what-is-the-northern-sea-route>.

2. Embury-Dennis, *supra* note 1.

3. Russell Goldman, *Russian Tanker Completes Arctic Passage Without Aid of Icebreakers*, N.Y. TIMES (Aug. 25, 2017), <https://www.nytimes.com/2017/08/25/world/europe/russia-tanker-christophe-demargerie.html>; see also Sean Fahey, *Access Control: Freedom of the Seas in the Arctic and the Russian Northern Sea Route Regime*, 9 HARV. NAT’L SEC. J. 154, 158 (2018).

4. Goldman, *supra* note 3; Nengye Liu, *Can the Polar Code Save the Arctic?*, AM. SOC’Y INT’L L.: INSIGHTS (Mar. 22, 2016), <https://www.asil.org/insights/volume/20/issue/7/can-polar-code-save-arctic>.

5. *Arctic Sea Ice Minimum*, NASA: GLOB. CLIMATE CHANGE, <https://climate.nasa.gov/vital-signs/arctic-sea-ice/> (last updated Oct. 22, 2019).

6. Henri Féron, *A New Ocean: The Legal Challenges of the Arctic Thaw*, 45 ECOLOGY L.Q. 83, 91 (2018). For a summary of vessel traffic in the region, see U.S. COAST GUARD, PRELIMINARY FINDINGS: PORT ACCESS ROUTE STUDY: IN THE CHUKCHI SEA, BERING STRAIT, AND BERING SEA (2016) [hereinafter PORT ACCESS ROUTE STUDY], <https://www.regulations.gov/document?D=USCG-2014-0941-0040>.

7. Fahey, *supra* note 3, at 174; see also U.S. COAST GUARD, ARCTIC SEARCH AND RESCUE: FISCAL YEAR 2017 REPORT TO CONGRESS (2018) [hereinafter ARCTIC SEARCH AND RESCUE], https://www.dhs.gov/sites/default/files/publications/USCG%20Arctic%20Search%20and%20Rescue_1.pdf; U.S. COAST GUARD, BERING SEA AND ARCTIC OCEAN POLLUTION RESPONSE (2018) [hereinafter ARCTIC OCEAN POLLUTION RESPONSE], <https://www.dhs.gov/sites/default/files/publications/USCG%20-%20Bering%20Sea%20and%20Arctic%20Ocean%20Pollution%20Response.pdf>.

8. See, e.g., Maurie J. Cohen, *Economic Impacts of the Exxon Valdez Oil Spill*, in J. STEVEN PICOU ET AL., THE EXXON VALDEZ DISASTER: READINGS ON A MODERN SOCIAL PROBLEM 133 (1997) (examining the economic impacts of the *Exxon Valdez* spill); Féron, *supra* note 6, at 106.

9. See NAT’L OCEANIC & ATMOSPHERIC ADMIN., FISHERIES OF THE UNITED STATES: 2016 vii–ix (2017).

The United States also has broader geopolitical disputes, especially with Russia. Arctic shipping routes are an opportunity for cost and time savings, providing a shorter voyage than traditional routes through the Suez Canal (“the Suez”).¹⁰ However, Russia has made sweeping claims to Arctic territory,¹¹ restricting access to the NSR.¹² Russian restrictions could erase potential cost savings by burdening shippers with fees and required escorts.¹³ Moreover, these restrictions conflict with the United States’ longstanding policy of freedom of navigation.¹⁴ The United States calls for “adher[ence] to the customary international law rules” as reflected in the Law of the Sea Convention.¹⁵

Unfortunately, the United States lacks the assets required to assert such a policy. While Russia has a fleet of Arctic-capable vessels at its disposal, the Coast Guard has just two such vessels—one of which is typically deployed to supply Antarctic scientists.¹⁶ This, paired with a lack of infrastructure in

10. AM. BUREAU OF SHIPPING, NAVIGATING THE NORTHERN SEA ROUTE: STATUS AND GUIDANCE 2 (2014), http://www.eagle.org/eagleExternalPortalWEB/ShowProperty/BEA%20Repository/References/Capability%20Brochures/NSR_Advisory; Fahey, *supra* note 3.

11. Andrew E. Kramer, *Russia Presents Revised Claim of Arctic Territory to the United Nations*, N.Y. TIMES (Feb. 9, 2016), <https://www.nytimes.com/2016/02/10/world/europe/russia-to-present-revised-claim-of-arctic-territory-to-the-united-nations.html>; Andrew E. Kramer, *Russia Stakes New Claim to Expanse in the Arctic*, N.Y. TIMES (Aug. 4, 2015), <https://www.nytimes.com/2015/08/05/world/europe/kremlin-stakes-claim-to-arctic-expanse-and-its-resources.html>; *see also* H. Edwin Anderson, III, *Polar Shipping, The Forthcoming Polar Code and Implications for the Polar Environments*, 43 J. MAR. L. & COM. 59, 62–64 (2012); Fahey, *supra* note 3, at 167–75.

12. Fahey, *supra* note 3, at 159; Atle Staalesen, *Deputy Prime Minister Supports Foreign Sailing Restrictions on Northern Sea Route*, BARENTS OBSERVER (Sept. 17, 2018), <https://thebarentsobserver.com/en/industry-and-energy/2018/09/deputy-prime-minister-supports-foreign-sailing-restrictions-northern-sea>. While Canada has also placed restrictions on the NWP, it does not yet present as viable an alternative to traditional routes. Hugh Stephens, *The Opening of the Northern Sea Routes: The Implications for Global Shipping and for Canada’s Relations with Asia*, 9 U. CALGARY: SCH. PUB. POL’Y RES. PAPERS 8 (2016), <https://www.policyschool.ca/wp-content/uploads/2016/06/northern-sea-routes-stephens.pdf>; *see also* Féron, *supra* note 6, at 92.

13. *See* Fahey, *supra* note 3, at 170; AM. BUREAU OF SHIPPING, *supra* note 10, at 9; Dr. Bjørn Gunnarsson, CTR. FOR HIGH N. LOGISTICS, Practical Information for Operating on the Northern Sea Route 4, <https://web.archive.org/web/20170204043319/http://chnl.no/?page=111&show=113&title=PP+Presentations>.

14. William J. Aceves, *The Freedom of Navigation Program: A Study of the Relationship Between Law and Politics*, 19 HASTINGS INT’L & COMP. L. REV. 259, 265 (1996); *Maritime Security and Navigation*, U.S. DEP’T OF STATE, <https://2009-2017.state.gov/e/oes/ocns/opa/maritimeseurity/index.htm> (last visited Nov. 6, 2019).

15. U.S. DEP’T OF STATE, *supra* note 14; The guiding international law documents on free navigation and innocent passage are included in the United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. For a discussion of UNCLOS as it relates to U.S. freedom of navigation policy, *see* Fahey, *supra* note 3, at 162–68.

16. David Vergun, *Coast Guard Commandant Wants Bigger Arctic Presence—How Cool Is That?*, U.S. DEP’T OF DEF.: P’S SHIPS (Dec. 4, 2018), <https://www.defense.gov/explore/story/Article/1705544/coast-guard-commandant-wants-bigger-arctic-presence-how-cool-is-that/>; Ben Werner, *Coast Guard Polar Security Cutter Funding Frozen by Capitol Hill Budget Negotiations*, U.S. NAVAL INST. NEWS (Dec. 19, 2018, 1:47 PM), <https://news.usni.org/2018/12/19/coast-guard-ice-breaker-funding-frozen-by-capitol-hill-budget-negotiations>. The 2019 appropriations bill provides for one more icebreaker; this will be discussed *infra* Subpart III.D. However, for a preview of the issue, *see* Ben Werner, *Coast Guard Secures \$655 Million for Polar Security Cutters in New Budget Deal*, U.S. NAVAL INST. NEWS (Feb. 15, 2019, 3:06 PM), https://news.usni.org/2019/02/15/polar_security_cutter_coast_guard.

Northern Alaska,¹⁷ prevents the United States from being able to effectively respond to a mishap. Additionally, it prevents the Coast Guard from enforcing freedom of navigation in the area and reduces its ability to provide escorts using military vessels.¹⁸ The Coast Guard needs more vessels equipped for Arctic operations if the United States is to exert its influence in the region.

The United States is also tied to maritime activity in the region by treaty. In response to increased maritime activity and the changing climate,¹⁹ the International Maritime Organization (IMO) passed binding regulations for ships operating in polar waters.²⁰ The United States, a signatory to this body, adopted this Polar Code via regulation.²¹ The new regulations went into effect in July 2018.²² While these regulations are a milestone multilateral agreement, the Polar Code's shortcomings, paired with the United States' reluctance (or inability) to procure more Coast Guard vessels, means the nation cannot effectively respond to its interests in the Arctic.²³

To respond to this problem, the United States should take what might initially appear to be a counterintuitive first step: enact new regulations. The Coast Guard should promulgate a new rulemaking to implement stricter regulations for vessels operating in Arctic waters.²⁴ Stricter regulations would reduce risk to the Arctic environment and increase safety of life at sea. The need

17. See ARCTIC OCEAN POLLUTION RESPONSE, *supra* note 7; ARCTIC SEARCH AND RESCUE, *supra* note 7.

18. While the U.S. Navy handles freedom of navigation patrols in other locations, U.S. law gives the Coast Guard, an organization with a history of operating in the region, responsibility for Arctic maritime transportation and icebreaking. 14 U.S.C. §§ 2 (2018); ELEANOR FREUND, HARV. KENNEDY SCH. BELFER CTR. FOR SCI. & INT'L AFFAIRS, FREEDOM OF NAVIGATION IN THE SOUTH CHINA SEA: A PRACTICAL GUIDE 25 (2017); Lt. Sarah Janaro, *Coast Guard Charted the Northwest Passage in 1957 and Continues to Play a Lead Role in the Arctic Today*, COAST GUARD COMPASS (Aug. 29, 2016), <http://coastguard.dodlive.mil/2016/08/coast-guard-charted-the-northwest-passage-in-1957-and-continues-to-play-a-lead-role-in-the-arctic-today/>.

19. See, e.g., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT: GLOBAL WARMING OF 1.5°C 39–40 (Valérie Masson-Delmotte et al. eds., 2019) (explaining the effects of climate change).

20. IMO, MEPC 68/21, *International Code for Ships Operating in Polar Waters (Polar Code)* (Jan. 1, 2017) [hereinafter *Polar Code*]; *Shipping in Polar Waters: International Code of Safety for Ships Operating in Polar Waters (Polar Code)*, IMO, <http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx> (last visited Nov. 6, 2019).

21. Adding the Polar Ship Certificate to the List of SOLAS Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44108 (published Sept. 21, 2017) (codified at 46 C.F.R. pts. 2.01-6(1), 8.320(b)(15) (2018)); Lt. Amy Midgett, *Nat'l Maritime Center Issues Instructions Regarding STCW Polar Code*, COAST GUARD MAR. COMMONS (June 25, 2018), <http://mariners.coastguard.dodlive.mil/2018/06/25/6-25-2018-natl-maritime-center-issues-instructions-regarding-stcw-polar-code/>; see also *Member States*, IMO, <http://www.imo.org/en/About/Membership/Pages/MemberStates.aspx> (last visited Nov. 6, 2019).

22. Midgett, *supra* note 21.

23. For a summary of environmental shortcomings in the current Polar Code, see Féron, *supra* note 6, at 110–11.

24. For the purposes of U.S. regulation and the Polar Code in the Alaskan Arctic region, “Arctic waters” is defined as all areas north of 60° N latitude from the Alaskan coast west from, and inclusive of, the Etolin Strait. *Polar Code*, *supra* note 20, at 8–9; IMO, Res. MSC 386(94), *Amendments to the International Convention for the Safety of Life at Sea, as Amended*, at 1 (Nov. 21, 2014), [http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Maritime-Safety-Committee-\(MSC\)/Documents/MS386\(94\).pdf](http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Maritime-Safety-Committee-(MSC)/Documents/MS386(94).pdf).

to enforce the regulations, paired with the need to respond to the increased environmental damage and mariner casualties that come with heavier vessel traffic, would provide the impetus for increased Coast Guard vessel appropriations.²⁵ Once built, these vessels would provide the mechanism for pressing freedom of navigation through the NSR.

Further regulation could have other benefits as well. While the current Polar Code mitigates the dangers of polar navigation by mandating crew requirements and vessel certifications, there are several gaps in regulation, as evinced by the IMO's discussion of further binding polar regulations in the form of Polar Code Phase II.²⁶ New U.S. regulation could fill these gaps in U.S. waters and inspire the IMO to act. With thousands of ships calling on U.S. ports thousands of times each year,²⁷ the Coast Guard's inspection power—also known as Port State Control—has a major impact on global shipping.²⁸ This influence, paired with Alaska's strategic position as an Arctic access point, could hold ships from multiple nations to a higher environmental and safety standard, thus persuading the IMO to implement Polar Code Phase II on American terms. Furthermore, a stronger regulatory regime could reduce the risk of at-sea losses, which in turn could lower insurance premiums, incentivizing the use of the NSR.²⁹ As more international vessels desire free transit through the NSR, the United States' responsibility for ensuring safe and free navigation would increase, adding weight to the need for more Coast Guard ships—referred to as cutters.³⁰

This Note explains how stricter U.S. regulation of Arctic shipping can lead to a greater physical presence and peaceful assertion of American geopolitical will. Part I lays the groundwork with an overview of how U.S. interests are implicated by climate change driving the maritime industry to new routes and risks. Part II discusses the current regulatory environment and how its shortcomings leave the door open for further rulemaking. Part III examines

25. See Peeken et al., *Microplastics in the Marine Realms of the Arctic with Special Emphasis on Sea Ice*, in ARCTIC REPORT CARD 2018: EFFECTS OF PERSISTENT ARCTIC WARMING CONTINUE TO MOUNT 88, 93 (E. Osborne & J. Richter-Menge eds., 2018), https://arctic.noaa.gov/Portals/7/ArcticReportCard/Documents/ArcticReportCard_full_report2018.pdf.

26. *Report of the Maritime Safety Committee*, IMO, Ninety-Eighth Session, MSC 98, at 48-50 (23) (June 30, 2017) [hereinafter MSC Ninety-Eight].

27. U.S. COAST GUARD, PORT STATE CONTROL IN THE UNITED STATES: 2017 ANNUAL REPORT 1 (2018) [hereinafter PORT STATE CONTROL].

28. See 46 U.S.C. § 33 (2018); U.S. COAST GUARD, 2 MARINE SAFETY MANUAL: MATERIEL INSPECTION D1-1 (2016).

29. See Huiru Liu, *Arctic Marine Insurance: Towards a New Risk Coverage Regime*, 47 J. MAR. L. & COM. 77, 91 (2016).

30. The Coast Guard refers to its ships greater than sixty-five feet in length as "cutters" because the organization's at-sea law enforcement branch was formerly called the U.S. Revenue Cutter Service. Elliot Snow, *Preface* to HORATIO DAVIS SMITH, EARLY HISTORY OF THE UNITED STATES REVENUE MARINE SERVICE OR (UNITED STATES REVENUE CUTTER SERVICE) 1789-1849, at 1 (Elliot Snow ed., 1932); *Assistant Commandant for Capability (CG-7): Office of Cutter Forces (CG-751)*, U.S. COAST GUARD, <https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Capability-CG-7/Office-of-Cutter-Forces-CG-751/Coast-Guard-Cutter-Fleet/> (last visited Nov. 6, 2019).

the upside of further regulation, how it could provide an impetus for stalled and insufficient Coast Guard appropriations, and how—at least here—regulation might not be a dissuasive force on industry. Finally, this Note summarizes how a U.S. presence, driven by regulatory enforcement, can influence free and safe Arctic navigation.

While inherently connected to the issues discussed here, there are several relevant topics this Note will not address in detail. The first is the overarching influence of the United Nations Convention on the Law of the Sea treaty (UNCLOS).³¹ While the United States has not ratified UNCLOS,³² it still operates and enforces law consistent with that treaty.³³ There are a variety of continental shelf and boundary issues stemming from UNCLOS and historical claims that form the backdrop for the current geopolitical situation in the Arctic.³⁴ These will only be discussed to give context to the effects of a bolstered regulatory scheme.

I. A CHANGING NORTH AND ITS IMPACT ON U.S. INTERESTS IN THE ARCTIC

The world is getting warmer.³⁵ Regardless of the cause (although, let's face it, it is the "anthropogenic emissions"), the impacts of atmospheric warming are having measurable effects.³⁶ The changes are most dramatic at the poles. According to the National Oceanic and Atmospheric Administration (NOAA), air temperatures in the Arctic are increasing at twice the rate of those in the rest of the world.³⁷ Since the middle of the Twentieth Century, sea ice in the Arctic Ocean has thinned to the point of being affected by weather and seasonal changes.³⁸ In the Bering Sea, ice coverage has reached record lows.³⁹ While it is normal for ice coverage to fluctuate with the seasons, Arctic sea ice reaches its minimum each September, and since observations began, the trend has been toward less ice.⁴⁰ Ocean areas that once were blocked up with heavy, multi-year ice caps have thinned to the point that new waters are navigable for the first time

31. See UNCLOS, *supra* note 15.

32. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, UNITED NATIONS: TREATY COLLECTION 2–4 (2019) <https://treaties.un.org/doc/Publication/MTDSDG/Volume%20II/Chapter%20XXI/XXI-6.en.pdf>.

33. U.S. DEP'T OF STATE, *supra* note 14.

34. Féron, *supra* note 6, at 92–105.

35. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 19.

36. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C: HEADLINE STATEMENTS FROM THE SUMMARY FOR POLICYMAKERS 1 (2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/sr15_headline_statements.pdf.

37. ARCTIC REPORT CARD 2018: EFFECTS OF PERSISTENT ARCTIC WARMING CONTINUE TO MOUNT, *supra* note 25, at 1.

38. Carol Rasmussen, *With Thick Ice Gone, Arctic Sea Ice Changes More Slowly*, NASA: JET PROPULSION LAB. (Oct. 11, 2018), <https://www.jpl.nasa.gov/news/news.php?feature=7258>.

39. D. Perovich et al., *Sea Ice*, in ARCTIC REPORT CARD 2018: EFFECTS OF PERSISTENT ARCTIC WARMING CONTINUE TO MOUNT, *supra* note 25, at 25, 31.

40. *Id.* at 25–27; Rasmussen, *supra* note 38.

in recorded history.⁴¹

A. THE CHANGING CLIMATE AND OPENING SHIPPING LANES

The reduction in Bering Sea ice has a direct impact on U.S. interests in the region. The Bering Strait is the “chokepoint” for vessels attempting to access the Arctic Ocean from the Pacific Ocean.⁴² Transit through the narrow passage, especially those traveling all or part of the Northwest Passage, will necessarily pass through U.S. Territorial Waters or the Exclusive Economic Zone (EEZ).⁴³ Within these areas, the governing nation may regulate and enforce law. In the EEZ, the United States claims jurisdiction for the “protection and preservation of the marine environment.”⁴⁴ The receding ice now brings a possible boom, or at least a marked increase, in the number of vessels passing through or close to pristine U.S. waters.⁴⁵

Historically, very few vessels have been able to transit through thick, multi-year ice into Arctic waters, especially during the winter months.⁴⁶ The trends of warming and melting, however, show no signs of reversing, and by the 2030s, ice-free summer navigation will likely be the norm.⁴⁷ Scientific monitoring has shown the sea ice north of Russia—in the NSR—will be particularly affected by yearly recession.⁴⁸ This has allowed the aforementioned transits: news-making forerunners of what may soon become routine.⁴⁹

The opening of the NSR, and possibly the Northwest Passage, as viable shipping lanes could be a boon to shipping companies. A shipping route from China to Norway is more than 5,600 nautical miles shorter via the NSR than through the Suez.⁵⁰ Despite slower speeds resulting from transiting through lesser-known waters and some thin ice, the NSR reduces travel times by nearly fifty percent, and—compared to the Suez—could represent a cost savings of \$300,000 per transit in fuel alone.⁵¹ If the route is reliably ice-free, at least during

41. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 19, at 205–06; Féron, *supra* note 6, at 85; Rasmussen, *supra* note 38.

42. Féron, *supra* note 6, at 91.

43. See *What Is the EEZ?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://oceanservice.noaa.gov/facts/eez.html> (last visited Nov. 6, 2019). Compare Port Access Route Study, *supra* note 6, at 92–117, with OFFICE OF COAST SURVEY, *U.S. Maritime Limits & Boundaries*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://nauticalcharts.noaa.gov/data/us-maritime-limits-and-boundaries.html#general-information> (last visited Nov. 6, 2019) (interactive map: navigate to Alaska).

44. Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983) (codified at 48 C.F.R. § 15 (2018)).

45. See PORT ACCESS ROUTE STUDY, *supra* note 6, at 19; Fahey, *supra* note 3, at 183.

46. NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 43, at 2; Rasmussen, *supra* note 38.

47. Muyin Wang & James E. Overland, *A Sea Ice Free Summer Arctic Within 30 Years: An Update from CMIP5 Models*, GEOPHYSICAL RES. LETTERS, Sept. 25, 2012, at 1, 1; see Féron, *supra* note 6, at 85.

48. See Perovich et al., *supra* note 39, at 26.

49. See Embury-Dennis, *supra* note 1; Goldman, *supra* note 3.

50. Gunnarsson, *supra* note 13. The NWP also represents a 9,000-kilometer (4,800 nautical miles) savings over a Panama Canal transit. Féron, *supra* note 6, at 85.

51. Transit via the NSR can reduce travel times to as little as twenty-three days compared to forty days through the Suez. An open NSR could also save shippers on canal fees, which are at least \$5 per ton. Gunnarsson, *supra* note 13.

summer months, then it provides a compelling business case for companies shipping goods from East Asia to Europe. However, some extra costs are still attached to the voyage. The NSR is new and relatively unused, and the shifting ice and non-routine nature of the transit means there is little data on how risky such transits are, meaning insurers cannot predict the risks.⁵² This lack of predictability adds cost compared to a Suez passage.⁵³

The big melt also opens up areas potentially rich in natural resources. Arctic Alaska alone may hold more than twenty-nine billion barrels of untapped oil and hundreds of trillions of cubic feet of natural gas.⁵⁴ Much of this possible future wealth lies in areas likely under U.S. control. While drilling may be some years away, this resource richness also foretells an increase in vessel traffic through U.S. waters. Climate change also impacts industries with smaller vessels. As ocean waters warm, fish vital to the Alaskan fishing industry, like pollock, are moving north, retreating towards colder water.⁵⁵ The fishing fleets are chasing them, and there is no ice to stop them.⁵⁶

B. ALASKA, MARITIME POLLUTION, AND SAFETY OF LIFE AT SEA

The most immediate concerns, and the impetus for the current regulations, are the dangers inherent to Arctic Ocean operations and the environmental damage or loss of human life that could occur in the event of a marine casualty. While the multi-year ice is receding, and the prospect of shipping lanes is a reality, the Arctic is still a hazardous operating environment.⁵⁷ Despite diminishing multi-year ice, thin ice sheets with patches of thicker ice still abound, summers are prone to consistent fog, and snowstorms and rapidly changing temperatures are common.⁵⁸ Even in summer, the temperature can hover near the freezing point, and water temperatures are colder still.⁵⁹ The route itself can be hazardous, too, as the novelty of navigation in the area means that not all areas are properly charted.⁶⁰ These hazards, plus the side-effects of normal shipping activities, could contribute to an environmental disaster with

52. Liu, *supra* note 29, at 77–80.

53. Gunnarsson, *supra* note 13.

54. KENNETH J. BIRD ET AL., U.S. GEOLOGICAL SURVEY, CIRCUM-ARCTIC RESOURCE APPRAISAL: ESTIMATES OF UNDISCOVERED OIL AND GAS NORTH OF THE ARCTIC CIRCLE 4, tbl.1 (Peter H. Stauffer ed., 2008), <https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>.

55. Robert Lee Hotz, *Climate Change Drives Fish into New Waters, Remaking an Industry*, WALL STREET J. (Dec. 22, 2018, 12:01 AM), <https://www.wsj.com/articles/climate-change-drives-fish-into-new-waters-remaking-an-industry-11545454860>; Kenneth R. Weiss, *U.S. Fishing Fleet Pursues Pollock in Troubled Waters*, L.A. TIMES (Oct. 19, 2008, 12:00 AM), <http://articles.latimes.com/2008/oct/19/nation/na-pollock19>.

56. See Hotz, *supra* note 55.

57. See AM. BUREAU OF SHIPPING, *supra* note 10, at 5–7.

58. *Id.*

59. See NAT'L OCEANIC & ATMOSPHERIC ADMIN., *Station PRDA2—9497645—Prudhoe Bay, AK*, https://www.ndbc.noaa.gov/view_text_file.php?filename=prda2h2018.txt.gz&dir=data/historical/stdmet/ (showing data from the site from 2018).

60. NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. ARCTIC NAUTICAL CHARTING PLAN: SUPPORTING SUSTAINABLE MARINE TRANSPORTATION IN ARCTIC ALASKA 6 (2016).

long-lasting impacts.⁶¹ An oil spill would be devastating to Arctic ecology, and the “vast distances” between opening sea lanes and response infrastructure would mean protracted and costly cleanup.⁶² Plastics, sewage, and other waste generated by the shipping industry are already starting to raise concerns.⁶³ All shipping has risks, but due to its remoteness and pristine nature, the Arctic presents a unique environmental challenge.

Safety of life at sea is another concern. Cold temperatures have negative impacts on machinery operation and crew function.⁶⁴ In the event of mariners overboard or otherwise in the water, cold temperatures greatly reduce survival times.⁶⁵ While the Coast Guard has entered into an agreement with other Arctic nations to share search and rescue (SAR) responsibilities, the limited number of assets available means that some must be diverted from other areas to serve the high north.⁶⁶ The distances from Northwest Passage lanes to infrastructure take a toll here, too: from Barrow, on the North shore, to the nearest permanent Coast Guard air station is the same distance as from Boston to Miami.⁶⁷ Because cutters are scarce, aircraft are the go-to platform for SAR, but could be miles away.⁶⁸ The harsh conditions do not wait.

The dearth of Coast Guard resources means that there is no safety net in the event of a maritime mishap. This is especially true if an incident occurs in waters far from an icebreaker that might be patrolling the Arctic,⁶⁹ or other response assets in southern Alaska.⁷⁰ It also means that there are no platforms with which to challenge the restrictions other Arctic states have placed on the opening routes.

C. RUSSIA AND THE FREEDOM OF NAVIGATION DISPUTE

The Russians are locking vessels out of the NSR that do not subscribe to a Russian regulatory scheme that stretches beyond international norms.⁷¹ Russia has banned nearly all vessels carrying oil or natural gas that do not fly a Russian flag.⁷² By instituting a Northern Sea Route Administration to assert

61. Féron, *supra* note 6, at 105–06.

62. *Id.* at 106.

63. PEW CHARITABLE TRS., VESSEL WASTE A GROWING CHALLENGE IN THE NORTHERN BERING SEA AND BERING STRAIT 2 (2018), <https://www.pewtrusts.org/-/media/assets/2019/04/vessel-waste-a-growing-challenge-in-the-northern-bering-sea-and-bering-strait-issue-brief.pdf>; Peeken et al., *supra* note 25, at 88–91.

64. AM. BUREAU OF SHIPPING, *supra* note 10, at 13–16.

65. *See, e.g.*, DR. C.J. BROOKS, SURVIVAL IN COLD WATER 10–14 (2001) (describing the dangers of cold water immersion).

66. ARCTIC SEARCH AND RESCUE, *supra* note 7, at 4, 12.

67. *Id.* at 5.

68. *Id.*

69. The Coast Guard currently only has two, one of which is nearly always dedicated to expeditions in Antarctica.

70. *See* ARCTIC OCEAN POLLUTION RESPONSE, *supra* note 7; ARCTIC SEARCH AND RESCUE, *supra* note 7.

71. Fahey, *supra* note 3, at 158–59.

72. Atle Staalesen, *Russian Legislators Ban Foreign Shipments of Oil, Natural Gas and Coal Along Northern Sea Route*, BARENTS OBSERVER (Dec. 26, 2017), <https://thebarentsobserver.com/en/arctic/2017/12/>

domestic control over the NSR, the Russian government hopes to control the NSR like its own internal waters,⁷³ and profit via a tariff and mandatory icebreaker escorts on most foreign-flagged transport.⁷⁴ This type of action runs contrary to internationally-accepted free-navigation, or “Transit Passage,” regimes governing other places where waters used for international transit overlie a nation’s territorial seas.⁷⁵ Russia’s policy directly contradicts U.S. Arctic Region Policy.⁷⁶

Unlike the United States, however, Russia has the ships and infrastructure to enforce its administrative controls. It has forty-six icebreakers, seven of which are nuclear powered, with another twelve under construction.⁷⁷ Russia is also pouring funds into the region to develop “ports, roads, railways, and airports.”⁷⁸ The United States, meanwhile, is funding just one new icebreaker and only recently began examining potential infrastructure projects.⁷⁹ Russia is looking ahead and developing a strong Arctic presence at a time when U.S.-Russia relations are on the rocks, and the United States could be left out in the cold.⁸⁰

II. POLAR CODE AND THE LACK OF U.S. GOVERNMENT PRESENCE Ideally, the Arctic’s convergence of borders and claims, environmental changes, and blossoming industry would result in a concerted multilateral effort to create a treaty governing the region. This scheme has been successful in Antarctica, where competing sovereignty claims have given way to largely peaceful scientific cooperation.⁸¹ An Arctic treaty of this kind, only ordered toward safe, clean transport, as well as scientific research, might make sense in

russian-legislators-ban-foreign-ships-oil-natural-gas-and-coal-along-northern-sea; *see also* Fahey, *supra* note 3, at 159.

73. Internal waters are treated as “territorial seas” under UNCLOS, over which the governing nation is sovereign. UNCLOS, *supra* note 15, arts. 2, 8.

74. Fahey, *supra* note 3, at 169–71; *see also* AM. BUREAU OF SHIPPING, *supra* note 10, at 9; Gunnarsson, *supra* note 13.

75. UNCLOS, *supra* note 15, arts. 37–38; Fahey, *supra* note 3, at 163.

76. Directive on Arctic Region Policy, 45 Weekly Comp. Pres. Doc. 47, 48–49 (Jan. 9, 2009) (“Freedom of the seas is a top national priority..... [T]he Northern Sea Route includes straits used for international navigation; the regime of transit passage applies to passage through those straits. Preserving the rights and duties relating to navigation..... in the Arctic region supports our ability to exercise these rights throughout the world, including through strategic straits.”).

77. Vergun, *supra* note 16.

78. Fahey, *supra* note 3, at 169.

79. U.S. ARMY CORPS OF ENG’RS, DRAFT INTEGRATED FEASIBILITY REPORT, DRAFT ENVIRONMENTAL ASSESSMENT (EA), AND DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI): ALASKA DEEP-DRAFT ARCTIC PORT SYSTEM STUDY 7 (2015); Wemer, *supra* note 16.

80. *See* Mark Mazzetti & Katie Benner, *12 Russian Agents Indicted in Mueller Investigation*, N.Y. TIMES (July 13, 2018), <https://www.nytimes.com/2018/07/13/us/politics/mueller-indictment-russian-intelligence-hacking.html>; David E. Sanger & William J. Broad, *U.S. Suspends Nuclear Arms Control Treaty with Russia*, N.Y. TIMES (Feb. 1, 2019), <https://www.nytimes.com/2019/02/01/us/politics/trump-inf-nuclear-treaty.html>.

81. *See* The Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71; U.S. DEP’T OF STATE, *Antarctic Treaty*, <https://www.state.gov/t/avc/trty/193967.htm> (last visited Nov. 6, 2019).

the future. Today, however, nations have contented themselves with operating under the auspices provided by UNCLOS and creating multilateral bodies to discuss Arctic policies.⁸² The resulting international regulatory regime has therefore been put in place largely using the IMO.⁸³

A. INTERNATIONAL EFFORTS TO REGULATE SO FAR

The Polar Code is the culmination of years of incremental regulatory changes affecting Arctic transit agreed upon at the IMO.⁸⁴ These new rules generally apply by adding provisions to the International Convention for the Safety of Life at Sea (SOLAS),⁸⁵ and the International Convention for the Prevention of Pollution from Ships (MARPOL).⁸⁶ For example, in 2007, the IMO issued *Guidelines on Voyage Planning for Passenger Ships Operating in Remote Areas*, which detailed recommendations for passenger ships traveling to “exotic destinations,” including ice-covered waters.⁸⁷ Two years later, the IMO issued further guidelines for ships in polar waters, which included non-binding recommendations for construction and environmental protections.⁸⁸

The current Polar Code is the latest manifestation of international regulation in this iterative process. Unlike prior guidelines, however, sections of the Polar Code today are binding on IMO member states.⁸⁹ These sections, while delineated in the text of the Polar Code as adopted, in fact take force via implementation in relevant portions of the SOLAS and MARPOL agreements.⁹⁰ The blanket regulations apply to both Antarctica and the Arctic, and were designed “to provide for safe ship operation and the protection of the polar environment.”⁹¹ The Polar Code applies to vessels of greater than 500 gross tonnage on international voyages,⁹² and requires, *inter alia*, a valid certificate

82. In 2008, Canada, Denmark, Norway, Russia, and the United States agreed that “the law of the sea provides for important rights and obligations concerning . . . [Arctic] freedom of navigation” and they “therefore [saw] no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.” The Ilulissat Declaration of May 28, 2008, 48 I.L.M. 362 (2009). The United States joined with other nations to form the Arctic Council, a cooperative intergovernmental forum. ARCTIC COUNCIL, THE ARCTIC COUNCIL: A BACKGROUNDER 2, https://oarchive.arctic-council.org/bitstream/handle/11374/2076/2017-09-25_Arctic_Council_Backgrounder_PRINT_VERSION_NO_LINKS.pdf?sequence=1&isAllowed=y.

83. See *Polar Code*, *supra* note 20.

84. See Anderson, III, *supra* note 11, at 70–75.

85. International Convention for the Safety of Life at Sea, Nov. 1, 1974, 32 U.S.T. 47, 1184 U.N.T.S. 278 [hereinafter SOLAS].

86. International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 34 U.S.T. 3407, 1340 U.N.T.S. 61 [hereinafter MARPOL].

87. IMO, A. 999 (25), *Guidelines on Voyage Planning for Passenger Ships Operating in Remote Areas*, at 3 (Nov. 29, 2007).

88. IMO, A. 1024 (26), *Guidelines for Ships Operating in Polar Waters*, at 2–3 (Dec. 2, 2009).

89. *Polar Code*, *supra* note 20, at 7.

90. Féron, *supra* note 6, at 108.

91. *Polar Code*, *supra* note 20, at 5.

92. 500 gross tonnage was determined by analyzing the corresponding SOLAS agreement under which the code took effect and relayed in the U.S. rulemaking. Adding the Polar Ship Certificate to the List of SOLAS

from a flag state certifying a vessel's compliance with the rules.⁹³

The Polar Code is broken up into two parts, each with a mandatory and recommended portion.⁹⁴ Part I-A mandates safety measures to include for risk assessments in icy waters, and special procedures to avoid exceeding ship design and crew limitations.⁹⁵ This includes provisions for new ships to be constructed with materials and equipment appropriate to, and with the necessary strength for operating in a polar environment.⁹⁶ Part I-B provides additional optional guidance on navigation and safety assessments, including navigating with icebreaker assistance, as well as recommended safety equipment.⁹⁷

Part II-A focuses on pollution prevention. Crucially, this binding portion bans "discharge into the sea of oil or oily mixtures."⁹⁸ It also provides for construction requirements to minimize the possibility of oil spill in the case of grounding or collision.⁹⁹ Furthermore, the Code places restrictions on sewage and garbage discharge.¹⁰⁰ However, the whole of Part II-B, which recommends restrictions on carriage of heavy fuel oils and other non-biodegradable materials, is non-binding.¹⁰¹ After the Code was approved by the IMO's Marine Environment Protection Committee (MEPC) and Marine Safety Committee (MSC), the Code became binding on member states.¹⁰²

Because the United States is party to the SOLAS and MARPOL treaty sections impacted by the Polar Code,¹⁰³ the nation implemented the changes, beginning with a rulemaking conducted by the Coast Guard.¹⁰⁴ The rulemaking updated the regulations governing certificate and inspection programs that the Coast Guard and recognized classification societies would have to implement in order to comply with the Polar Code's new requirements.¹⁰⁵ The other mandated

Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44,108 (published Sept. 21, 2017) (codified at 46 C.F.R. pts. 2, 8 (2018)).

93. *Polar Code*, *supra* note 20, at 11–12.

94. *Id.* at 7.

95. *Id.* at 11–13.

96. *Id.* at 14–20.

97. *Id.* at 29–37.

98. *Id.* at 38.

99. *Id.* at 38–39.

100. *Id.* at 39–41.

101. *Id.* at 7, 41; *see also* IMO, Res. MEPC 189 (60), *Amendments to MARPOL Annex 1 to Add Chapter 9—Special Requirements for the Use or Carriage of Oils in the Antarctic Area*, at 2 (Mar. 26, 2010) [hereinafter *Amendments to MARPOL Annex 1*].

102. *Marine Environment Protection Committee (MEPC), 68th Session, 11 to 15 May 2015*, IMO, (May 15, 2015), <http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-68th-session.aspx>.

103. *See* IMO, *Status of Conventions: Ratifications by State*, <http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/status-x.xlsx> (last visited Nov. 6, 2019).

104. Adding the Polar Ship Certificate to the List of SOLAS Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44,108 (Sept. 21, 2017) (codified at 46 C.F.R. pts. 2, 8 (2018)).

105. *Id.* Classification societies are non-governmental organizations that are delegated authority to conduct certain functions on behalf of the Coast Guard, including issuing international certificates. 46 C.F.R. §§ 8.100, 8.320 (2018). There are multiple classification societies based in various nations, and their authority to act on behalf of the Coast Guard is governed by federal regulation. *See* Recognition of a Classification Society, 46

portions of the Polar Code were enacted via a policy letter from the Coast Guard's Office of Commercial Vessel Compliance.¹⁰⁶ The result is a system where the Coast Guard is required to inspect and enforce the certified portions of the Polar Code that had been adopted by regulation.¹⁰⁷ Furthermore, under the current system, the whole of the Code only applies to twenty-three U.S.-flagged vessels,¹⁰⁸ although the Coast Guard is required to inspect foreign-flagged vessels for compliance.¹⁰⁹

B. GAPS IN THE CURRENT REGULATORY REGIME

While the Polar Code is a major step towards limiting potential damage to the Arctic environment, the manner of its implementation limits it to certain vessels and international provisions. While the current scheme should remain in effect, its gaps leave the Arctic environment and broad parts of the relevant U.S. maritime industry at risk. Additionally, the current Code provisions do not provide an impetus for the United States to establish a larger coastal zone presence in the U.S. Arctic. The Polar Code's shortcomings present an opening for further regulatory action.

First, and as a common thread throughout this Part, the United States' implementation of the certified portions of the Code has not created an increased appropriations effort on par with its Arctic competitors.¹¹⁰ Nor has the United States yet invested in increased Polar zone infrastructure to support the coming traffic increases. One reason for this may be that the regulations adopted by the Coast Guard only focus on design and certification of vessels, not at-sea spot checks.¹¹¹ Currently, the types of inspections that the Coast Guard conducts to ensure compliance with these types of certificate requirements take place in major ports, usually pier-side, and therefore outside the Arctic.¹¹² While the regulations are good for ensuring appropriate construction standards and safety preparation prior to a potential Arctic voyage, the certifications are of questionable value if crews are not implementing the Code's requirements (or recommendations) at sea. Without U.S. enforcement assets in the operating area, the Coast Guard has no ability to "trust, but verify" that the operating requirements of the Code are being implemented.¹¹³

C.F.R. §§ 8.200–8.260 (2018); INT'L ASS'N OF CLASSIFICATION SOC'YS, *Members*, <http://www.iacs.org.uk/about/members/> (last visited Nov. 6, 2019).

106. J. F. WILLIAMS, U.S. COAST GUARD, DHS CG-CVC POLICY LETTER 16-06, at 1 (Dec. 12, 2016), https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/CG-CVC/Policy%20Letters/2016/CG-CVC_pol16-06.pdf?ver=2016-07-06-120605-907.

107. Adding the Polar Ship Certificate, 82 Fed. Reg. at 44,115.

108. *Id.*

109. *Id.* at 44,117.

110. See Vergun, *supra* note 16.

111. See Adding the Polar Ship Certificate, 82 Fed. Reg. at 44,115.

112. See U.S. COAST GUARD, *supra* note 28, at B1-1, D1-1 to-7.

113. "Trust, but verify" is a Russian proverb that was commonly used by President Ronald Reagan during nuclear disarmament talks with the former Soviet Union. Thom Shanker, *Battle Turns Gentle with Proverbs*

The Polar Code also only applies, as implemented, to cargo vessels greater than 500 gross tonnage and passenger ships carrying more than twelve passengers.¹¹⁴ This is because the regulations took effect internationally via chapter XIV of SOLAS, which only applies to ships of the above mentioned size or capacity.¹¹⁵ However, this leaves a loophole for smaller vessels. For example, a tug-and-barge setup transporting fuel oil to northern communities might avoid enforcement. So might other small coastal transport vessels that make more frequent trips to areas that are only accessible by air or ship. The regulations could also have the unintended effect of incentivizing the use of smaller passenger vessels for the Arctic tourism boom,¹¹⁶ which could lead to the use of vessels less suited to hazards in the region.¹¹⁷ This limit could also exempt some offshore vessels servicing oil exploration in the Chukchi and Beaufort seas,¹¹⁸ as well as some fish processing vessels.¹¹⁹ Excluding fishing vessels, there were more than five thousand transits of the Bering Sea region by vessels of less than 500 gross tonnage during 2014 and 2015.¹²⁰ This number is expected to increase.¹²¹

Fishing vessels, in general, are not covered by the rules. Fishing vessels not only account for most of the vessel traffic through the Bering Sea,¹²² but are also some of the most dangerous.¹²³ Over a fifteen-year period covering the turn of the century, U.S. fishing vessels accounted for 40% of major marine casualties, as recorded by the Coast Guard.¹²⁴ With the large number of fishing vessels in the region and their spread northward in chase of changing fish patterns,¹²⁵ many vessels not covered by the Code will likely be spending more time in colder waters, further from SAR resources and other infrastructure.¹²⁶

Galore, CHI. TRIB. (Dec. 9, 1987), <https://www.chicagotribune.com/news/ct-xpm-1987-12-09-8704010440-story.html>.

114. Adding the Polar Ship Certificate, 82 Fed. Reg. at 44,108.

115. *Id.*

116. See Hanna Krueger, *Arctic Tourism Is Potential Threat to Environment as Ice Melts*, NBC NEWS (last updated Jan. 11, 2018, 8:55 AM), <https://www.nbcnews.com/news/world/arctic-tourism-potential-threat-environment-ice-melts-n833956>.

117. Currently, most passenger ship traffic carries around 200 passengers. PORT ACCESS ROUTE STUDY, *supra* note 6, at 104.

118. See *id.*, at 110–12.

119. See JOHN FRITTELLI, CONG. RESEARCH SERV., THE COAST GUARD'S ROLE IN SAFEGUARDING MARITIME TRANSPORTATION: SELECTED ISSUES 4 (2017), <https://fas.org/sgp/crs/homesec/R44566.pdf>.

120. See PORT ACCESS ROUTE STUDY, *supra* note 6, at 122–24 (including numbers in the study for vessels of less than 400GT, which necessarily includes vessels of less than 500GT).

121. INT'L COUNCIL ON CLEAN TRANSP. [ICCT], A 10-YEAR PROJECTION OF MARITIME ACTIVITY IN THE U.S. ARCTIC REGION 21–24 (2015), https://www.cmts.gov/downloads/CMTS_10-Year_Arctic_Vessel_Projection_Report_1.1.15.pdf.

122. PORT ACCESS ROUTE STUDY, *supra* note 6, at 107–09.

123. DAVID H. DICKEY, U.S. COAST GUARD, ANALYSIS OF FISHING VESSEL CASUALTIES: A REVIEW OF LOST FISHING VESSELS AND CREW FATALITIES, 1992–2007, at 2 (2008).

124. *Id.*

125. Hotz, *supra* note 55.

126. Colder temperatures can have a variety of negative effects on vessels. Ice accumulation on a vessel's topside decks can add weight and make the vessel unstable, potentially leading to catastrophic ends. See, e.g.,

Although fishing vessels carry less oil and other hazardous liquids than larger vessels, they still can pose an ecological danger, either in the event of a sinking or other fluid discharge.¹²⁷ In a show of concern for the Arctic environment, the United States has agreed to a moratorium on fishing in the “Central Arctic Ocean,” pending scientific research into ecological impacts.¹²⁸ But the area covered by the moratorium is outside of the U.S. EEZ, meaning the U.S. fishing fleet is free to fish up to the current ice edge, so long as it remains within 200 nautical miles of shore.¹²⁹ While federal regulations govern fishing vessel safety and inspections, there is no regulation specifically tailored to fishing vessels operating in Polar waters.¹³⁰

U.S. implementation of the Polar Code similarly exempts U.S.-flagged vessels on domestic voyages.¹³¹ The Coast Guard declined to extend the Polar Code to domestic voyages as the United States was not bound to do so under the SOLAS treaty, and the rulemaking was nothing more than the Coast Guard fulfilling its obligations thereunder.¹³² With the potential exploitation of petroleum resources in the Beaufort and Chukchi Seas,¹³³ this could leave a loophole for tanker vessels transporting crude oil or liquefied natural gas from the High Arctic to ports in Alaska or on the West Coast of the United States.¹³⁴ Although these vessels are already regulated under MARPOL, the Oil Pollution Act of 1990, and Coast Guard Regulations, tank vessels on domestic voyages to the Arctic would have no requirements particular to ice or other hazards of the

NAT'L TRANSP. SAFETY BD., MARINE ACCIDENT BRIEF: CAPSIZING AND SINKING OF FISHING VESSEL DESTINATION 10–19, 23, (2018) (finding sea-spray icing in the Bering Sea to be a contributing cause of the capsizing and sinking of a fishing vessel that resulted in six fatalities). Federal regulations require an assumed amount of icing for stability calculation purposes. See 46 C.F.R. § 28.550 (2018).

127. See *Coast Guard Finds Evidence of Oil Discharge by Fishing Boat*, KTUU NEWS (July 20, 2018, 7:39 AM), <https://www.ktuu.com/content/news/Coast-Guard-finds-evidence-of-oil-discharge-by-fishing-boat-488731681.html>. Eighty-five percent of Alaska oil spills involved less than one barrel of oil. NAT'L OCEANIC & ATMOSPHERIC ADMIN.: FISHERIES, *Alaska Oil Spill Risk Analysis* 2, <https://www.fisheries.noaa.gov/alaska/habitat-conservation/analyzing-risk-improve-oil-spill-planning-and-response> (last visited Nov. 6, 2019).

128. Levon Sevunts, RADIO CAN. INT'L, *Binding Agreement on Arctic Fisheries Moratorium Officially Signed by EU and Nine Countries*, EYE ON THE ARCTIC (Oct. 3, 2018), <http://www.rcinet.ca/eye-on-the-arctic/2018/10/03/fishing-fisheries-moratorium-agreement-arctic-ocean-europe-union-canada-greenland-bouffard/>.

129. See *id.*

130. See 46 C.F.R. pt. 28 (2018).

131. Adding the Polar Ship Certificate to the List of SOLAS Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44,108 (published Sept. 21, 2017) (codified at 46 C.F.R. pts. 2, 8 (2018)).

132. *Id.*

133. See BIRDE ET AL., *supra* note 54.

134. See, e.g., Craig Welch, *Surging Oil Traffic Puts Region at Risk*, SEATTLE TIMES (last updated Apr. 20, 2014, 2:16 AM), <https://www.seattletimes.com/seattle-news/surging-oil-traffic-puts-region-at-risk/> (identifying locations in Washington State with oil refining and transportation hubs); see also Bellamy Pailthorp, *The Road to Arctic Oil Drilling Runs Through Seattle. People There are Trying to Block It.*, PRI (June 8, 2015, 2:30 PM), <https://www.pri.org/stories/2015-06-08/road-arctic-oil-drilling-runs-through-seattle-people-there-are-trying-block-it>.

region, given the Polar Code's lack of enforcement.¹³⁵ Other vessels on domestic trade or cruise ships dropping passengers in U.S. ports would similarly be exempted.¹³⁶

The potential for an Arctic oil spill is addressed by the full Polar Code, but significant protections were adopted only as recommendations.¹³⁷ These non-binding parts allow non-adopting ships to neglect certain risks to crews and the environment. For example, if unfollowed, design requirements to keep certain noxious liquids away from the outer hull or current Antarctic restrictions on carrying high-density oils could result in heightened environmental damage in the event of a grounding or other hull breach.¹³⁸ Similarly, not adopting recommended ice operating limits; navigational, risk, and contingency planning; and the carrying of appropriate survival equipment could prove fatal for an unprepared or inexperienced crew.¹³⁹

On emissions controls and carbon emissions, the Polar Code is silent. Black carbon, or soot, an emission from incomplete combustion, coats polar ice and accelerates melting.¹⁴⁰ The United States is investigating possible remedies to combat the problem.¹⁴¹ The problem could become worse with an increase in Arctic shipping, as ships are a major source of air pollution.¹⁴² The shipping industry contributes nearly 3% of total global CO₂ emissions, and its impact is forecasted to grow.¹⁴³

Ballast water management is another area of concern.¹⁴⁴ The possibility of invasive species transferred to the Arctic via ship's ballast water is noted in Polar Code recommendations, but no restrictions are mandated.¹⁴⁵ The United States has recently adopted ballast water management regulations, and violations are common and increasing.¹⁴⁶ There is no heightened standard for the fragile

135. See Rules for the Protection of the Marine Environment Relating to Tank Vessels Carrying Oil in Bulk, 33 C.F.R. pt. 157 (2018); MARPOL, *supra* note 86; *Summary of the Oil Pollution Act: 33 U.S.C. § 2701 et seq. (1990)*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/laws-regulations/summary-oil-pollution-act> (last visited Nov. 6, 2019).

136. Vessels conducting transport of goods or people between U.S. ports must be registered in the United States. *The Jones Act & the Passenger Vessel Services Act*, U.S. CUSTOMS & BORDER PROT., https://help.cbp.gov/s/article/Article-23?language=en_US (last updated Sept. 29, 2019).

137. *Polar Code*, *supra* note 20, at 7; see also *supra* text accompanying notes 99–103.

138. *Polar Code*, *supra* note 20, at 42. *Amendments to MARPOL Annex 1*, *supra* note 101.

139. *Polar Code*, *supra* note 20, at 30–37.

140. *Black Carbon Diesel Initiative in the Russian Arctic*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/international-cooperation/black-carbon-diesel-initiative-russian-arctic> (last updated May 23, 2018).

141. *Id.*

142. NAYA OLMER ET AL., ICCT, GREENHOUSE GAS EMISSIONS FROM GLOBAL SHIPPING, 2013–2015, at 2 (2017), https://www.theicct.org/sites/default/files/publications/Global-shipping-GHG-emissions-2013-2015_ICCT-Report_17102017_vF.pdf.

143. *Id.*

144. See PORT STATE CONTROL, *supra* note 27, at 15.

145. *Polar Code*, *supra* note 20, at 42.

146. PORT STATE CONTROL, *supra* note 27, at 15.

Arctic environment.¹⁴⁷

The IMO and MSC have contemplated the Code's shortcomings. At recent MSC sessions, the committee addressed some of the above concerns by opening discussion on a second phase of Polar Code work.¹⁴⁸ The MSC established a working group to determine what would fall within the wider scope of proposals that could make up Polar Code Phase II.¹⁴⁹ While they made progress in committee discussions, the latest session ended with no amendments to the current Code.¹⁵⁰ Safety requirements for ships not under SOLAS (such as small vessels and fishing vessels) are currently being considered.¹⁵¹

The gaps in safety, oil spill prevention, and ballast water requirements implicate Coast Guard prevention missions. Safety and pollution failures are primary drivers for detentions and citations in Coast Guard Port State Control inspections.¹⁵² Violations of MARPOL accounted for 11% of detentions in 2017, and in previous years these were a quarter of all deficiencies.¹⁵³ Safety deficiencies accounted for more than half of all detentions.¹⁵⁴ In an industry where safety shortcomings are common, heightened scrutiny should be paid when vessels and sailors are sent into extreme conditions.

This is especially true of the Arctic, where the Coast Guard lacks the resources to properly field response efforts. The United States' Arctic concerns are also affected by its minimal adoption of the Polar Code. In a year with negligible ice coverage, ships could begin transiting the new routes with potentially inadequate preparation, pollution controls, and safety equipment. The Coast Guard, with its current assets, would be unable to effectively conduct SAR, oil spill response, enforce the fishing moratorium, and conduct regional checks and port state controls on Polar Code, MARPOL, and ballast water violations.

An extension of this problem is the lack of infrastructure in Arctic Alaska. While there are natural economic reasons for this, the undeveloped nature of much of the Alaskan coast exacerbates the risk to the mariner, machine, and environment. Ships will be plying under-charted waters,¹⁵⁵ with little or no

147. Féron, *supra* note 6, at 106 ("An Arctic Council report from 2009 warned that the top environmental threats associated with shipping were oil and ballast water discharges.").

148. MSC Ninety-Eight, *supra* note 26, at 48–50; *Report of the Maritime Safety Committee*, IMO, One Hundredth Session, MSC 100, at 25 (20) (Jan. 10, 2019) [hereinafter MSC One Hundred].

149. MSC One Hundred, *supra* note 148, at 27–28.

150. *Id.* at 27, 34, 43, 65.

151. *Id.* at 65.

152. See PORT STATE CONTROL, *supra* note 27, at 12.

153. *Id.*

154. *Id.* at 13 (aggregating all categories related to safety equals a sum greater than 50%: firefighting appliances, International Safety Management code, lifesaving appliances, safety in general, and safety of life at sea).

155. NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 60, at 6.

aids to navigation (buoys and lights),¹⁵⁶ in an area where help could be hours or days away.¹⁵⁷ Even if a ship follows the Polar Code and all its recommendations, including having a voyage plan in place to appropriately consider places of refuge and SAR as mandated,¹⁵⁸ there may be little that a vessel in distress can do but find an empty, sheltered area, hopefully not icebound, and wait it out.

It is possible, however, that more regulation would foster more presence and potentially more infrastructure. The current regulations may have provided some momentum already. On the heels of the Polar Code coming into full effect, Congress recently authorized appropriations for (at least) one new icebreaker.¹⁵⁹ While there are doubtlessly a variety of competing priorities for funding, it is likely that greater attention on Arctic issues spurred by the rulemaking, news of the international agreements (Polar Code, fishing moratorium), and especially the standoff with Russia, fueled Congress' action.¹⁶⁰ But the Arctic problem is neither going to go away, nor be solved by a single icebreaking cutter—it is only going to intensify in coming years. It is better to continue to cast light on the challenges the United States faces as an Arctic nation now, than struggle to catch up, or clean up, in the future. One way to do so is via increased rulemaking that could seek to remedy the gaps in current Polar regulation, reduce risk, and thereby make the policy case for more cutters.

III. THE POSITIVE IMPACTS OF INCREASED REGULATION

A Coast Guard-led rulemaking based on the proposals for Phase II of the Polar Code fills in the aforementioned gaps in the current regulatory scheme and would provide increased protections for the Arctic environment. While this in and of itself is a noble end, this Note proposes that such a regulatory effort could set in motion a chain of events with beneficial impacts on trade, the Coast Guard, and American foreign policy goals.

Creating new regulation to influence freedom of navigation, while counterintuitive, could lead to this favorable chain of events. First, the new regulations should aim to create a safer Arctic environment for both mariners and the ecosystem. These new regulations could then serve as a proof-of-concept for the international community and form a robust basis on which IMO could institute Polar Code Phase II. The resulting increased safety and pollution prevention protocols should then correspond to less assessed risk and lower insurance costs, thus incentivizing the use of Arctic shipping lanes. This increase in shipping would then create a natural need for more Coast Guard assets to

156. The furthest-north Aid to Navigation unit servicing Western Alaska is in Kodiak, AK, and travels north to service what aids there are. See *United States Coast Guard Aids to Navigation Team Kodiak*, U.S. COAST GUARD, <https://www.pacificarea.uscg.mil/Portals/8/District%2017/Sector%20Anchorage/SUB%20UNITS/ANT%20Kodiak%20Fact%20Sheet.pdf?ver=2017-09-29-172031-997> (last visited Nov. 6, 2019).

157. See ARCTIC SEARCH AND RESCUE, *supra* note 7, at 4, 12.

158. *Polar Code*, *supra* note 20, at 26–27.

159. Werner, *supra* note 16.

160. See *id.*

ensure safe and secure navigation. Finally, the combined presence of Coast Guard cutters and multinational shippers, eager for free navigation, would place pressure on Russia to loosen its restrictions on the NSR.

A. THE UNITED STATES SHOULD ADOPT NEW REGULATIONS TO ADDRESS CURRENT REGULATORY SHORTCOMINGS

The Coast Guard, possibly in collaboration with the Department of Transportation (DOT) and the Environmental Protection Agency (EPA), should publish a notice of rulemaking to begin the process of implementing a stricter Polar Code. New regulations would reduce risk to the Arctic environment and increase safety of life at sea. While numerous stakeholders in the industry would need to be consulted in such a rulemaking, especially in the fishing and near-shore trades, the United States should seek to cure the shortcomings in the current Polar Code.

As with any new regulatory action, there is a possibility of downsides. The Coast Guard has noted it wants to avoid the risk of “potential negative actions against their vessels by foreign countries.”¹⁶¹ It is possible that countries that do not agree with a U.S. regulatory and inspection program that is stricter than international norms might take some action against U.S. vessels that is unrelated to Arctic certificates.

However, this is a risk worth taking. Only vessels seeking transit of polar routes would be affected. Most other nations do not have a large stake in the Arctic environment or resources, and of those that do, Russia is already imposing the most stringent restrictions and denying entry in ways that affect U.S. and other non-Russian flags without retribution.¹⁶² Furthermore, the United States has instituted ballast water management regulations that do not correspond to international treaty and come with no discernable deleterious effects to trade.¹⁶³ A stricter U.S. code could protect U.S. interests, incentivize appropriations, and reduce risk, thus outweighing the potential drawbacks of foreign port-state inspection retribution.

First, the rulemaking proposal should seek to close the loophole for vessels on U.S. domestic voyages. This would mandate equal safety and environmental protocols for every vessel over 500 gross tonnage undertaking polar transit. Second, the new rule should aim to adopt the Polar Code Phase II controls as discussed at the MSC’s one hundredth session.¹⁶⁴ These elements, especially regarding vessels below 500 gross tonnage, would reduce some of the

161. Adding the Polar Ship Certificate to the List of SOLAS Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44,115 (published Sept. 21, 2017) (codified at 46 C.F.R. pts. 2, 8 (2018)).

162. Fahey, *supra* note 3, at 158–59. Canada also has access restrictions but is not taking as active a role in precluding transit. See Féron, *supra* note 6, at 91–92. This is due, in part, to heavier ice in the NWP, as well as Canada having an icebreaker deficiency similar to that of the United States. Stephens, *supra* note 12, at 8–9.

163. See PORT STATE CONTROL, *supra* note 27, at 15.

164. See *supra* Subpart II.B.; see also *supra* text accompanying notes 149–151.

risk prevalent among smaller vessels and fishing vessels.¹⁶⁵ Tiered restrictions here would be desirable.

Larger vessels—more likely to be owned or operated by a multinational corporation—should have stricter certificate requirements and environmental controls to correspond to their greater size and greater capacity for spill damage. MARPOL and SOLAS already seem to consider this, since vessels of less than 500 gross tonnage are not covered. But, given the large number of smaller vessels in the Arctic trade,¹⁶⁶ creating code requirements for the smaller vessels, especially new safety standards, could save lives. This is particularly relevant as fishing fleets move north into colder waters; a greater Coast Guard presence, for both fishing enforcement and SAR, would be wise to follow. However, as smaller vessels do not necessarily have the same resources to effect changes as major vessels do, different, less restrictive rules should be applied.

New restrictions should also be applied for oil, discharge, and Arctic-specific ballast water controls. The optional portions of the current Polar Code regarding high density oils, non-biodegradable materials, and ballast water discharge should be made mandatory. This would reduce the risk of spills in the event of wrecks and accidental discharge. It would also provide an enforcement basis in these cases and in cases of purposeful discharge. Ballast water management controls that are specifically designed for the Arctic environment would minimize the likelihood of invasive species impact. Ballast water treatments that are safe for Arctic waters should also be mandated.¹⁶⁷

Finally, the Coast Guard should work with the EPA to develop appropriate emissions standards to reduce black carbon (and greenhouse gasses generally). While this is not an item listed in the current Polar Code, nor in recent MSC session reports, it is an area of environmental concern which the United States shares with Russia,¹⁶⁸ and would be a useful point of common ground as the Arctic geopolitical situation develops. Additionally, since implementation of carbon controls is costly for ship-owners, the government could implement financing options or other financial incentives to accommodate these increased costs.¹⁶⁹ Given how such regulations could have a broad impact on various nations' Arctic merchant fleets, as well as how closely the regulations could hew to proposed Phase II plans, international regulation might follow on America's heels.

B. U.S. REGULATION AS A BASIS FOR IMO POLAR CODE PHASE II

A Coast Guard rulemaking could solidify a framework for an international Polar Code Phase II and inspire IMO to implement such a code in

165. See DICKEY, *supra* note 123, at 4.

166. See PORT ACCESS ROUTE STUDY, *supra* note 6, at 90.

167. Congress ratifying International Ballast Water Management Convention standards might also help reduce invasive species risk. See PORT STATE CONTROL, *supra* note 27, at 15.

168. *Black Carbon Diesel Initiative in the Russian Arctic*, *supra* note 140.

169. See *id.*

a way that hews closely to U.S. policy. While U.S. rulemaking can take years,¹⁷⁰ the duration of international negotiations can sometimes be even longer.¹⁷¹ If the United States moves quickly to adopt new regulations, the Coast Guard could begin enforcement of the new terms and provide an example for the effectiveness and feasibility of such a regime. The United States could also use its influence to apply pressure to IMO to adopt Phase II in its vision in a variety of ways.

First, the United States could apply pressure via Coast Guard Port State Controls. The United States, as a leading economy, receives numerous ships into its ports every year.¹⁷² The Coast Guard has the statutory authority to inspect these vessels in U.S. waters and enforce regulations.¹⁷³ To access the Arctic, many vessels will have to pass through Bering Sea waters controlled by the United States, which provides an opportunity for U.S. inspections. Any Arctic-bound or Polar Certificate vessel that calls on a U.S. port would have to comply with these proposed regulations. If most shipping companies are facing heightened compliance requirements during calls on U.S. ports anyway, then no burden is added if these requirements become international law because they will already be in compliance. Therefore, there would likely be less opposition from industry groups to a stricter international code than there might be without U.S. regulation as a forerunner.

Second, the rules implemented by the United States will not be a surprise: they would already be based on discussions that have happened at the MSC and IMO.¹⁷⁴ U.S. implementation could therefore serve as a proof-of-concept for the international community on how to apply and enforce the new rules, and under what auspices to adopt them (safety standards, oil, emissions, etc.). Industry concerns would be reflected in the comment portion of the rulemaking and would be available in the Federal Register, removing some of the guesswork from MSC.

Additionally, a regulatory scheme that puts the United States on more even footing with the rules imposed by the Russian and Canadian governments creates regulatory parity among major players at the Pole. If industry stakeholders know that the regulations across much of the NSR and Northwest Passage have parity, then it can adapt to new regulations faster and without fear of multiple standards with which to comply. This would be cheaper for industry and in turn, could improve negotiations in the IMO or Arctic Council when drafting new agreements for Arctic transit. If multiple nations have similarly

170. See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-205, FEDERAL RULEMAKING: IMPROVEMENTS NEEDED TO MONITORING AND EVALUATION OF RULES DEVELOPMENT AS WELL AS TO THE TRANSPARENCY OF OMB REGULATORY REVIEWS 18, fig.2 (2009), <https://www.gao.gov/new.items/d09205.pdf>.

171. See generally Nicole M. Simonelli, *Bargaining over International Multilateral Agreements: The Duration of Negotiations*, 37 INT'L INTERACTIONS 147 (2011) (examining the duration of international multilateral agreement negotiations).

172. See PORT STATE CONTROL, *supra* note 27, at 1.

173. See Vessels Subject to Inspection, 46 U.S.C. § 3301 (2018).

174. See MSC One Hundred, *supra* note 148, at 25–28.

strict environmental and safety requirements, then there is less to negotiate—common standards might be more easily reached.

There is also the not-inconsiderable portion of the IMO budget that the United States provides. The United States is one of the largest contributors to IMO funding, both assessed as a share based on economic factors and as a voluntary contributor.¹⁷⁵ While the total amount is relatively small compared to U.S. spending generally,¹⁷⁶ threatening less—or better, offering more—as well as making offshoot agreements with partner nations, could incentivize multilateral agreement in a way that follows U.S. policy preferences.

Furthermore, scholars maintain that the United States, in its role as a global hegemony, sets the example in environmental protection that the rest of the world follows.¹⁷⁷ Whether the United States leads or chooses to “veto” an international agreement, the nation often prevails in ensuring international protocols are drafted in accordance with its position.¹⁷⁸ The United States has used this power to influence maritime agreements to align with its foreign policy goals.¹⁷⁹

Finally, there is precedent for international regulation following U.S. regulatory efforts. In the aftermath of the *Exxon Valdez* disaster, the United States Congress pushed through the Oil Pollution Act of 1990, ushering in new cleanup and construction requirements for oil tankers, other vessels, and maritime operators.¹⁸⁰ The international community followed suit, and by 1993, had adopted U.S. recommendations for tanker construction and inspection.¹⁸¹ With the current focus of conversation on Arctic policy, a similar course could be effective today for Polar Code Phase II.

C. INCREASED REGULATION PROMOTES A SAFER ENVIRONMENT AND COULD INCENTIVIZE POLAR NAVIGATION

While regulation can often dissuade industry activity, the situation in the Arctic, when viewed in the context of global shipping costs, presents an opportunity for government and industry to align interests. Although a

175. *Financial Report and Audited Financial Statements for the Year Ended 31 December 2017: Report of the External Auditors*, IMO 54 (2018), <http://www.imo.org/en/OurWork/Documents/Financial%20Statements/IMO%20Financial%20Statements%202017.pdf>.

176. *See id.* at 54–55.

177. Paul G. Harris, *International Environmental Affairs and U.S. Foreign Policy*, in *THE ENVIRONMENT, INTERNATIONAL RELATIONS, AND U.S. FOREIGN POLICY* 3, 4 (Paul G. Harris ed., 2001); *see also* John Barkdull, *U.S. Foreign Policy and the Ocean Environment: A Case of Executive Branch Dominance*, in *THE ENVIRONMENT, INTERNATIONAL RELATIONS, AND U.S. FOREIGN POLICY*, *supra* note 177 at 134, 152.

178. Barkdull, *supra* note 177, at 152.

179. *Id.*

180. *See Background*, IMO, <http://www.imo.org/en/ourwork/environment/pollutionprevention/oilpollution/pages/background.aspx> (last visited Nov. 6, 2019).

181. *Id.*

regulatory scheme following the framework outlined above would create short-term costs, it is possible that regulations promoting increased crew and environmental safety could drive down insurance costs—a significant factor in the shipping industry.¹⁸² The long-term benefits of such a scheme, then, would not only outweigh initial costs, but also help decrease other expenditures and externalities as vessels move north in search of shorter routes and natural resources.

First, it is important to note that Arctic transits through Alaskan waters are forecast to increase, regardless of any rulemaking.¹⁸³ Less ice will mean more ships.¹⁸⁴ Some parts of the industry will have no choice but to operate in the Arctic. Fishing vessel traffic will increase as the stocks shift north.¹⁸⁵ With the probable exploitation of Arctic natural resources, drilling and mining companies will have a heavy incentive to chase profits and increase shipments of products that cannot be moved via pipeline.¹⁸⁶ Even if new regulations create additional costs for these portions of the industry, the incentive for these mostly U.S. domestic-transit vessels to work their way further north will outweigh the costs.

In this situation, regulations are still advisable to diminish risk. Moreover, there are currently higher costs associated with trans-Arctic trade than via other traditional routes, like the Suez.¹⁸⁷ New regulation could mitigate some of those costs, especially due to its potential impact on insurance rates.

Insurance plays a major role in international shipping.¹⁸⁸ Vessels cannot make certain transits without insurance or if the risk is deemed too high. The risky nature of Arctic transit means that, so far, securing insurance has been more difficult and costlier than traditional shipping routes.¹⁸⁹ In the past, this, as well as multi-year ice, has been a bar to Arctic transportation. More regulation eases insurers' concerns and makes them more likely to provide insurance; to them, regulation signals decreased risk and provides insurers with parameters to assess risk and cost.¹⁹⁰

Regulations like Polar Code Phase II create higher safety and environmental standards and therefore reduce risk. This could lower insurance rates and increase coverage for compliant vessels. It is also possible that insurance companies will lobby lawmakers to provide funding for implementation infrastructure commensurate with the new regulations: in this

182. See Liu, *supra* note 29, at 78.

183. See ICCT, *supra* note 121, at 3–4, 60–61.

184. *Id.* at 62.

185. Hotz, *supra* note 55.

186. See ICCT, *supra* note 121, at 25–28.

187. Gunnarsson, *supra* note 13.

188. See Liu, *supra* note 29, at 78.

189. Gunnarsson, *supra* note 13.

190. Liu, *supra* note 29, at 91; Stephens, *supra* note 12, at 6–7. In this way, the insurance industry flouts the common-held belief of regulation dissuading an industry's activities.

case, Coast Guard assets.¹⁹¹ Faced with potential losses, should an ill-prepared vessel founder or discharge pollutants in the Arctic, insurers may be a “reluctant but influential source[] of additional pressure.”¹⁹²

It is possible that shippers and insurers may resist regulatory measures as onerous up-front costs and maintain the status quo. However, Arctic routes hold other advantages over traditional routes that insurers should find appealing. Compared to transit via the Suez, the Arctic routes also do not (currently) have a risk of piracy or international conflict.¹⁹³ Arctic routes are also shorter in both distance and duration, which means less time vessels are at sea and exposed to underway mishaps. Additionally, if actuaries determine that implementing regulatory requirements would significantly decrease risk, then it is possible insurance underwriters will impose the requirements on shippers through some form of industry audit.¹⁹⁴ If the risks of Arctic shipping can be predicted and mitigated by preparations forced by regulation, then Arctic routes could appear even more lucrative to insurers, as compared to the historical alternatives. When the rates drop, shippers will seek the cheaper alternative: they will want to use the NSR.

If new regulations end up wooing more shipping to Arctic lanes, there could be negative ramifications regionally. The United States may merely be trading environmental damage to the Arctic for geopolitical gains and localized environmental regulation. Conversely, the decrease in fuel oil consumed due to the shorter transit could mean better long-term effects for the planet at large. The savings in fuel and voyage duration naturally correlates to a reduction in carbon emissions.¹⁹⁵ Because the shipping industry is a major contributor to greenhouse gasses, over a period of years, lower emissions from hundreds of vessels could portend a reduction in global carbon emissions.¹⁹⁶

The consequence of increased safety via regulation should be lower costs. The incentive for shippers to navigate via the NSR will be threefold: lower insurance costs—or at least more predictable rates and removal of the case-by-case system currently employed—decreased fuel costs, and lower carbon emissions.¹⁹⁷ As a result, the cost of transit via Arctic routes will decrease over time. After the initial capital costs related to implementing the regulations, shippers will be able to recoup this cost in what is saved and will have an economic incentive to trade along polar routes. The resulting increase in ships

191. See RICHARD N. L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES* 265 (2d ed. 2006).

192. *Id.*

193. ICCT, *supra* note 121, at 32; see also Gunnarsson, *supra* note 13, at 32. Rania El Gamal, *Saudi Arabia Halts Oil Exports in Red Sea Lane After Houthi Attacks*, REUTERS (July 25, 2018, 1:18 AM), <https://www.reuters.com/article/us-yemen-security/saudi-arabia-halts-oil-exports-in-red-sea-lane-after-houthi-attacks-idUSKBN1KF0XN>.

194. See ANDREWS, *supra* note 191, at 265; Liu, *supra* note 29, at 91.

195. Gunnarsson, *supra* note 13.

196. OLMER ET AL., *supra* note 142, at 2.

197. See Gunnarsson, *supra* note 13.

will need both inspection and protection.

D. REGULATIONS NEED TO BE ENFORCED—THE CASE FOR MORE COAST GUARD CUTTERS AND INFRASTRUCTURE

An enhanced regulatory regime, and the forecasted consequent increase in ship traffic, may provide a combined impetus for increased appropriations for Coast Guard assets. The Coast Guard will have an increased burden: vessel traffic will need to be monitored, the new regulations would need to be enforced, and assets would need to be on-hand in the event of an emergency. In short, the Coast Guard would have a greater need to conduct its domestic statutory missions, as there will be more vessels in the Arctic and a stricter enforcement code. But first, it needs more ships. The Coast Guard cannot buy its own ships; it needs Congress. But the Coast Guard can create enforceable regulations consistent with its statutory authority, then lobby to Congress that it cannot effectively enforce the law. Having industry on its side in this effort will only strengthen the agency's cause.

Despite the risk of unfavorable port state control implications or citations, it benefits mariners to have ample Coast Guard assets on hand. The Coast Guard should be equipped to respond to SAR cases, oil spills, and provide icebreaking services. Industry should already be persuaded to want free and open navigation based on the aforementioned cost savings, but it also stands to benefit from the safety net of search and rescue, and oil spill response that the Coast Guard can provide.

Infrastructure projects would also be a boon to support increased shipping and Coast Guard presence. The nearest deepwater port to the North Slope is a thousand miles away in Dutch Harbor.¹⁹⁸ The Coast Guard and Army Corps of Engineers are investigating the possibility of new port development further north.¹⁹⁹ It would be wise to have new regulations in place first, before the big ships arrive and start using these nascent Alaskan ports, or before they begin transporting petroleum products. This is especially important because any domestic use will not be covered by the current Code.

The final step before effective Arctic presence—and influence—is appropriations. The Coast Guard needs more ships to keep mariners safe, respond to disasters, and promote the U.S. freedom of navigation policy. This step is also the most difficult to predict. While it is natural to assume that Congress will fund the necessary pieces for the Coast Guard to effect its statutory and regulatory missions, this is an untestable hypothesis. It is possible that Congress could “impliedly repeal” the Coast Guard's mission and the

198. U.S. ARMY CORPS OF ENG'RS, *supra* note 79, at 6.

199. *See id.* at 14, 15–21 (investigating the feasibility of various port development projects in Alaska); Ben Werner, *Coast Guard Commandant Hopeful FY2019 DHS Budget Will Be Approved With Icebreaker Funding*, U.S. NAVAL INST. NEWS (Dec. 7, 2018, 10:29 AM), <https://news.usni.org/2018/12/07/39423> (“Long-term . . . it's possible the Coast Guard would look to create a permanent presence in the Arctic. Most likely . . . the Coast Guard would look for a sea base, possibly in the far northern Port Clarence area.”).

Executive's foreign policy goals.²⁰⁰ In this way, Congress may underfund the agency and exert some control over its activity.²⁰¹

There are compelling reasons, however, to predict that Congress might follow through. First, it is an intuitive step that an expanded regulatory regime leads to an expanded presence or rule of law. History shows that agencies grow when they have an increased regulatory burden. For example, even during the regulation-unfriendly Reagan era, legal staffs enforcing environmental regulations grew by an order of magnitude.²⁰² In the fifty years since the National Environmental Protection Act, executive agencies have learned how to use environmental issues to promote their interests, engage in foreign policy, and justify appropriations.²⁰³

Likewise, industry is no longer uniformly opposed to regulatory measures, especially where there is a competitive advantage to be gained.²⁰⁴ In the Arctic there is a "win-win" opportunity: market players who can adopt polar transit can gain a competitive advantage by transporting goods at a reduced cost.²⁰⁵ With regulation likely to lower insurance rates, then gaining this competitive advantage is in these firms' interest. They could lobby for Congress to back the Coast Guard's mission.

This is especially true given that players in the maritime industry have accepted the need for environmental and lifesaving protections.²⁰⁶ Environmental protections help preserve natural resources that segments of the industry rely upon, and all mariners should appreciate the safety net provided by the Coast Guard's expert search and rescue capabilities. Furthermore, there is an element of political reality: shipbuilding funnels federal money to congressional districts and campaign donors. With industry and government aligned, and with some lawmakers positioned to make political hay, it is possible that once regulations are in place, appropriations to support enforcement will follow.

One unintended consequence is that the increased regulation could lead to a belief of a *nominally* safer Arctic, reducing the need for Coast Guard response assets. This would be misplaced faith in the power of spilling ink. Without a Coast Guard presence in the region, there would be no enforcement or security mechanism for ships traveling through U.S. waters but not making port. For any port or offshore resource exploitation activity that develops, there would be limited spill response capabilities and no on-scene inspection teams.

Without any ability to enforce regulations in the Arctic, the United

200. JOHN F. MANNING & MATTHEW C. STEPHENSON, LEGISLATION AND REGULATION: CASES AND MATERIALS 550 (3d ed. 2017).

201. *See id.*

202. *See* RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 115 (2004).

203. Harris, *supra* note 177, at 21.

204. Robert Falkner, *Business Conflict and U.S. International Environmental Policy: Ozone, Climate, and Biodiversity*, in THE ENVIRONMENT, INTERNATIONAL RELATIONS, AND U.S. FOREIGN POLICY, *supra* note 177, at 157, 162.

205. *Id.*

206. LAZARUS, *supra* note 202, at 163.

States must rely on other nations to enforce the current Polar Code and hope Phase II, when promulgated, is put into place properly. Appropriations should follow regulation. Otherwise, the U.S. could be left holding the bag when tragedy strikes a foreign-flagged vessel transiting north of Alaska with inadequate safety equipment. Therefore (regardless of the Russia situation), there is still an impetus for increased Coast Guard presence, if only to inspect for compliance and respond to maritime disasters.

There is also some likelihood of a major disaster occurring before the Coast Guard receives the assets or funding necessary to implement Arctic safety and security. All too often, regulation and Coast Guard appropriations follow tragedies, instead of preceding or preventing them. Following the *Exxon Valdez* spill, global regulations for tanker construction changed.²⁰⁷ After the wreck of the *Edmund Fitzgerald* on Lake Superior in 1975, the Coast Guard added cutters to the region to be on call for major SAR events.²⁰⁸ The entirety of the SOLAS Convention sprouted from the *Titanic* tragedy.²⁰⁹

Two mishaps, although separated by decades, show the hazards of far-north navigation and the importance of rapid Coast Guard response. In 1980, the cruise ship *Prinsendam* caught fire and listed in the Gulf of Alaska.²¹⁰ There was an “awesome sense of tragedy averted” as the Coast Guard and a nearby tanker rescued all 320 passengers and 203 crew.²¹¹ More recently, the 2004 wreck of the *Selendang Ayu* in the Aleutians did not end so fortuitously. The freighter lost power and grounded in heavy weather.²¹² Six died and more than 300,000 gallons of oil spilled; the clean-up took two years.²¹³ While the *Selendang Ayu* was a tragedy, it certainly would have been worse with no Coast Guard response: the Coast Guard saved twenty lives and aided in the cleanup operation.²¹⁴ Governments and industry should learn from history and apply appropriate regulatory remedies and SAR platforms before a disaster strikes. It should not take tragedy to inspire regulation. Ships are heading north *anyway*; the United States should make transit as safe for the environment and mariners as possible.

207. *Background, supra* note 180.

208. Hugh E. Bishop, *Edmund Fitzgerald: Decades of Speculation, Fascination and Grieving*, LAKE SUPERIOR MAG. (Mar. 10, 2001), <https://www.lakesuperior.com/the-lake/maritime/225feature/>; see also *USCGC Alder*, U.S. COAST GUARD, <https://www.atlanticarea.uscg.mil/Our-Organization/District-9/Ninth-District-Staff/Prevention-Division/Cutters/ALDER/History/> (last visited Nov. 6, 2019).

209. *International Convention for the Safety of Life at Sea (SOLAS), 1974*, IMO, [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-\(SOLAS\)-1974.aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS)-1974.aspx) (last visited Nov. 6, 2019).

210. Ward Sinclair, *Coast Guard Pilots Call Alaska Rescue a “Miracle,”* WASH. POST (Oct. 7, 1980), https://www.washingtonpost.com/archive/politics/1980/10/07/coast-guard-pilots-call-alaska-rescue-a-miracle/a6a1e9d1-e717-4c77-a9da-bf16f0093390/?noredirect=on&utm_term=.e80dbda1d36c.

211. *Id.*

212. NAT’L TRANSP. SAFETY BD., MARINE ACCIDENT BRIEF: ACCIDENT NO. DCA-05-MM-008, at 15 (2006), <https://www.ntsb.gov/investigations/AccidentReports/Reports/MAB0601.pdf>.

213. *Id.* at 14–15. The accident also resulted in the wreck of a Coast Guard helicopter when it was engulfed in a massive wave. The crew was rescued. *Id.* at 13–14.

214. *Id.* at 1, 14–15.

As of this writing, Congress authorized appropriation of a new Coast Guard icebreaker, with the possibility of a second.²¹⁵ Even if the Coast Guard gets both ships, this would not be enough to cover the vast stretches of ocean and respond to heightened traffic loads all summer long. Even though the Coast Guard says they are asking for six ships, only one is currently fully authorized, and there is no bill authorizing more than the current \$655 million allocated.²¹⁶ Even then, any icebreaker program that was started in early 2019 might not be ready until 2025.²¹⁷ To have an effective presence in the Arctic by the time the shipping lanes will likely be open all summer,²¹⁸ Congress should move towards appropriations now. As demonstrated above, enhanced regulation should be an aid in lobbying towards this end.

The Coast Guard should aim at, and Congress should fund, building enough cutters not just to enforce strict regulations, but also to be able to simultaneously and immediately respond to a vessel in distress in one location and escort vessels through the NSR or Northwest Passage. Heavy icebreakers to facilitate winter operations would also be ideal, especially given possible Alaska infrastructure projects.²¹⁹ Additionally, existing Arctic communities need winter resupply, and they should not have to rely on Russia.²²⁰ Finally, a capable Coast Guard force in the Arctic would be able to promote freedom of navigation throughout the region.

E. PRESENCE EQUALS INFLUENCE: PRESSURE ON RUSSIA AND FREEDOM OF NAVIGATION IN THE NORTHERN SEA ROUTE

In 2018, Admiral Schultz, the Commandant of the Coast Guard, while discussing hoped-for icebreaker appropriations, said, “[P]resence equals influence.”²²¹ Under the chain of events predicted here, the Coast Guard will have an incentive and industry support to provide force projection via freedom of navigation operations and icebreaker escorts. With global shippers aligned with U.S. policy interests, there will be international public and private pressure on Russia to change its restrictive NSR policies. A well-equipped Coast Guard can benefit industry, while simultaneously promoting U.S. freedom of navigation policy.

Currently, the vessels allowed to transit the NSR are paying high fees

215. Werner, *supra* note 16.

216. *Id.*

217. Richard Sisk, *Coast Guard's Much Needed Icebreaker Could Take at Least 6 Years*, MILITARY.COM: DOD BUZZ (Dec. 19, 2018), <https://www.military.com/dodbuzz/2018/12/19/coast-guards-new-icebreaker-could-take-least-6-years.html>.

218. See Féron, *supra* note 6, at 85.

219. See Melody Schreiber, *New U.S. Legislation Speeds Up the Possibility of a Nome Port*, ARCTIC TODAY (Nov. 21, 2018), <https://www.arctictoday.com/new-u-s-legislation-speeds-possibility-nome-port/>.

220. See Yereth Rosen, *Russian Icebreaking Tanker Set to Deliver Fuel to Alaska Town*, REUTERS (Dec. 5, 2011, 5:31 PM), <https://www.reuters.com/article/us-alaska-nome-fuel/russian-icebreaking-tanker-set-to-deliver-fuel-to-alaska-town-idUSTRE7B503A20111206>.

221. Vergun, *supra* note 16.

to Russia for route access and mandatory icebreaker escorts.²²² Russia has the icebreaker assets,²²³ as well as the infrastructure investments to potentially support a larger number of transports, but it is restricting access nonetheless.²²⁴ The United States is planning to conduct freedom of navigation patrols in the region,²²⁵ but lacks sufficient icebreaker support for current conditions.²²⁶ An enlarged Coast Guard presence would support this end and industry's ends, as well. While outright naval force projection into the NSR could risk provoking a Russian military response,²²⁷ challenging Russian restrictions as an economic measure, as opposed to a military one, might not engender an aggressive reaction.

For example, an international convoy of ships from different flag states, all agreeing to attempt an NSR passage, might be escorted by a team of American icebreakers. Such an effort could be framed as an economic and environmental imperative. Multilateral economic pressure, with civilian ships and the Coast Guard knocking on Russia's door, as opposed to an explicitly armed naval presence, might have a gentler persuasive influence on Russian policy.

A less aggressive approach such as this might also garner support from other nations who would benefit from an open NSR, especially China,²²⁸ who could otherwise be leery of an overt U.S. Naval presence.²²⁹ The situation in Crimea and the Kerch Strait demonstrate that Russia is unpredictable in its actions and not subject to international norms. However, it is possible that in the next decade, as the thawing ice removes one obstacle to Arctic transit, the chain of events described here could help thaw tensions and remove political obstacles, too.²³⁰ A joint U.S.-Chinese convoy pushing to open a trade route might be too much to ask, but with both nations aligned on free navigation there is potential for these economic powers to apply pressure together for opening the more economical trade routes.²³¹

While the U.S. Navy is planning to conduct operations in the region in

222. Fahey, *supra* note 3, at 169–71; *see also* AM. BUREAU OF SHIPPING, *supra* note 10, at 9; Gunnarsson, *supra* note 13.

223. Vergun, *supra* note 16.

224. Fahey, *supra* note 3, at 169.

225. Ben Kesling, *Cold War Games: U.S. Is Preparing to Test the Waters in Icy Arctic*, WALL STREET J. (Jan. 11, 2019, 4:53 PM) <https://www.wsj.com/articles/cold-war-games-u-s-is-preparing-to-test-the-waters-in-icy-arctic-11547243592>.

226. *See* Dr. Rebecca Pincus, *Rushing Navy Ships into the Arctic for a FONOP is Dangerous*, U.S. NAVAL INST.: PROCEEDINGS (Jan. 2019), <https://www.usni.org/magazines/proceedings/2019/january/rushing-navy-ships-arctic-fonop-dangerous>.

227. *Id.*

228. *See* Kesling, *supra* note 225.

229. *See* FREUND, *supra* note 18.

230. *See* Pincus, *supra* note 226.

231. *See* Kesling, *supra* note 225.

2019,²³² such an effort has rightly met with criticism.²³³ A Coast Guard-led, industry-supported effort to open navigation makes more sense than a Naval force projection, especially given a Coast Guard icebreaker's ability to extricate itself from any embarrassing situation that could otherwise occur with a naval standoff.²³⁴ Not only does the Coast Guard have statutory authority over Arctic operations to secure safe maritime shipping, but the optics of a Coast Guard icebreaker leading a tanker through light summer ice (without imposing a fee) are different than a carrier battle group steaming through a geopolitical adversary's backyard.²³⁵

CONCLUSION

Under an industry-backed implementation of U.S. freedom of navigation policy and force projection, a U.S. presence would create an influence on its Arctic neighbors. This could flow from increased regulation. Following U.S. rulemaking, the IMO might be persuaded to implement Phase II of the Polar Code based on this tested American framework. This, in turn, could reduce assessed risk and lower insurance rates; the risk reduction could spur insurance and industry partners to move to more cost-effective Polar transits. Then, not only would the Coast Guard have the regulatory authority to conduct inspections and hold vessels transiting the Arctic accountable for more environmental and safety certifications, but it would also have industry support in a push for appropriations. In this way, the combined presence of Coast Guard and industry could add up to influence Russia to change its Northern Sea Route restrictions.

This Note suggests a novel, if counterintuitive perspective: that a well-ordered regulatory scheme can both create an impetus for enforcement, and—under the right circumstances—save industry money. It is possible, of course, that this premise, admittedly untestable, is false. Heightened regulation and its associated cost may simply serve to dissuade the shipping industry from advancing efforts to normalize Arctic routes. If this were to occur, an enhanced regulatory scheme would still serve to reduce risk of a catastrophic mishap and protect the local region. The opening of Arctic routes with a safety net of Coast Guard assets and environmental protections should provide a “win-win” situation for government and industry. Regardless of forthcoming Coast Guard appropriations, the minimal U.S. presence currently in the region means Russian restrictions cannot be effectively challenged and a freedom of navigation policy cannot currently be enforced.

The United States should take measures to adopt Polar Code Phase II and complimentary emissions controls. Under a strict environmental but holistic

232. *Id.*

233. Pincus, *supra* note 226.

234. *Id.*

235. 14 U.S.C. § 90 (2018).

pro-emission-reduction regulatory scheme, international shippers would have more incentive to adopt new routes, especially through the NSR. Through a desire for lower costs and shorter routes, industry could place pressure on Russia via direct lobbying, working with U.S. assets to navigate the NSR without Russian assistance, and by influencing other states' governments to place increased pressure on Russia to do away with its NSR lockouts and tariffs. Incentivizing industry to responsibly and sustainably transit the Arctic serves to create a demand for transit past Russia at a level its government might not be able to extort. And, if corporations are sufficiently bold enough to challenge or flout Russian restrictions (with or without U.S. assistance), a military confrontation in the area might be avoided. Most importantly, mariners and the environment would be better protected from harm in the days and years to come.