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14. ABSTRACT

This article discusses the potential legal and environmental problems awaiting the U.S. as an Arctic nation in an era of climate change and proposes some of the simple legal fixes we could implement in the short term. The article begins by examining the benefits an environmentally stable Arctic region provides the planet and defines the various components of the problems it faces. The article then discusses international domestic and legal approaches the U.S. can take to minimize damage to the region while advancing its own strategic and environmental interests. This includes remaining party to the Paris Climate Agreement, ratifying UNCLOS, and honoring President Obama's withdrawal of the Arctic from off-shore oil development.

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Arctic, climate change, UNCLOS, Paris Accord, OCSLA, presidential withdrawal, blowout preventer

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TAPPING THE BREAKS ON THE "COLD RUSH": HOW THE U.S. SHOULD LEGALLY PREPARE FOR CLIMATE CHANGE IN THE ARCTIC AND WHY

James David Carson[*]

Bruce Wayne: What, mankind's melting the polar ice caps, destroying the ecosystem? They had it coming?

Arthur Curry: Hey, I don't mind if the oceans rise.

Bruce Wayne: How about if they boil?

\- *Justice League (Warner Brothers Pictures 2017).*

INTRODUCTION

"The damn thing melted!" This was Secretary of the Navy Richard Spencer's response in April 2018 when a reporter asked what triggered the decision to revise the Navy's 2014 Arctic Roadmap.[1] The Chief of Naval Operations, Admiral John Richardson added "The secretary mentioned the blue-water Arctic. Continental shelves that are exposed, and the resources on those shelves. So there are strategic issues that arise from that shrinking of the icecap."[2] As climate change radically alters the Arctic region, the world is taking note and making plans. However, the United States (U.S.)

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[1] Megan Eckstein, *Navy to Release Arctic Strategy This Summer, Will Include Blue Water Arctic Operations*, USNI News (April 19, 2018, 9:01 PM), https://news.usni.org/2018/04/19/navy-to-release-arctic-strategy-this-summer-will-include-blue-water-arctic-operations.

[2] *Id.*

may not be making those plans fast enough to protect its own strategic and environmental interests. Like the gold rush of the mid-nineteenth century, the discovery and gradual exposure of resources in the Arctic is seizing the attention of Arctic and non-Arctic nations, creating a slower-paced "cold rush" on Arctic oil, gas, and other natural resources where nations with the will to make claims are stretching the law and potentially putting an ocean at risk of irreversible harm.

U.S. law and policy has only recently begun to really consider the U.S.' place as an Arctic nation and its focus on the region is being outpaced by other Arctic nations, particularly Russia. Even further behind are any considerations of the U.S.'s obligation, and even self-interest as an Arctic nation, to preserve the status quo of the regional ecosystem. Short-term election cycle thinking has been myopic in developing legal systems and policies affecting the Arctic. Unfortunately, these systems are often focusing on short-term gains while concern for the cost of long-term losses has yet to come into focus. The U.S. needs to be more proactive in staving off the worst of those costs by developing appropriate legal schemes now.

This article discusses the potential legal and environmental problems awaiting the U.S. as an Arctic nation in an era of climate change and proposes some of the simple legal fixes we could implement in the short term. The article begins by examining the benefits an environmentally stable Arctic region provides the planet and defines the various components of the problems it faces. The article will then discuss international and domestic legal approaches the U.S. can take to minimize damage to the region while

advancing its own strategic and environmental interests. Internationally, the U.S. should remain a party to the Paris Climate Agreement to slow the degradation of the Arctic as much as possible. Additionally, the Senate should ratify the United Nations Convention on the Law of the Sea (UNCLOS) to give the U.S. standing to make and contest internationally recognized rights to the continental shelf in the Arctic. Domestically, the U.S. can limit direct and indirect damage to the Arctic by leaving Arctic waters withdrawn from oil and gas development. Alternatively, if oil and gas development proceeds in the Arctic, the U.S. can ensure stronger regulatory safeguards to prevent oil well blowouts that would wreak incalculable and permanent direct environmental damage to the region.

I. BACKGROUND

North of the Arctic Circle, about 66 degrees latitude, lies a broken ring of snow-strewn and bitter cold land composed of the northern tips of continents and islands interrupted by the Bering Strait, Baffin Bay, and the Greenland Sea. To Alaska's northeast and northwest lie open seas mingling with the Arctic Ocean, the Beaufort and Chukchi Seas respectively. Just to the north of the Arctic tundra lands, the Arctic Ocean separates the eastern and western land masses of planet Earth. The temperatures in the Arctic average around -40° F in the winter and 32° F – water's melting point – in the

summer.[3] Unlike her sister oceans, the Arctic Ocean is largely covered in an oscillating extent of ice throughout the year. Every winter as the temperature drops, the ice extends its grasp through neighboring seas and reaches up northern coastlines. Every summer, as temperatures rise again, the ice extent shrinks back toward the Greenland ice sheet and the central Arctic Ocean. While the thickness of ice varies by location and season, in a few places where multiyear ice has survived these seasonal melts, it can be up to 25 feet thick.[4] Decades before satellites tracked sea ice extent, U.S. Navy submarines have traveled under this ice measuring its average depth by sonar, finding that the average ice thickness in 1980 of 3.64 meters had shrunk to just 1.89 meters in 2007.[5] This was one of the first indications that something was going wrong in the Arctic.

A. Planetary Benefits of a Healthy Arctic

The Arctic plays a significant role in the overall health of our planet. One of the major ways it does this is by regulating temperature. The sea ice itself, having a bright surface, reflects 80 percent of the sunlight that hits the Arctic back into space.[6] The dark open ocean, on the other hand, absorbs 90 percent of the sunlight, warming the water and the earth more than normal if there aren't historic levels of ice to reflect it. This

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[3] Michon Scott, *Antarctica is Colder than the Arctic, but it's Still Losing Ice*, Climate.gov (Mar. 12, 2019), https://www.climate.gov/news-features/features/antarctica-colder-arctic-it%E2%80%99s-still-losing-ice.

[4] *For Sea Ice, Age Matters*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/icelights/2013/09/sea-ice-age-matters (last visited May 3, 2019).

[5] *Satellites and Submarines Give the Skinny on Sea Ice Thickness*, Nat. Aeronautics and Space Admin., https://www.nasa.gov/topics/earth/features/seaice_skinny.html (last visited May 3, 2019).

[6] *Quick Facts on Arctic Sea Ice*, Nat. Snow and Ice Data Ctr.,

reflective property of the ice is referred to as the albedo effect. White sea ice has a high albedo, meaning it's highly reflective, and the Arctic ice reflecting solar energy helps to keep the planet cool.[7]

The Arctic also helps to regulate planetary temperature through thermohaline circulation of ocean currents. The atmosphere and the ocean continually try to reach equilibrium by moving warm high pressure air and water toward the poles to fill low pressure cool pockets.[8] This movement establishes ocean currents that circulate throughout the globe pushing warm water toward the poles and drawing cool water toward the equator. While these ocean currents are critical to distributing heat absorbed disproportionately at the mid-latitudes, they also heavily influence the land based weather patterns primarily through the movement of precipitation events.[9]

In addition to affecting ocean currents, the Arctic affects jet stream air currents through the atmosphere as well, contributing to global weather. The National Oceanic and Atmospheric Administration (NOAA) recently published its 2018 Arctic Report Card, concluding that "[i]t's clear that global warming is increasing the intensity of heatwaves and droughts as well as the frequency of heavy precipitation events."[10] This is likely because historic levels of cold air mass above the Arctic create a polar vortex with

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https://nsidc.org/cryosphere/quickfacts/seaice.html (last visited May 3, 2019).

[7] *Environment: Climate*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/seaice/environment/global_climate.html (last visited May 3, 2019).

[8] *Id.*

[9] *Id.*

[10] J.A. Francis, *Clarity and Clouds: Progress in Understanding Arctic Influences on Mid-latitude Weather*, Arctic Report Card of the Nat. Oceanic at Atmospheric Admin. of 2018, https://arctic.noaa.gov/Report-Card/Report-Card-2018/ArtMID/7878/ArticleID/790/Clarity-and-Clouds-Progress-in-Understanding-Arctic-Influences-on-Mid-latitude-Weather (last visited May 3, 2019).

a strong polar jet stream circumnavigating the Arctic. This jet stream keeps cold air in the Arctic separated fairly neatly from warmer air in the mid-latitudes. However, when the Arctic temperature warms and there is no longer a sharp difference in temperature, the jet stream weakens allowing warmer air from the south to advance further north in some places (particularly the western United States up to Alaska) and colder Arctic air to spill down into the south.[11] Retaining a cold Arctic prevents this spillage that contributes to dramatic changes in weather patterns.

A frozen Arctic additionally keeps the Arctic permafrost frozen, trapping potent greenhouse gases in the earth rather than releasing them into the atmosphere where they could contribute to additional planetary warming. Permafrost is frozen soil that stays frozen year-round. It contains dead plant and animal material for potentially thousands of years that does not decay because the temperature is too low. When the temperature rises and this organic matter decomposes, it releases carbon dioxide (CO2), methane, and other greenhouse gases into the air.[12] By staying frozen in the Arctic, the potentially catastrophic amount of greenhouse gases stay out of the atmosphere where they could contribute significantly to overall planetary warming.

Finally, the Arctic supports an entire ecosystem specifically adapted to and dependent on the literal frozen status quo. This includes numerous mammals and birds, many of whom are already listed endangered or threatened species[13], which are unable to

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[11] *Id.*

[12] *Climate and Frozen Ground*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/frozenground/climate.html (last visited May 3, 2019).

[13] *Listed Species Believed to or Known to Occur in Alaska*, U.S. Fish and Wildlife Serv.,

compete with species invading from the south as the climate is becoming more tolerable to a diverse array of life forms.[14] It also includes indigenous tribes that have depended on a reliable environmental system for subsistence for millennia and are now seeing that system buckle under unprecedented environmental strain within a generation.[15]

B. Greenhouse Gas Emission Effects on Sea Ice Retreat

The Arctic is breaking, and humans are largely the ones breaking it. The effects of climate change are altering the Arctic more drastically and more quickly than anywhere else on the planet.[16] The observed higher rate of warming in the Arctic is referred to as Arctic amplification.[17] The National Oceanic and Atmospheric Administration's (NOAA) Arctic Program published its finding in 2014 that the region is warming twice as fast as anywhere else on earth.[18] The National Aeronautics and Space

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https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=AK&status=listed (last visited May 3, 2019).

[14] Ed Struzik, *Arctic Roamers: The Move of Southern Species into Far North*, Yale Environment 360 (Feb. 14, 2011), https://e360.yale.edu/features/arctic_roamers_the_move_of_southern_species_into_far_north.

[15] Elizabeth B. Ristroph, *Alaska Tribes' Melting Subsistence Rights*, 1 Ariz. J. Envtl. L. & Pol'y 47 (2010).

[16] Peter Wadhams, *A Farewell to Ice: A Report From the Arctic* 1 (Oxford Univ. Press 2017). While most of the contextual background science discussed in this article relies on government and agency sources to retain the objectivity of neutral sources in a societally contentious subject, Dr. Peter Wadhams' thorough and comprehensive report cited here and throughout the background section was demonstrated to be professional, objective, and reliable. Dr. Wadhams is a professor of Ocean Physics at the University of Cambridge, has led U.S., U.K., and Canadian research expeditions to both poles every year for the last 50 years, and is well-regarded as one of the foremost world experts in the subject of sea ice.

[17] *Id*. at 62.

[18] M. O. Jeffries, J. Richter-Menge, and J. E. Overland, Eds., 2014: *Arctic Report Card 2014*, Nat. Oceanic and Atmospheric Admin., ftp://ftp.oar.noaa.gov/arctic/documents/ArcticReportCard_full_report2014.pdf (last visited May 3, 2019).

Administration (NASA) reports the Arctic is losing 12.8% of its ice every decade.[19] More recently, NOAA's Arctic Program in 2017 predicted the Arctic is now past a point of returning to its previous levels of ice and will continue a new normal of long-term losses.[20] The National Snow and Ice Data Center (NSIDC) reports that this year and each of the five previous years have all been at the very bottom for maximum winter sea ice extent since the satellite record started in 1979.[21] The remaining four years in that list have all been since 2006. The sea ice minimum measured in September has not fared any better. An online map comparison tool[22] provided by NSIDC allows anyone to compare the mapped difference between minimum sea ice extent from 30 years ago and today. It is a stark visual.

NSIDC also provides an interactive graph of the recorded extent of sea ice over the months of the year every year since 1979, [23] with a crest in sea ice extent in the winter months and a trough in the summer months. Graphing the first five years of the satellite record compared to the last five years reveals an obvious gap where every daily recording from 2015 to 2019 falls significantly below the measured sea ice extent for each respective comparable day from 1979 to 1983. This demonstrates that sea ice loss is not

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[19] *Arctic Sea Ice Minimum*, Nat. Aeronautics and Space Admin., https://climate.nasa.gov/vital-signs/arctic-sea-ice/ (last visited May 3, 2019).

[20] J. Richter-Menge, J. E. Overland, J. T. Mathis, and E. Osborne, Eds., 2017: *Arctic Report Card 2017*, Nat. Oceanic and Atmospheric Admin., https://arctic.noaa.gov/Report-Card/Report-Card-2017 (last visited May 3, 2019).

[21] Agneiszka Gautier, *Arctic Sea Ice Maximum Ties for Seventh Lowest in Satellite Record*, Nat. Snow and Ice Data Ctr. (Mar. 20, 2019), https://nsidc.org/arcticseaicenews/2019/03/arctic-sea-ice-maximum-ties-for-seventh-lowest-in-satellite-record/.

[22] *Sea Ice Spatial Comparison Tool*, Nat. Snow and Ice Data Ctr,. http://nsidc.org/arcticseaicenews/sea-ice-comparison-tool/ (last visited May 3, 2019).

[23] *Charctic Interactive Sea Ice Graph*, Nat. Snow and Ice Data Ctr,.

a fluke phenomenon but a continuing trend. It also shows that for the entire month of April 2019 right up to the date of the drafting of this article in early May 2019, the daily Arctic sea ice extent has been lower than at any other comparable time in recorded history.

Humans are largely causing the gradual loss of the Earth's Arctic and its accompanying temperature and climate regulating benefits. According to NSIDC, greenhouse gases from human activities are the most likely underlying cause of the sea ice decline.[24] The relationship is self-evident when comparing the United Nations endorsed Intergovernmental Panel on Climate Change (IPCC) 2014 report that shows the increase of globally anthropogenic carbon emissions since 1850 closely compares to increases in globally averaged temperature rise since the same period.[25]

This conclusion isn't held merely by a United Nations panel and an obscure U.S. agency. NASA indicates that 97 percent or more of actively publishing climate scientists agree that climate warming trends over the past century are extremely likely due to human activities.[26] CO2 is not the only greenhouse gas of concern though that contributes to warming of the planet and melting of the Arctic. Methane, the most prominent molecule that makes up natural gas, is at least 23 times as powerful as CO2

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https://nsidc.org/arcticseaicenews/charctic-interactive-sea-ice-graph/ (last visited May 3, 2019).

[24] *SOTC: Sea Ice*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/sotc/sea_ice.html (last visited May 3, 2019).

[25] U.N. Env't Programme and World Meteorological Org., Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Summary for Policymakers)*, (R. K. Pachauri and L. A. Meyer eds., 2014), *available at* https://www.ipcc.ch/report/ar5/syr/summary-for-policymakers/.

[26] *Scientific Consensus: Earth's Climate is Warming*, Nat. Aeronautics and Space Admin.,

when measured over a 100-year period.[27] However, it may be natural releases of methane, rather than anthropogenic releases, that raise the most concern.

C. Feedback Loops – Permafrost Melt and Albedo Effect

Nature has feedback loops in the Arctic that exponentially amplify any warming effects caused by humans – feedback loops that humans might not be able to stop once the feedback loops reach a certain point. Once Arctic warming has progressed past a certain threshold, there may be no halting continued rapid melting. The two feedback loops in the Arctic of the largest concern are permafrost melt and the albedo effect.

As mentioned above, permafrost is the frozen soil in the region that remains frozen year round. The frozen permafrost occurs both on land and offshore in sediments in the sea. As mentioned, the methane within it has a global warming potential 23 times that of CO2, which makes permafrost methane release – especially its projected rate of release – particularly disconcerting.[28] As NOAA's 2016 Arctic Report card points out, releasing only a fraction of the stored carbon and methane within the permafrost layer will dramatically increase the rate of warming.[29] Of course, further warming would lead to higher temperatures around the permafrost itself, in turn leading to continually escalating rates of release.

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https://climate.nasa.gov/scientific-consensus/ (last visited May 3, 2019).

[27] Wadhams, at 57.

[28] *Id*. at 130.

[29] J. Richter-Menge, J. E. Overland, and J. T. Mathis, eds., 2016: *Arctic Report Card 2016*, Nat. Oceanic and Atmospheric Admin ftp://ftp.oar.noaa.gov/arctic/documents/ArcticReportCard_full_report2016.pdf (last visited May 3, 2019).

Another feedback loop affecting the Arctic is the albedo effect also mentioned above. Due to the albedo effect, sea ice covered in snow and even bare sea ice is vastly superior at reflecting solar radiation than open ocean water, which almost entirely absorbs it, transferring it into heat.[30] This means that as the amount of sea ice declines, the Arctic region becomes less effective at reflecting solar radiation and absorbs it instead. The surrounding ocean becomes warmer, and the remaining sea ice melts faster and faster. When melt pools, which have low reflective albedo, start to form in the ice, their higher absorption of solar radiation leads to an accelerating rate of melting.[31] The effect of heat absorption by open water replacing heat reflection of ice in the Arctic from the 1970s to 2012 is equivalent to one quarter of the amount of anthropogenic carbon emissions produced in that same time period.[32]

These feedback loops inherently involve an event horizon, at which point our desire to stop emitting warming emissions becomes irrelevant. Ominously, a tipping point may have already passed considering NOAA's 2017 Arctic Report card refers to the Arctic's current state as a "new normal" of long-term losses.[33]

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[30] *Thermodynamics: Albedo*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/seaice/processes/albedo.html (last visited May 3, 2019).

[31] *Thermodynamics: Melt*, Nat. Snow and Ice Data Ctr., https://nsidc.org/cryosphere/seaice/processes/thermodynamic_melt.html (last visited May 3, 2019).

[32] Wadhams, p. 107

[33] J. Richter-Menge, J. E. Overland, J. T. Mathis, and E. Osborne, eds., 2017: *Arctic Report Card 2017*, Nat. Oceanic and Atmospheric Admin., https://arctic.noaa.gov/Report-Card/Report-Card-2017 (last visited May 3, 2019).

D. Economic Potential Benefits to Diminishing Sea Ice

The more the Arctic ice melts, the more the nations of the world are turning their attention northward looking to claim resources the ice melt exposes. There are several economic opportunities that open up as the sea ice recedes. Discussed in this article are the opening accessibility of oil and gas reserves and the opening of new trade routes. The US Geological Survey (USGS) found in a 2008 study that the Arctic contains 13% of the world's undiscovered oil and 30% of its undiscovered natural gas.[34] The USGS report found that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids are contained in the region.[35] Arctic nations are in various stages of considering or exploiting exploration and extraction of these fossil fuels for national energy demand. As the climate warms and the maximum ice extent retreats it becomes more and more feasible to drill for the oil and gas offshore since open water is required for placement of deeper exploratory drilling infrastructure whether fixed or floating. Ironically, land-fast sea ice is required to construct an artificial island for near-shore drilling and the melt of the ice is currently causing delays in construction of just such a project.[36] It is an unfortunate coincidence that the damage done to the Arctic gives easier access to more of the substance that damaged it in the first place.

Another anticipated resource is commercially navigable water. As the ice

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[34] *Arctic Oil and Natural Gas Resources*, U.S. Energy Info. Admin., https://www.eia.gov/todayinenergy/detail.php?id=4650 (last visited May 3, 2019).

[35] U.S. Geological Survey, USGS Fact Sheet 2008-3049 (2008) (available at, https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf).

[36] Ravenna Koenig, Climate Change Slows Oil Company Plan to Drill in the Arctic, NPR (November 21, 2018, 5:00 AM), https://www.npr.org/2018/11/21/669373081/climate-change-slows-oil-company-plan-

recedes, tourism industries anticipate using new navigable routes and commercial lines plan to transport goods through Arctic waters rather than using lengthier routes. In September 2018 the Venta Maersk became the first containership to navigate the Northern Sea Route (NSR) from Vladivostok to St. Petersburg.[37] The new shipping route, currently only open in the summer, spans the northern coast of Russia and reduces the travel time from South Korea to Germany from 34 days via the Suez Canal to 23 days, saving shipping companies valuable time and fuel.[38] Similar to the Suez Canal Authority establishing protocol for transiting Egypt's internal waters through the canal, Russia has created the Northern Sea Route Administration which issues permits for transit through the NSR. [39] There are questions about ownership of these straits though. The United States claims the NSR is an international strait[40] and similarly disputes Canada's claim of ownership of the Northwest Passage (NWP)[41], a shipping route anticipated to open off the northern coasts of Alaska and Canada and run through Baffin Bay.

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to-drill-in-the-arctic.

[37] *Venta Maersk Completes Northern Sea Route Passage*, The Maritime Executive, https://www.maritime-executive.com/article/venta-maersk-completes-northern-sea-route-passage (last visited May 3, 2019)

[38] *Is the Arctic Route the Future of Shipping?*, Port Technology, https://www.porttechnology.org/news/is_the_arctic_route_the_future_of_shipping (last visited May 3, 2019).

[39] Federal Law of Shipping on the Water Area of the Northern Sea Route (N 132-FZ) art. 5.1, July 28, 2012 (Russ.) (available at, http://www.nsra.ru/en/ofitsialnaya_informatsiya/zakon_o_smp.html) [hereinafter Russian Federal Law of Shipping].

[40] Ronald O'Rourke *et al*., Cong. Research Serv., R41153, Changes In the Arctic: Background and Issues for Congress 58 (2012).

[41] Ronald O'Rourke *et al*., Cong. Research Serv., R41153 – VERSION 144 – UPDATED, Changes In the Arctic: Background and Issues for Congress 23 (2019) (available at,

E. The Dangers of Arctic Fossil Fuel Exploitation

Exploring and exploiting fossil fuel resources in the Arctic has both indirect and direct environmental effects on the Arctic environment. The indirect effects come from the combustion of the Arctic's fossil fuels regardless of where on the planet that happens. As outlined above, the carbon contribution of combusting the Arctic's 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids will contribute to further temperature rise and deterioration of Arctic sea ice where the carbon contribution's warming effect is doubled.

Direct environmental impacts of fossil fuel exploitation come from significant human development in the Arctic, a relatively untouched region of the Earth, but the most grievous of direct impacts is the risk of immitigable oil pollution. Because the underside of the ice is constantly moving with the ice floe, any oil trapped underneath ice would be nearly impossible to clean up.[42] If oil gets trapped under the ice in winter, new ice forms under the oil and carries it for miles to some other location where the ice melts in the summer and the oil is redistributed.[43]

While this is most obvious in a blowout scenario, there are other sources worthy of concern. On the sea, potential sources could also include maritime ship disasters. Land-based fixed oil platforms also face additional danger when the land shifts and settles from permafrost melt. This shifting risks damaging infrastructure and pipelines

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https://fas.org/sgp/crs/misc/R41153.pdf).

[42] Wadhams, p. 99.

[43] Id.

and potentially causing spills. In July 2017 Admiral Paul Zukunft, 25th Commandant of the US Coast Guard, stated that the United States is not prepared to clean an oil spill in the Arctic.[44] This is largely because of the winds and high seas in the region that make traditional oil cleaning methods useless, as well as remoteness from any population centers, the vast distances required to travel, and the huge amount of surface territory to monitor along the Alaskan coastline.[45]

II. INTERNATIONAL LAW RELATING TO ICE MELT

The international law directly governing the Arctic region is scattered and piecemeal, most of it vague or nonbinding. While the Antarctic – a polar region with its own treaty system – is a continent surrounded by oceans, the Arctic is an ocean surrounded by continents. Perhaps it is this simple distinction that has given rise to the international Antarctic Treaty System while the Arctic relies primarily on the generally applied oceanic international law found in the United Nations Convention on the Law of the Sea (UNCLOS), commonly referred to as the Law of the Sea.[46] However, there is something akin to an international governing body for the Arctic. An international "forum", the Arctic Council was formed in 1996 by the 5 nations with territory on the

[44] Scott Waldman, *The U.S. Is Not Ready to Clean Up an Arctic Oil Spill*, Scientific American (July 19, 2017), https://www.scientificamerican.com/article/the-u-s-is-not-ready-to-clean-up-an-arctic-oil-spill/.

[45] Alaska's total coastline is over 46,000 miles, which is longer than the coastline of all the lower 48 states combined. See, *Alaska ShoreZone: Mapping Over 46,000 Miles of Coastal Habitat*, Nat. Oceanic and Atmospheric Admin., Office of Response and Restoration, https://response.restoration.noaa.gov/about/media/alaska-shorezone-mapping-over-46000-miles-coastal-habitat.html (last visited May 3, 2019).

[46] Mark Nevitt & Robert V. Percival, *Polar Opposites: Assessing the State of Environmental Law in*

Arctic coastline: Canada, Russia, Norway, the United States, and Denmark joined by 3 other nations with territory above the Arctic Circle as well as indigenous groups and observer nations.[47] While the Council promotes cooperation, coordination, and interaction with declarations and agreements signed by authorized national representatives, the Council has no enforcement authority and leaves to individual nations the task of ensuring agreement compliance from its own citizens.[48] In 2008, as concern mounted about Arctic coastal nations rushing to claim resources beyond their territorial limits delineated in UNCLOS, the 5 coastal nations, separate from the Arctic Council, signed the Ilulissat Declaration. It states that the law of the sea found within UNCLOS provides the rights and obligations of the Arctic and "[w]e therefore see no need to develop a comprehensive international legal regime to govern the Arctic."[49]

This was an affirmation that the parties had no interest in any further binding commitments relevant to the Arctic beyond the commitments of UNCLOS, but also an acknowledgement that each party needed to play by the rules of UNCLOS when it came to territorial claims to gain access to resources.

As Arctic nations expand claims into Arctic waters, military presence in the Arctic to support and defend those claims could become a point of contention. Since the Ottawa Declaration, the originating agreement of the Arctic Council, excludes the Arctic

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the World's Polar Regions, 59 B.C. L. Rev. 1655 (2018).

[47] Declaration on the Establishment of the Arctic Council, Sept. 19, 1996, 35 I.L.M. 1387 (available at, https://oaarchive.arctic-council.org/bitstream/handle/11374/85/EDOCS-1752-v2-ACMMCA00_Ottawa_1996_Founding_Declaration.PDF?sequence=5&isAllowed=y).

[48] *The Arctic Council: A backgrounder*, The Arctic Council, https://arctic-council.org/index.php/en/about-us (last visited May 3, 2019).

Council from interfering in matters of military security[50], the Arctic is open to military activity, unlike the Antarctic.[51] While military presence in the Arctic is not likely to lead to confrontation[52], the Arctic Ocean spans the shortest distance between Asian, European, and North American territories. Sea ice melt creates an inherent strategic interest in military presence, specifically naval presence, in the Arctic to defend sovereign territory that is now more easily accessible. This can be positive for search and rescue purposes, international environmental response coordination, as well as for studying ice. Given Russia's heavy reliance on fossil fuels for its economy, Russia's increased building of land-based military presence in the Arctic is likely simply trying to solidify oil and gas claims and possibly justify expansion of those claims further into the ocean floor. This national economic reliance on fossil fuels itself creates a strategic weakness in all Arctic coastal nations intent on growing in fossil fuel dependence because those claims are not at the sole discretion of the claiming nation but are subject to international approval under UNCLOS. Investing in fossil fuel infrastructure in the Arctic as well as the military and civilian infrastructure to support and defend it also places a fiscally risky bet on fossil fuels continuing to dominate the energy market when international agreements like the Paris Agreement are calling for national commitments to carbon emission reductions that

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[49] The Ilulissat Declaration, (May 28, 2008) (available at, https://cil.nus.edu.sg/wp-content/uploads/formidable/18/2008-Ilulissat-Declaration.pdf).

[50] Declaration on the Establishment of the Arctic Council, Sept. 19, 1996, 35 I.L.M. 1387 (n. 1).

[51] *See*, Antarctic Treaty, opened for signature Dec. 1, 1959, art. I, 12 U.S.T. 794, 402 U.N.T.S. 71 (entered into force June 23, 1961).

[52] The Canadian Chief of Defense Staff General Natynczyk is quoted to have humorously said: "If someone were to invade the Canadian Arctic, my first task would be to rescue them." Benjamin Schaller, *Deconstructing the Narrative of Arctic War*, World Policy (Mar. 9 2019), https://worldpolicy.org/2016/03/09/deconstructing-the-narrative-of-arctic-war/.

can only be achieved by transitioning the energy sector away from fossil fuels.

A. The Paris Agreement – Choosing Emissions Reductions or Ice Reductions

The world needs to reduce its carbon footprint if it's going to preserve the Arctic's climate balancing functions. In recognition of this, the U.S. and most other countries of the world entered into an agreement called the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. As a framework convention it expressed general ideas with an overall goal of "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[53] However, the binding commitments were relatively weak only requiring reporting on emissions without any serious requirement to curtail them.[54] It was a start. It recognized a distinction between developing countries and developed countries, placing origination of the largest share of historical emissions at the feet of developed countries. It was this difference in treatment between developing countries and developed countries, placing more responsibility on developed countries in consideration of their historic emissions contributions to take the lead on emissions reductions and provide emissions reduction technology assistance to developing countries – which at the time included China – that drove the U.S. to refuse future commitments to reduce emissions without similar targets and timetables imposed on developing

[53] United Nations Framework Convention on Climate Change art. 2, concluded May 9, 1992, 1771 U.N.T.S. 107 (entered into force March 21, 1994)

[54] United Nations Framework Convention on Climate Change art. 4, May 9, 1992, 1771 U.N.T.S. 107

countries.[55] That sentiment is echoed today as well with the Paris Climate Agreement.[56]

The Paris Agreement of 2015, also called the Paris Climate Accord, was an agreement of the parties of the UNFCCC in 2015 to elaborate on more serious national commitments to keep "the global average temperature to well below 2°C above pre-industrial levels […]."[57] The commitments enshrined in the agreement are more obligation-oriented than the bare reporting requirements of the UNFCCC but still leave plenty of wiggle room to the parties. The agreement requires parties to submit self-selected, increasingly ambitious emissions commitments or "nationally determined contributions" of their own choosing every five years, but leaves it to the individual country how stringent those commitments will be or what form they take.[58] The U.S. submitted its chosen nationally determined contribution on March, 9, 2016 as "an economy-wide target of reducing its greenhouse gas emissions by 26%-28% below its 2005 level in 2025 […]."[59] Since then President Trump has announced in June 2017 his

[55] Congressman Smith on May 23, 2001 reminded the House that "in July of 1997, before the Kyoto Protocol was agreed to, the U.S. Senate passed what they called the Byrd-Hagel resolution, which says that the U.S. should not be signing any treaty that, one, would mandate reductions in greenhouse gas emissions for developed countries but not developing countries; and, two, would result in a serious economic harm to the Nation. And of course the Kyoto Protocol moves in both of these directions. It does not include countries for any reduction, such as China, India, Mexico, Brazil, and many other developing countries." 147 Cong. Rec. H. 2659, 2660 (2001).

[56] Congressman Brooks of Alabama took the house floor on June 7, 2017 claiming "America must lead by putting America's national interests first. The Paris climate accord failed to do that. By way of example, under the Paris climate accord, China and India, two of the biggest and worst polluters on Earth, have no new air pollution control obligations until 2030, at the earliest." 163 Cong. Rec. H. 4653 (2017).

[57] Paris Agreement to the United Nations Framework Convention on Climate Change art. 2, Dec. 12, 2015, T.I.A.S. No. 16-1104.

[58] Paris Agreement to the United Nations Framework Convention on Climate Change art. 3-4, Dec. 12, 2015, T.I.A.S. No. 16-1104.

[59] U.S. Cover Note, INDC and Accompanying Information, United Nations Framework Convention on Climate Change (2015) (available at, https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx).

intention that "the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country".[60] However, the Paris Agreement specifies that no party can withdraw from the agreement until three years after the agreement went into force for that country.[61] This means the U.S. is bound by the agreement until 2020 but will not make a second submission of nationally determined contributions.

Withdrawing from the Paris Agreement out of nationalistic interest at the very least isolates the U.S. from the international community's efforts to solve a common problem. At worst, it legitimizes and provides competing nations precedent to leave the Agreement as well, although that has fortunately not happened yet.[62] As a matter of strategic diplomacy, U.S. withdrawal from the Paris Agreement weakens the U.S. position in the international community and strengthens the position of competing nations who remain committed to solving climate problems with the rest of the world. Either way, it dooms the remaining nations' efforts to failure[63] since the U.S. is typically either the largest or second largest annual carbon emitter in the world and the largest contributor of historical emissions by far.[64] The U.S. is such a key player to this agreement that

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[60] Statement by President Trump on the Paris Climate Accord, White House (June 1, 2017, 3:32 PM), https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/

[61] Paris Agreement to the United Nations Framework Convention on Climate Change art. 28, Dec. 12, 2015, T.I.A.S. No. 16-1104.

[62] Annie Gowen and Simon Deyner, *As U.S. Backs Away From Climate Pledges, India and China Step Up*, The Washington Post (June 1, 2017), https://www.washingtonpost.com/world/asia_pacific/as-us-backs-away-from-climate-pledges-india-and-china-step-up/2017/06/01/59ccb494-16e4-4d47-a881-c5bd0922c3db_story.html?utm_term=.0d0287944852.

[63] James McBride, *The Consequences of Leaving the Paris Agreement*, Council on Foreign Relations (June 1, 2017), https://www.cfr.org/backgrounder/consequences-leaving-paris-agreement.

[64] Justin Gillis and Nadja Popovich, *The U.S. Is the Biggest Carbon Polluter in History. It Just Walked*

given the current nationally determined contributions, a withdrawal of the U.S. from the agreement would mean a 1.6° C increase above the 2° C goal.[65]

If the U.S. were to remain in the Paris Agreement, some scientists are suggesting that a goal of remaining below a 2° C increase requires a moratorium on the development of any undiscovered Arctic oil.[66] Unfortunately, that may not be economically realistic. Declaring a policy of no new oil production would instantly devalue every oil company's assets which would have ripple effects throughout the wider economy.[67]

However, the fossil fuel industry could be supported in a global transition away from a fossil fuel dominated energy economy by allowing it drilling permits that would produce natural gas from the methane release in the permafrost. As discussed above, when permafrost melts, it threatens to release disastrous levels of methane. Capturing and combusting one molecule of methane emits one molecule of CO2 but the CO2 has only one twenty-third the warming potential. Rather than risk entering the feedback loop of uncontrolled methane release, it would be better to extract or otherwise collect the released methane and all the better if allowing methane extraction buys the energy industry time to transition to non-fossil fuel sources.[68]

However, for Arctic offshore oil production, it will take decades to develop the production infrastructure necessary to start any large-scale oil production before it is

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Away From the Paris Climate Deal., The New York Times (June 1, 2017), https://www.nytimes.com/interactive/2017/06/01/climate/us-biggest-carbon-polluter-in-history-will-it-walk-away-from-the-paris-climate-deal.html.

[65] *Paris Climate Deal: Trump Pulls US Out of 2015 Accord*, BBC News (June 1, 2017), https://www.bbc.com/news/world-us-canada-40127326.

[66] Craig H. Allen, *Arctic Law & Policy in Review: 2017*, 8 Wash. J. Envtl. L. & Pol'y 106, 239 (2018).

available to consumers.[69] By the time that undiscovered Arctic oil investment starts to become economic, it may be past a point when the U.S. is supposed to be considerably reducing carbon emissions anyway by the U.S.'s own commitments in the Paris Agreement or a similar future agreement. Therefore, current investment in Arctic oil infrastructure would be better spent on developing low carbon energy sources.

B. Ratification of UNCLOS – Shelves, Straits and Standing

The U.S.' failure to ratify UNCLOS also poses additional legal and strategic problems for the country regarding the Arctic. This issue already presses a thorn in the side of U.S. foreign relations in the Arctic and it will only worsen as the ice melts. It is a bewildering irony that the U.S. was party to the previously mentioned Ilulissat Declaration acknowledging that UNCLOS was sufficient to determine claims in the Arctic, but as long as the U.S. fails to ratify UNCLOS, the U.S. is the only member of the Arctic Council who isn't even party to the convention the U.S. says is binding for the region.[70] This has multiple ramifications for U.S. policy in the Arctic, particularly for continental shelves and navigable straits.

In 2007 the Arctic had record sea ice melt, surpassing the most aggressive

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[67] Wadhams, at 98-99.

[68] Id at 129.

[69] Statement on the Withdrawal of Certain Areas in the Arctic and Atlantic Oceans on the Outer Continental Shelf From Mineral Leasing, 2016 Daily Comp. Pres. Docs. No. 00858 (Dec. 20, 2016). (*available at* https://www.govinfo.gov/app/details/DCPD-201600858).

[70] United Nations, Multilateral Treaties Deposited with the Secretary-General: Status as at Mar. 5, 2019, Ch. XXI, 7.

predicted model.[71] In that same year, Russia planted a Russian titanium flag on the seabed at the North Pole.[72] In 2008, in response to claims on the Arctic, representatives from the Arctic nations adopted the Ilulissat Declaration considering the need to balance "potential impact on vulnerable ecosystems […] and the potential exploitation of natural resources."[73] Since that time, Russia has continued developing oil platforms and military bases in the Arctic.[74]

Article 76 of UNCLOS defines a nation's continental shelf as "the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines […] where the natural outer edge of the continental margin does not extend up to that distance."[75] When a country claims its continental shelf extends beyond 200 nautical miles it must submit scientific and technical data to the Commission on the Limits of the Continental Shelf (CLCS) to justify why the nation's continental shelf should be internationally recognized beyond the 200 nautical mile limit.[76]

Russia, Denmark and Canada all have submissions in to the CLCS for extensions of their continental shelves into the central Arctic Ocean, all overlapping at the North Pole. Russia has requested its shelf be recognized to extend through the Lomonosov

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[71] *Models Underestimate Loss of Arctic Sea Ice*, Nat. Snow and Ice Data Ctr., https://nsidc.org/news/newsroom/20070430_StroeveGRL.html (last visited May 3, 2019).

[72] C.J. Chivers, *Russians Plant Flag on the Arctic Seabed*, The New York Times (Aug. 3, 2007), https://www.nytimes.com/2007/08/03/world/europe/03arctic.html.

[73] The Ilulissat Declaration, (May 28, 2008) (available at, https://cil.nus.edu.sg/wp-content/uploads/formidable/18/2008-Ilulissat-Declaration.pdf).

[74] Gary K. Busch, *Russia's New Arctic Military Bases*, Lima Charlie News (Apr. 29, 2017), https://limacharlienews.com/russia/russia-arctic-military-bases/.

[75] United Nations Convention on the Law of the Sea Art. 76, Dec. 10, 1982, 1833U.N.T.S. 397

Ridge, an underwater mountain range that passes under the North Pole and nearly bisects the Arctic Ocean between Greenland and Russia.[77] Russia's claim would increase its authority over Arctic mineral resource claims considerably.[78] Russia expects a decision on its 2015 submission in mid-2019.[79] Russia, Denmark, and Canada all have representation on the CLCS, which makes the decision whether any country is able to claim an extended continental shelf and the resources on it.[80] The U.S., not being a party to UNCLOS, has never had representation on the CLCS.

Russia's claims over the continental shelf may in fact be out of a concern that since the U.S. has not ratified UNCLOS, the U.S. may attempt to take advantage of its Arctic partners on the Arctic Council who are bound by UNCLOS.[81] Perhaps recognizing that the U.S. had no way to "officially" make claims to an extended continental shelf as a nonparty to the Convention, Russia wanted to stake its claim as expansively as it could within UNCLOS to ensure there would be a basis in treaty and customary law for it to not lose anything. U.S. ratification of UNCLOS would go a long way to easing tensions about sovereignty over resources in the region because fellow

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[76] United Nations Convention on the Law of the Sea Anx. 2, Art. 4, Dec. 10, 1982, 1833U.N.T.S. 397

[77] Partial Revised Submission of the Russian Federation to the Commission on the Limits of the Continental Shelf in Respect of the Continental Shelf of the Russian Federation in the Arctic Ocean, Executive Summary, (2015), *available at*, https://www.un.org/depts/los/clcs_new/submissions_files/rus01_rev15/2015_08_03_Exec_Summary_English.pdf.

[78] Eric Hannis, *Russia's Arctic Ambitions*, U.S. News and World Report (Mar. 14, 2017), https://www.usnews.com/opinion/world-report/articles/2017-03-14/russia-is-making-a-land-and-resource-grab-in-the-arctic.

[79] *UN May Decide on Russia's Request to Expand its Arctic Shelf This Summer – Nature Ministry*, The Arctic (Mar. 22, 2019), https://arctic.ru/news/20190322/830630.html.

[80] *Members of the Commission*, Commission on the Limits of the Continental Shelf (CLCS), (last updated Sept. 25, 2018), https://www.un.org/Depts/los/clcs_new/commission_members.htm#Members.

[81] Morgane Fert-Malka, The Non-Issue of Russia's Arctic Continental Shelf, World Policy (Sept. 14,

Arctic Council members would know that everyone else is bound to play by the same rules.

As the ice recedes, claims over the status of navigable waters will also become increasingly important. Russia claims that navigable waters in the NSR between its northern coastline and the sea ice are internal waters, while the United States claims this area is an international strait subject to free transit passage under UNCLOS, and makes similar claims about the Northwest Passage (NWP) opening north of Canada.[82] Unfortunately, the U.S. is not able to assert these claims to the International Tribunal for the Law of the Sea where they should logically be heard because Congress has not ratified UNCLOS since it was presented to the Senate for advice and consent in 1994.[83]

Researchers from the University of Reading in the United Kingdom studied changes in the anticipated paths of the Arctic routes and how they would likely be affected by melting Arctic sea ice over time using computer modeling.[84] Their models in Figure 1 below show the routes of the NSR and the NWP through the Arctic shifting toward the North Pole over time. The route changes on the models gradually moving toward the pole are important because as the routes change due to sea ice melt, there will likely be corresponding changes regarding the authority of coastal nations to legally exert influence over those routes under UNCLOS.

2017), https://worldpolicy.org/2017/09/14/the-non-issue-of-russias-arctic-continental-shelf/.

[82] Ronald O'Rourke *et al*., Cong. Research Serv., R41153 – VERSION 144 – UPDATED, Changes In the Arctic: Background and Issues for Congress 23 (2019) (available at, https://fas.org/sgp/crs/misc/R41153.pdf).

[83] *Id.*

[84] N. Melia et al., *Sea Ice Decline and 21st Century Trans-Arctic Shipping Routes*, 43 Geophys. Res.

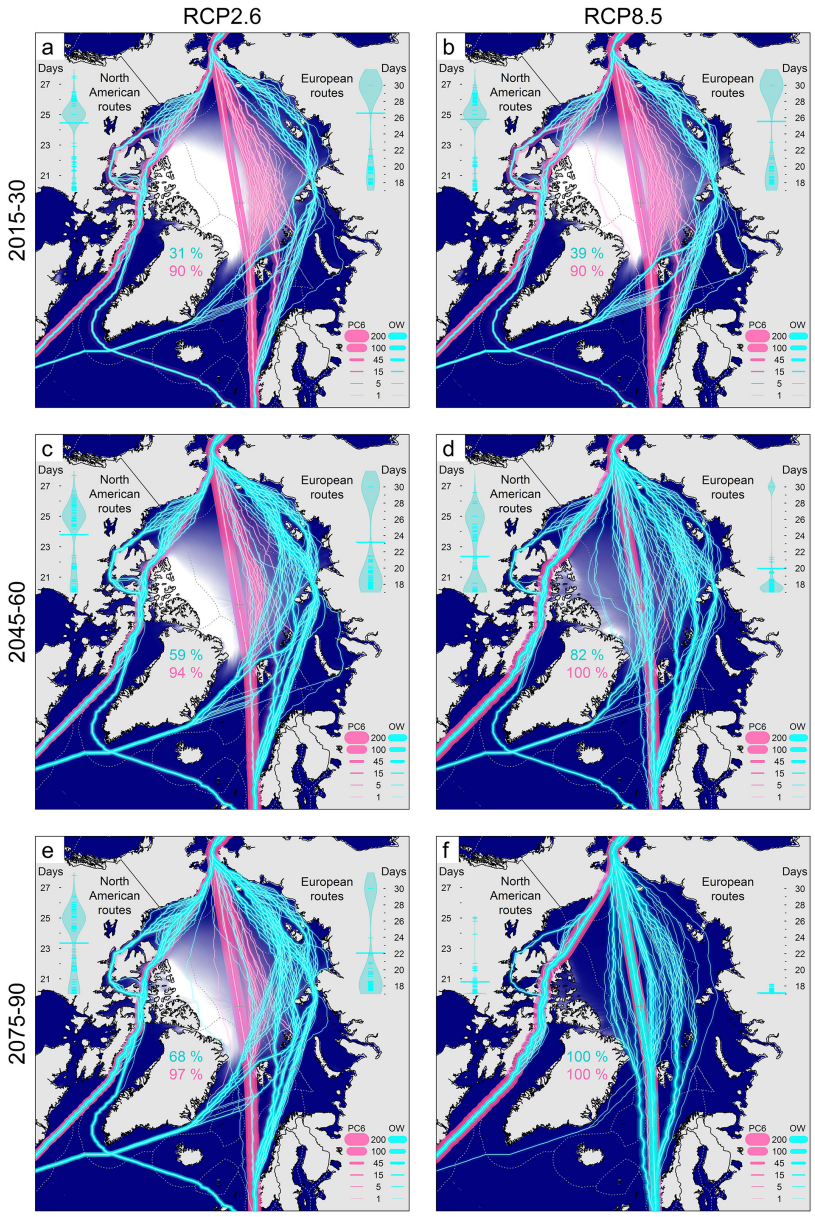

Figure 1: Maps of modeled Arctic sea routes projected from 2015 to 2090. Pink lines represent projected Polar vessel paths, cyan lines represent projected open water vessel paths.[85]

Lett. 9720, 9720-9728 (2016).

[85] *Id.*

Russia claims the NSR passes through internal waters, territorial seas, and its exclusive economic zone (EEZ) and claims this gives it the authority to regulate vessel traffic through the route.[86] Article 3 of UNCLOS allows a coastal state to set their territorial sea at 12 nautical miles.[87] Foreign vessels may not navigate within another nation's territorial sea except by innocent passage,[88] a peaceful transit scheme for the sole purpose of traversing a nation's territorial sea continuously and expeditiously.[89] Because of the influence any nation exerts over its territorial sea, waters within 12 nautical miles of Russia's coastline are subject to Russian regulation in general. While at first glance that appears to support the Russian position, the outcome differs vastly for a strait used for international navigation between high seas or exclusive economic zones (EEZs) – waters within 200 nautical miles of a nation's coastlines but further than their 12 nautical miles of territorial sea.[90] In such a case, transit passage is permitted.[91] The only burden on the transiting traffic is to proceed without delay through the strait.[92] Per the U.S. Arctic Policy originally set forth by President Bush, it is the U.S. position for both the NSR and the NWP that even if these routes go through territorial sea, they connect areas

[86] Pavel Gudev, *The Northern Sea Route: a National or an International Transportation Corridor?*, Russian International Affairs Council (Sept. 24, 2018), https://russiancouncil.ru/en/analytics-and-comments/analytics/the-northern-sea-route-a-national-or-an-international-transportation-corridor/.

[87] United Nations Convention on the Law of the Sea, Art. 3, Dec. 10, 1982, 1833 U.N.T.S. 397, available at https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf [herinafter UNCLOS].

[88] UNCLOS, *supra* note 87, Art. 17.

[89] UNCLOS, *supra* note 87, Art. 18.

[90] UNCLOS, *supra* note 87, Art. 57.

[91] UNCLOS, *supra* note 87, Art. 37.

[92] UNCLOS, *supra* note 87, Art. 39.

of the high seas which makes them subject to free transit passage.[93]

The models of Figure 1 present an even simpler option as Arctic sea lanes continue to open with ice melt. Article 36 indicates that when a strait goes through a nation's EEZ, international shipping is governed by freedom of navigation.[94] By way of illustration, since the distance between Key West in the United States and Havana in Cuba is about 90 nautical miles, there is no transit passage scheme there. A vessel may freely navigate as it chooses between those points as long as it doesn't come within the 12 nautical mile territorial sea of one country or the other. This is true even though navigation between those points would necessarily fall within either country's EEZ. What this means for the NSR is that even if U.S. is wrong and the NSR is not subject to transit passage, as the ice recedes the routes will change and shipping may eventually pass only through Russia's EEZ where traffic should certainly be able to freely navigate without coastal regulation.

Russia may attempt to change the dialogue on the strait by invoking Article 234 of UNCLOS, which allows a state to create laws to protect the environment in ice covered areas, even within its EEZ.[95] Russia would likely claim broad authority under this provision for the NSR with an expansive view of what is required to protect the environment. Current laws and regulations that require applications for passage 15 days

[93] See paragraph III(B)(5) of National Security Presidential Directive 66 (NSPD-66)/Homeland Security Presidential Directive 25 (HSPD-22, 25), Jan. 9, 2009, *available at* https://www.nsf.gov/geo/opp/opp_advisory/briefings/may2009/nspd66_hspd25.pdf

[94] UNCLOS, *supra* note 87, Art. 36.

[95] UNCLOS, *supra* note 87, Art 234.

in advance, accompanying ice breakers, pilotage, and fees for maintenance of the route[96] all could inure to the benefit of the Russian government under a broad interpretation of what is required for environmental protection. However, even if the route could be regulated differently under Article 234 than a normal international strait subject to transit passage under Article 37, the necessity for environmental protection in an ice covered area becomes less and less persuasive the more the ice recedes. The argument for regulation under Article 234 loses legitimacy as the region loses ice.

The question is whether these Arctic routes are more like the truly internal waters of the Suez canal where the transiting ship pays for passage through internal waters and local navigation pilots are required onboard to transit – both of which the Russian government is currently implementing in the NSR – or if the routes are more like the Strait of Hormuz, an international shipping lane with a traffic separation scheme accommodating transit passage but no country having exclusive regulatory authority over the route. The seasonal changing of the navigability of the Arctic routes makes the scenario debatable even if the debate favors the U.S. the more the ice melts. However, the U.S. can't be a formally recognized part of that debate without ratifying UNCLOS and it's a debate that affects how the U.S. operates in the Arctic militarily, economically, and environmentally. Should the U.S. decide in the future to use the NSR, how would it assert a freedom of navigation if other nations have acquiesced to Russia's control? It couldn't bring the issue to the International Tribunal for the Law of the Sea, where only

[96] Russian Federal Law of Shipping, *supra* note 39.

parties to UNCLOS would have standing. The U.S. would be as it is in the Arctic Council when it comes to UNCLOS ratification: on its own.

III. DOMESTIC LAW RELATED TO OIL POLLUTION

On March 24, 1989 the *Exxon Valdez*, an oil tanker, ran aground in the Prince William Sound off the southern coast of Alaska, spilling over 11 million gallons of crude oil into the sound – the largest oil spill in U.S. history to that point.[97] Mitigation efforts involved chemical dispersants and containment booms.[98] The cleanup was ineffective and oil can still be found on the shores of the sound.[99] In response to the spill, Congress passed the 1990 Oil Pollution Act.[100] Twenty years later, the oil drilling rig Deepwater Horizon exploded in the Gulf of Mexico, killing 11 people and releasing 134 million gallons of oil into the water.[101] The response again used dispersants and booms, but only collected 3% of the oil with booms and skimming while burning another 5%,[102] leaving the rest to hopefully be addressed by dumping in 1.8 million gallons of dispersants.[103] Unfortunately, oil was still deposited along 1,313 miles of shoreline in the Gulf.[104] These

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[97] *Exxon Valdez Spill Profile*, U.S. Envtl. Protection Agency, https://www.epa.gov/emergency-response/exxon-valdez-spill-profile (last visited May 3, 2019)

[98] Id.

[99] *Exxon Valdez Oil Spill*, Prince William Sound Regional Citizen's Advisory Board, http://www.pwsrcac.org/about/exxon-valdez-oil-spill/ (last visited May 3, 2019)

[100] U.S. Envtl. Protection Agency, *supra* note 95.

[101] *Gulf Oil Spill*, Nat. Oceanic and Atmospheric Admin., https://www.noaa.gov/resource-collections/gulf-oil-spill (last visited, May 3, 2019)

[102] Roger C. Prince, *Oil Spill Dispersants: Boon or Bane?*, 49 Envtl. Sci. & Tech. 6376, 6376 (2015).

[103] Allison Eck, *Dispersant May Have Made Effects of Deepwater Horizon Spill Much Worse*, NOVA (Nov. 10, 2015), https://www.pbs.org/wgbh/nova/article/dispersant-may-have-made-effects-of-deepwater-horizon-spill-much-worse/.

[104] Brian C. Howard, *BP Oil Spill Trashed More Shoreline Than Scientists Thought*, National

emergency responses were both under comparably favorable sea conditions. Admiral Zukunft of the U.S. Coast Guard reported that in the Deepwater Horizon cleanup "whenever the seas are over 4 feet, our ability to mechanically remove oil is virtually impossible."[105] If 4 foot seas makes oil removal virtually impossible, certainly the notion of using traditional floating booms would be rendered obsolete by doubling that wave height figure. Due to the inverse relationship between sea ice extent and wave height in the Arctic, the *average* wave height north of 70 degrees latitude in the summer often exceeds 9 feet, has been measured at over 16 feet, and will increase as the sea ice retreats.[106] Additionally, the cold temperatures in the Arctic would hamper both dispersion and biodegradation of hydrocarbons, impairing the effectiveness of dispersants.[107] As if that weren't enough, the distances and time logistically involved in getting people and resources to an oceanic spill in rural northern Alaska cause precious hours to tick by while oil is spreading. The impossibility of cleaning oil in the Arctic under these conditions underscores the idea that the U.S. can't afford oil accidents in the Arctic. If the U.S. drills for oil there, the U.S. needs to have certainty there won't be a spill because once the oil spills, there is no cleaning it and the moving ice floes will spread it for hundreds of miles over the course of the following year.

This article will discuss three potential legal courses of action to take domestically

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Geographic (Apr. 20, 2016), https://news.nationalgeographic.com/2016/04/160420-bp-oil-spill-shoreline-affected-deepwater-horizon-anniversary/.

[105] Waldman, *supra* note 44.

[106] Takuji Waseda et al., *Correlated Increase of High Ocean Waves and Winds in the Ice-Free Waters of the Arctic Ocean*, 8 Scientific Reports 4489 (2018).

[107] Leendert Vergeynst, et al., *Biodegredation of Marine Oil Spills in the Arctic with a Greenland*

to ensure a spill does not occur. The first two are the surest way to prevent a spill because they involve leaving the oil in the ground. The third involves ensuring agencies are implementing regulations stringent enough to prevent accidental spills. First, federal courts have granted and should continue to uphold a grant of relief to plaintiffs in an ongoing case about whether President Trump can revoke a withdrawal President Obama made under the Outer Continental Shelf Lands Act (OCSLA). Second, should the federal courts allow President Obama's withdrawal to be revoked, Congress should enact pending legislation amending OCSLA to prohibit new oil leasing in the Beaufort and Chukchi Seas. Third, if neither of the previous two options occur, the Bureau of Safety and Environmental Enforcement (BSEE) should retain the lessons learned and reflected in safety regulations relating to blowout preventer equipment promulgated after the Deepwater Horizon incident, at least specifically for the Arctic region if nothing else.

A. Judicial Action – Upholding Presidential Withdrawals Under OCSLA

Pursuant to his express authority to do so in OCSLA, President Obama withdrew Arctic waters from offshore drilling in a Presidential Memorandum on December 20, 2016.[108] Four months later, President Trump released an executive order on April 28, 2017 purporting to modify President Obama's withdrawal by limiting it to Marine

Perspective, 626 Science of the Total Environment, 1243 (2018).

[108] Memorandum on Withdrawal of Certain Portions of the United States Arctic Outer Continental Shelf from Mineral Leasing, 2016 Daily Comp. Pres. Docs. No. 00860 (Dec. 20, 2016).

Sanctuaries.[109] There are 13 Marine Sanctuaries, none of which are in the Arctic.[110] Litigation on the authority of President Trump's revocation has been ongoing with environmentalist plaintiffs attacking President Trump's authority to reopen for drilling what President Obama withdrew. During the course of drafting this article, the District Court of Alaska handed down a ruling granting motion for summary judgment to the plaintiffs on March 29, 2019.[111] The defendants will likely appeal to the 9th Circuit but in the meantime, Interior Secretary David Bernhardt has halted plans to proceed on leasing as a result of the District Court decision.[112] These recent events only serve to underscore the current rapid pace of development of the law relevant to the Arctic and the import it has at the federal level.

On May 3, 2017 League of Conservation Voters and various environmental Plaintiffs filed suit against President Trump, Secretary Zinke, and Secretary Ross requesting Judge Sharon Gleason of the District Court of Alaska declare President Trump's executive order invalid as a constitutional violation of separation of powers and enjoin the Defendants from complying with it.[113] The Plaintiffs argued that only Congress has authority to dispose of federal land except where Congress has explicitly delegated that authority and that while OCSLA contains such a delegation in section 12(a), it appears to operate only one way – to withdraw territory only. The Plaintiffs

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[109] Exec. Order No. 13795, 82 Fed. Reg. 20815 (April 28, 2017).

[110] *National Marine Sanctuary System*, Nat. Oceanic and Atmospheric Admin., https://sanctuaries.noaa.gov/ (last visited May 3, 2019).

[111] *League of Conservation Voters v. Trump*, No. 3:17-cv-00101-SLG, 2019 U.S. Dist. LEXIS 55026, at *23 (D. Alaska Mar. 29, 2019).

[112] Coral Davenport, *Interior Dept. Delays Its Plan to Open U.S. Coastline to Drilling*, The New York

asserted that President Trump's attempted revocation of the withdrawal is an assumption of a power over federal land not delegated to the President. Judge Gleason found that President Trump's Executive Order "which purported to revoke prior presidential withdrawals of OCS lands for leasing, is unlawful, as it exceeded the President's authority under Section 12(a) of OCSLA […]."[114] This finding has a solid legal basis in statutory interpretation of OCSLA and the 9th Circuit should affirm the decision.

The Property Clause of the U.S. Constitution provides "The Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States."[115] This leaves the exclusive authority of disposition of federal public land with Congress.[116] It is well-established law based on separation of powers that "[s]ince the Constitution places the authority to dispose of public lands exclusively in Congress, the executive's power to convey any interest in these lands must be traced to Congressional delegation of its authority."[117] Congress has delegated this executive authority over pubic lands in specific instances such as OCSLA for the Outer Continental Shelf (OCS).

The OCS is defined as the submerged lands surrounding the United States from 3 nautical miles from shore seaward that "appertain to the United States" by international

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Times (Apr. 25, 2019), https://www.nytimes.com/2019/04/25/climate/offshore-drilling-delay.html.

[113] *League of Conservation Voters v. Trump*, 303 F. Supp. 3d 985, 991 (D. Alaska 2018).

[114] *League of Conservation Voters v. Trump*, *supra* note 109.

[115] U.S. Const. art. IV, § 3, cl 2.

[116] *United States v City and County of San Francisco*, 310 U.S. 16, 29-30 (1940).

[117] *Sioux Tribe of Indians v United States*, 316 U.S. 317, 326 (1942).

law.[118] The disposition of the OCS and its resources is governed by OCSLA. Of particular importance to the discussion of these competing executive orders is section 12(a) specifying in whole, "The President of the United States may, from time to time, withdraw from disposition any of the unleased lands of the outer Continental Shelf."[119] This is an express congressional delegation of authority to the President to withdraw lands in the OCS from oil and gas leasing. President Obama's 2015 and 2016 withdrawals of the Beaufort and Chukchi Seas expressly cited this authority delegated by Congress in making the withdrawals.[120] The question Judge Gleason answered in the negative that now goes to the 9th Circuit for consideration is whether the office of the President has any authority relative to those lands once the withdrawal authority for those lands has already been exercised.

President Trump attempted to exercise such authority when issuing an executive order attempting to modify President Obama's previous withdrawals by claiming they only affect existing Marine Sanctuaries and then claimed to open the Beaufort and Chukchi Seas for leasing.[121] However, it is unlikely the President has any authority over these lands subsequent to their withdrawal.

The plain text of section 12(a) of the OCSLA provides for a withdrawal power only. Once that power has been exercised, there is nothing express in the language of the statute that would permit an "un-withdrawal" of the previous withdrawal. As discussed

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[118] *See* 43 U.S.C. § 1331.

[119] *See* 43 U.S.C. § 1341(a).

[120] *See* Memorandum on Withdrawal of Certain Portions of the United States Arctic Outer Continental Shelf from Mineral Leasing, 2016 Daily Comp. Pres. Docs. No. 00860 (Dec. 20, 2016).

above, the power over federal land is "vested in Congress without limitation."[122] The only power expressly delegated to the President in the Act is the power of withdrawal. It would be a violation of the separation of powers for the President to assume a power over land not expressly given in the Constitution, particularly where the precedent has so plainly placed all powers over land in Congress through the Property Clause. This plain language argument was made by Attorneys General on multiple occasions throughout history that, once the reservation has been made, the President is "without authority to abolish such reservation."[123] It is also telling that Congress understood that it could have included some reversal or revocation of the withdrawal power, as it had done previously in the General Withdrawal Act and the National Organic Forest Act by authorizing the President to withdraw public lands and allow that "such withdrawals or reservations shall remain in force *until revoked by him* or by an Act of Congress."[124] The fact that such language could but does not appear should be indicative of Congressional intent on the plain language of the statute. Judge Gleason found this reasoning persuasive finding that "Congress's silence in Section 12(a) as to according the President revocation authority was likely purposeful; had Congress intended to grant the President revocation authority, it could have done so explicitly, as it had previously done in several […] laws."[125]

The Defendants in *League of Conservation Voters* argue that the plain language

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[121] *See* Exec. Order No. 13795, 82 Fed. Reg. 20815 (April 28, 2017).
[122] *United States v. Gratiot*, 39 U.S. 526, 537 (1840).
[123] *See* Memorandum in Support of Plaintiff's Motion for Summary Judgment at 28-29, *League of Conservation Voters v. Trump*, No. 3-17-cv-00101-SLG (D. Alaska Jun. 8, 2018).
[124] *See* General Withdrawal Act, ch. 421, § 1, 36 Stat. 847 (1910)(repealed 1976)(emphasis added).
[125] *League of Conservation Voters v. Trump*, *supra* note 109.

"from time to time" indicates a degree of discretion to the President that allows revocation of previous withdrawals.[126] However, the more logical reading of the phrase is that it indicates *how often* the authority may be exercised rather than inferring that the withdraw itself has a limited duration subject to the discretion of the office of the President.[127] Moreover, the exact phrase "from time to time" appears 4 times throughout OCSLA indicating that if Defendant's reading of 12(a) applied throughout the statute, it would be riddled with temporal uncertainties subject to nebulous conditions.

Simply on the plain language of 12(a) of OCSLA, the 9th Circuit could affirm Judge Gleason's District Court ruling in the *League of Conservation Voters* case. The statute provides an authority to withdraw land but the President's authority respecting that land ends once he or she exercises that authority. The remedy for a lack of revocation lies with Congress amending 12(a), not the courts reading in meanings that Congress could have supplied but did not.

However, even if the 9th Circuit were to overrule the District Court and give an expansive interpretation of the President's congressional delegation of authority under OCSLA, there are myriad other obstacles to oil and gas development in the region. BOEM is still drafting an Environmental Impact Statement for the 2019 leases[128] which is now on hold but upon eventual completion might be challenged for sufficiency. On the

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[126] *See* Defendant's Memorandum of Points and Authorities in Support of their Motion for Summary Judgment and Opposition to Plaintiff's Motion for Summary Judgment at 23-24, *League of Conservation Voters v. Trump*, No. 3-17-cv-00101-SLG (D. Alaska Jul. 18, 2018).

[127] Kevin O. Leske, "*Un-Shelfing" Lands Under the Outer Continental Shelf Lands Act (OCSLA): Can a Prior Executive Withdrawal Under Section 12(a) be Trumped by a Subsequent President?*, 26 N.Y.U. Envtl. L.J. 1, 25 (2017).

more practical business side of things, the oil industry is unlikely to purchase leases where the outcome of their future exploratory rights may be in question with all the legal uncertainty currently unfolding. The uncertainty about whether the Administration itself will even remain the same and retain the same policies by the time final rulings are issued in the 9th Circuit, or possibly even the Supreme Court, should also give pause to any savvy Arctic oil developers for the time being.

B. Congressional Action – Withdrawing the Arctic Directly in OCSLA

If federal courts don't end up ruling that President Obama's previous withdrawals of the Arctic remain withdrawn, there is current legislation proposed in the House of Representatives that would reach the same outcome. H.R. 309, titled the "Stop Arctic Ocean Drilling Act of 2019", proposes to amend OCSLA by adding the following paragraph in Section 8 directly referencing the Arctic:

> (q) PROHIBITION OF OIL AND GAS LEASING IN ARCTIC PLANNING AREA OF THE OUTER CONTINENTAL SHELF.- Notwithstanding any other provision of this Act or any other law, the Secretary of the Interior shall not issue or renew a lease or any other authorization for the exploration, development, or production of oil, natural gas, or any other mineral in the Arctic Ocean, including the Beaufort Sea and Chukchi Sea Planning Areas.[129]

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[128] *2019 Beaufort Sea OCS Oil and Gas Lease Sale*, Bureau of Ocean Energy Mgmt., https://www.boem.gov/beaufort2019/ (last visited May 3, 2019).

[129] H.R. 309, 116th Cong. (2019)

The bill was referred to the House Subcommittee on Energy and Mineral Resources on February 5, 2019 and currently has 36 cosponsors.[130] However, this legislation likely has little hope of passing through both the House and Senate. It may take an Arctic oil spill for Congress to pass legislation like this given how much consensus it would need.

C. Agency Action – Regulatory Return to Lessons of Deepwater Horizon

Assuming that neither the courts nor Congress permit a scheme that withdraws the Arctic from oil development, BSEE could still ensure a spill doesn't happen by ensuring its regulations reflect the lessons learned after the Deepwater Horizon incident, specifically on blowout preventers, verification, and capping instead of sealing.

In the aftermath of the Deepwater Horizon incident, several organizational reforms took place to ensure that something like it would not happen again. Before the Deepwater Horizon incident, the Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM) existed as one entity, the Minerals Management Service (MMS) within the Department of Interior.[131] In response to the Deepwater Horizon incident, Secretary of the Interior Kenneth Salazar split the MMS because of a conflict of interest within the original MMS agency relating to competing missions of enforcing safety regulations (regardless of revenue) and collecting

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[130] Cosponsors: H.R. 309 – 116th Congress 2019-2020), Libr. Congress, https://www.congress.gov/bill/116th-congress/house-bill/309/cosponsors (accessed May 3, 2019).

[131] Henry B. Hogue, Cong. Research Serv., R41485, Reorganization of the Minerals Management Service in the Aftermath of the Deepwater Horizon Oil Spill, (2010) (available at, https://fas.org/sgp/crs/misc/R41485.pdf).

revenue (regardless of safety).[132] BOEM's primary responsibility became managing the offshore leases while BSEE's primary responsibility became permitting, inspections, regulatory reform, and oil spill response.[133]

Under the Obama administration and in the fallout of Deepwater Horizon, BSEE promulgated regulations to increase the safety of offshore drilling rigs. One of the most important regulation changes was the Blowout Preventer Systems and Well Control Rule (WCR). A Blowout Preventer (BOP) is equipment that can shear the drill pipe with Blind Shear Rams and seals the wellbore when uncontrollable pressure is coming back up through the pipes toward the platform.[134] It's a last ditch safety-valve to seal off the well in an emergency. Sealing it off means the wellbore won't be able to be used anymore so it is a final option that has positive safety consequences but negative economic consequences as well.

Within the WCR are several rules dealing with the safety of BOPs that BSEE has proposed to change. Three of them particularly exemplify and illuminate the nature of the proposals being considered. First, under current regulations offshore oil lessees have to submit a complete description of the BOP and that system needs to include "[c]ontrol system pressure and regulator settings needed to *achieve an effective seal* of each ram

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[132] *The Reorganization of the Former MMS*, Bureau of Ocean Energy Mgmt., https://www.boem.gov/Reorganization/ (last visited May 3, 2019).

[133] *Id*.

[134] Committee on the Analysis of Causes of the Deepwater Horizon Explosion, Fire, and Oil Spill to Identify Measures to Prevent Similar Accidents in the Future, Nat'l Acad. of Sciences, *Macondo Well Deepwater Horizon Blowout: Lessons for Improving Offshore Drilling Safety* (2012), *available at*, https://www.nap.edu/catalog/13273/macondo-well-deepwater-horizon-blowout-lessons-for-improving-offshore-drilling

BOP […]."[135] BSEE is proposing to replace "to achieve an effective seal of each ram BOP" in the regulation with "to close each ram BOP" justifying the change as adequate to ensure each ram BOP can be effectively sealed.[136]

It's understandable that the industry would rather close the well than seal it so they don't lose the investment of the wellbore. The problem is that simply closing the ram BOP still releases material from inside the wellbore and tolerates a higher risk a pressure failure. Additionally, one has to wonder how it's possible that the agency can – as BSEE put it in its Federal Register justification – more effectively ensure that each ram BOP can be effectively sealed by removing the requirement "to achieve an effective seal" in place of a requirement simply to "close each ram BOP." It seems paradoxical to ensure the BOP can be effectively sealed by removing a requirement for an effective seal.

Second, the WCR requires "[c]ertification of the Blowout Preventer's functionality by a BSEE-approved verification organization (BAVO)."[137] This means lessees need to have not only third-party oversight of the safety and functionality of their BOP system, but that the oversight needs to come from third parties that are approved by BSEE. Requiring BSEE approval of the third party certifiers standardizes the evaluation industry-wide of the equipment that keeps blowouts from killing people and spilling oil in a kickback. In its proposed changes, BSEE proposes to remove all references to a BAVO and replace those references with an "independent third party" because of claimed

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[135] 30 C.F.R. § 250.731 (2016). (emphasis added)

[136] Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control Revisions, 83 Fed. Reg. 22,128, 22,138 (May 11, 2018)(to be codified at 30 C.F.R. pt. 250)[hereinafter Oil and Gas and Sulfur].

procedural burdens and costs.[138]

Inspections in the past have not been immune from corruption and fraud[139] and allowing certification of the safety and functionality of the BOP to come from someone not meeting BSEE's standards means safety certification won't have an industry-wide standard at best. At worst it means tests and certifications will be more open to the criminal behavior of the past. In a way, this is like taking a rule that requires a doctor to be state certified to perform surgeries and saying it's too much administrative burden for the state to approve of the doctor so the state will be fine with anyone from any professional medical group performing the surgery as long as the person performing the surgery is not the patient. The state would just trust that the right kind of person will perform a surgery that's "good enough" without oversight or standardization in such an analogy. When the environment and human lives are on the line, taking away standardization of safety protocols invites unacceptable risk.

Third, the WCR requires that the control system for the autoshear, deadman, and EDS system emergency functions must be a fail-safe design once activated.[140] These autoshear, deadman, and EDS systems are designed to kick in automatically to activate the BOP and seal the well if controls to the rig are cut off or for any other reason that the

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[137] 30 C.F.R. § 250.731 (2016).

[138] Oil and Gas and Sulfur, *supra* note 134.

[139] *See*, *Investigation of Falsified Blowout Preventer Test Chart*, U.S. Dep't of Interior Office of Inspector General, https://www.doioig.gov/reports/investigation-falsified-blowout-preventer-test-chart (last visited May 3, 2019).

[140] 30 C.F.R. § 250.734 (2016).

crew are unable to activate the BOP manually.[141] The agency is proposing to remove the requirement that these emergency systems be fail-safe because they are claimed to be unnecessary given the other protections of third party verifications and documentation.[142]

This elimination of a required fail-safe design is the most serious departure from the safety required after Deepwater Horizon. BSEE is confident that having unstandardized third party verifications obviates the need for an emergency function to be fail-safe. Where the Obama administration saw rules that promote backup safety, the Bureau of *Safety* and Environmental Enforcement now merely sees safety redundancies that cut into economic efficiency. An agency responsible for safety scaling back those safety measures because of concern for the industry's bottom line is precisely the kind of conflict of interest that split the MMS into two different agencies in the first place.

When the American Petroleum Institute and oil industry representatives lobby the BSEE to relax these regulations, they may be more concerned with easing restrictions in the Gulf of Mexico and aren't thinking of the Arctic, but that's precisely the point. Since there aren't Arctic-specific regulations for these safety features, the same regulations will apply in the Arctic as apply everywhere else even though the conditions in the Arctic are vastly different from other drilling locations. If any location on earth was deserving of the more exacting regulations created in the wake of Deepwater Horizon, it's the Arctic, where the impossibility of cleanup leaves no room for error.

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[141] David S. Hilzenrath, *Rollback: The Trump Administration Proposes to Thin Offshore Drilling Safety Rules*, Project on Government Oversight (Dec. 6, 2018), https://www.pogo.org/analysis/2018/12/rollback-the-trump-administration-proposes-to-thin-offshore-drilling-safety-rules/.

III. WHAT TO DO?

Discussions of climate change often give way to a great deal of hand-wringing. Concern about potential future outcomes being legitimately catastrophic often paralyzes decision making in the present in all sorts of contexts. However, inaction often brings consequences just as certainly as incorrect action does. As the American philosopher and pragmatist William James pointed out when discussing human nature in making decisions, "He who refuses to embrace a unique opportunity loses the prize as surely as if he tried and failed."[143] Whatever decisions the U.S. makes about how to address the problems we face in the Arctic, those decisions need to start being made with a higher degree of intentionality. As the military adage goes, hope is not a strategy. The U.S. can no longer hope that at some point in the future conditions will be optimal for implementing legal regimes to address climate change.

Implementing the legal recommendations of this article by recommitting to the Paris Agreement, ratifying UNCLOS, and forgoing oil development in the Arctic do represent a course of action that involves tightening the belt, so to speak, on present U.S. economic interests when the Arctic contains such promising fossil fuel reserves. Exercising self-restraint and determination to transition away from Arctic-damaging fossil fuels by forging into the unknown of reliance on cleaner fuels is understandably not

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[142] Oil and Gas and Sulfur, *supra* note 134, at 22,140.

[143] William James, The Will to Believe (1896), *reprinted in* The Writings of William James: A Comprehensive Edition, 718 (John J. McDermott ed., 1968).

a popular message in an election cycle. However, as any nutritionist could confirm, the current costs of self-restraint are dwarfed by the future costs of regret.

As this article pointed out in the beginning, these changes in the Arctic are leading the Navy to reconsider its Arctic strategy. The Navy and the military in general, has often led the U.S. throughout history in practices and policies instrumental to equitable legal developments.[144] There is no reason the Navy could not do the same in the arena of Arctic development. There are things the Navy could implement as part of its overall Arctic policy that further the interests of the above recommended legal regimes.

For instance, the Paris Agreement requires transitions away from fossil fuels and the Navy has lifted its vision beyond legally required performance targets and as a matter of policy "the Navy has established a more ambitious goal of obtaining half of its energy requirements from renewable sources by 2020 for both ashore and afloat activities."[145] The Navy can lean in to this goal by developing plans to install renewable energy generation within its bases to facilitate its own energy independence by supplying more of its own energy demand from renewables. The Navy can also advance research and development efforts to implement ocean-based renewables.

The Navy has often played a large role in advocating for Senate ratification of UNCLOS most recently in June 2012 when the Chief of Naval Operations, Admiral

[144] For example, the Uniform Code of Military Justice has required advising criminal suspects of their Article 31b rights relevant to self-incrimination since 1956, well before Miranda warnings were required in the civilian world in 1966. The military also has a built in rank structure that ensures equal pay for equally ranked personnel regardless of gender or race.

Jonathan Greenert testified before the Senate Foreign Relations Committee stating, "I join my predecessors in supporting the Convention and I believe it is important to our ability to reduce our reliance on customary international law, provide a mechanism to resolve disputes, assure our access across the maritime domain, and protect our Nation's security and prosperity."[146] Admiral Greenert even pointed out specific reasons to ratify UNCLOS relevant to the Arctic region when he said, "The rules inherent in LOSC [the law of the sea convention] support worldwide access for military and commercial ships and aircraft without requiring permission of other countries, such as […] in the Arctic where receding ice is opening new routes for transit."[147] However, a vote was unfortunately never taken after a sufficient number of Republican Senators insisted they would continue to oppose ratification based on international sovereignty concerns, even after three Presidents, multiple agencies, and decades of petitions from flag officers within the armed services requested Senate ratification.[148] Since the opposition to ratification was from Republican Senators, perhaps the best chance for the Navy's advocacy for ratification lies with communicating sincerely through the Defense Secretary in a Republican Administration.

As for the developments in domestic law, the Navy is unable to do much about the Courts and Congress. However, the Navy is able to comment on agency proposed

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[145] U.S. DEP'T OF NAVY, JUDGE ADVOCATE GENERAL INSTR. 5800.7F (26 June 2012) (C5).

[146] *The Law of the Sea Convention: Hearing on Treaty Doc. 103-39 Before the S. Comm. on Foreign Affairs*, 112th Cong. 100 (2012) (statement of ADM Jonathan W. Greenert, Chief of Naval Operations, US Navy, Washington D.C.).

[147] *Id.*

[148] U.S. Department of State, https://www.state.gov/e/oes/lawofthesea/timeline/index.htm (last visited

regulations on oil development in sensitive areas where the Navy will certainly be called on to respond in the event of a disaster, as it had been in Deepwater Horizon. As the ice recedes, demanding that the Navy be available and capable of assisting the Coast Guard in responses to maritime disasters in the Arctic spreads Navy resources thin in a region of opening "blue water" and ties the Navy to objectives outside its primary national security mission. The Navy can lead by being engaged in the comment process in agency regulations that degrade the safety of practices within the maritime environment since those practices could endanger the Navy's primary operating environment as a matter of national security.

IV. CONCLUSION

The Arctic is melting. If we don't do anything differently than we are currently doing, Arctic melting will accelerate regardless of human input as it enters irreversible feedback loops. As it melts, we lose more of the critical planetary benefits and functions it serves. Most Arctic nations seem to put more effort into realizing what they individually stand to gain by this melting in the short term rather than staving off what we collectively stand to lose in the long term. There are things the U.S. can do though to stem the tide of sea ice loss. The U.S. can recommit to the Paris Agreement recognizing that it only requires accountability to goals the U.S. sets itself. The U.S. Senate can also ratify UNCLOS so our Arctic partners know we stand on equal footing with them and so

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May 3, 2019).

we have standing to legally challenge behaviors that could damage the environment and our own interests. U.S. courts can also ensure safe drilling in the Arctic by prohibiting it consistent with President Obama's withdrawal until Congress feels it is safe otherwise. If none of those options succeed, then at the very least we can make Arctic-specific safety regulations to better protect against a spill.

The more we exploit Arctic oil, the more we do both indirect and potentially direct damage to the Arctic, our planet's thermal regulator. There is certainly a line where, if we cross it, we are irretrievably committed to the environmental destruction of the Arctic before it has even happened. As the system of warming builds momentum toward runaway warming, that line seems more like a cliff we are hurtling toward at full throttle while future generations are about to take the wheel.

In a dramatic Rally car racing event in the Canary Islands, a Polish racer approached a turn too fast and slid into a guardrail that barely kept him from toppling over the edge of a cliff.[149] We are now deciding how forcefully we want to be pushing on the accelerator of fossil fuel development in the Arctic as we approach the turn of climate change. We are similarly deciding now whether and where to place legal guardrails to protect us from hurtling over the edge. If we have strong legal guardrails in the right places, we'll survive the cliff. If we lay off the gas, we'll successfully navigate the turn.

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[149] Lee Moran, *Guardrail Only Just Saves Rally Car Driver From Falling Off a Cliff*, Huffpost (May 6, 2017, 4:36 AM), https://www.huffingtonpost.com/entry/rally-car-guardrail-cliff-video_us_590d7db5e4b0104c734f46f7.