

NAUTICAL NONSENSE—A SUSTAINABLE AND EQUITABLE SOLUTION TO ALLOCATE ARCTIC RESOURCES

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Human-induced climate change is impacting our planet in a variety of ways. One of the principal issues is occurring in the Arctic region, where glaciers are receding, and the sea level is rising. In turn, this environmental catastrophe is opening up new opportunities for the exploitation of an abundance of natural resources. This Note will describe how the fragile Arctic Ocean should be properly managed to prevent the overexploitation of resources in a tragedy-of-the-commons scenario. This will be done by analyzing the current United Nations Law of the Sea establishing exclusive economic zones and comparing this international maritime legal system to the treaties and laws implemented in the Antarctic. In addition, this Note goes on to weigh the pros and cons of several potential solutions to sustainably manage the Arctic in consideration of the current legal framework and in recognition of the need to promote equitable appropriation and fairness in the division of these natural Arctic resources. Ultimately, this Note will argue that current maritime law coupled with the implementation of current Antarctic treaties will be the best way to properly manage the Arctic environment.

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INTRODUCTION

It is well accepted among climatologists that humans are causing the planet to warm at unprecedented rates¹ through the release of greenhouse gases.² In turn, this human-caused climate change is leading to many negative environmental impacts³ felt around the world and is the major contributor to the sixth mass extinction currently underway.⁴ One of the major impacts of climate change occurs in the world's oceans, where ice caps are melting and the sea level is rising.⁵ As the Arctic ice caps melt, resources that have been locked up in ice for millions of years are now available to humans.⁶ These potential resources buried beneath the Arctic Ocean include up to one-fourth of the entire world's supply of oil and natural gas.⁷

1. See John Cook et al., *Consensus on Consensus: A Synthesis of Consensus Estimates on Human-Caused Global Warming*, 11 ENVTL. RES. LETTERS 1, 2 (2016), <https://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002/pdf> (describing how 97% of climatologists accept human-caused global warming); Sander L. van der Linden et al., *The Scientific Consensus on Climate Change as a Gateway Belief: Experimental Evidence*, PLOS ONE 1, 1 (2015), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0118489&type=printable> (“The scientific consensus that human activities are the primary driver of global climate change is now unequivocal.”).

2. Cook, *supra* note 1, at 5 (“85% of all respondents . . . who stated a position agreed that anthropogenic greenhouse gases (GHGs) are the dominant driver of recent global warming.”).

3. E.g., Dave Owen, *Climate Change and Environmental Assessment Law*, 33 COLUM. J. ENVTL. L. 57, 65 (2008) (noting many of the environmental consequences associated with climate change).

4. See Geraldo Ceballos et al., *Accelerated Modern Human-Induced Species Losses: Entering the Sixth Mass Extinction*, 1 SCI. ADVANCES 1, 4 (2015), <https://advances.sciencemag.org/content/advances/1/5/e1400253.full.pdf> (“Avoiding a true sixth mass extinction will require rapid, greatly intensified efforts to conserve already threatened species and to alleviate pressures on their populations—notably habitat loss, overexploitation for economic gain, and climate change.”).

5. See A. Dutton et al., *Sea-Level Rise Due to Polar Ice-Sheet Mass Loss During Past Warm Periods*, 349 SCI. 153, 153 (2015), <https://science.sciencemag.org/content/sci/349/6244/aaa4019.full.pdf>; Simon L. Pendleton et al., *Rapidly Receding Arctic Canada Glaciers Revealing Landscapes Continuously Ice-covered for More Than 40,000 Years*, 10 NATURE COMM. 1, 2 (2019), <https://www.nature.com/articles/s41467-019-08307-w.pdf> (describing the rapidly retreating glaciers in the Canadian arctic).

6. See Andrew Van Wagner, *It's Getting Hot in Here, So Take Away All the Arctic's Resources: A Look at a Melting Arctic and the Hot Competition for Its Resources*, 21 VILL. ENVTL. L.J. 189, 189 (2010).

7. *Id.* (“[A]s much as one-quarter of the world's undiscovered oil and natural gas reserves are currently located beneath the floor of the Arctic Ocean, buried underneath the once thick and prominent Arctic ice.”).

Deciding which countries will get the exclusive rights to these newly available Arctic resources has been the topic of much debate.⁸ Under maritime law, countries have the exclusive right to all resources found within their exclusive economic zones (“EEZs”).⁹ EEZs were established during the Third United Nations Conference on the Law of the Sea in 1982 and effectively gave each country the sovereign right to all resources found within 200 square nautical miles¹⁰ from its coastline.¹¹ The United States did not ratify this law, but EEZs were still established through a Presidential Proclamation by President Reagan in 1983.¹²

While the creation of EEZs did help solve some international conflicts over marine resources,¹³ once countries were granted exclusive rights to all resources found within their EEZs, issues remained over what constitutes an “island.”¹⁴ For instance, Japan unilaterally decided that a collection of large rocks barely breaching the surface in the middle of the Pacific Ocean constituted islands and claimed the rights to the surrounding thousands of square miles of maritime resources.¹⁵ After climate change reshaped the Arctic, new issues arose in claiming territory associated with EEZs. Countries with EEZs in the Arctic Ocean enjoy exclusive rights to the newly uncovered waters, and their access to these resources has exponentially increased the value of Arctic territory.¹⁶ However, this division of resources is increasingly inequitable and environmentally fraught as it allows a handful of countries to enrich themselves through overexploitation.

This Note will recommend a legal framework for allocating Arctic resources while also considering environmental concerns, such as overfishing, climate change, and Arctic species protections. The goal is to promote the best way to distribute these resources through international cooperation. This Note will explore some of the many possible ways this can be accomplished. Ultimately, this Note will argue that the best solution to the distribution of Arctic resources is the recognition of existing EEZs while also allowing countries without an Arctic territory to lay claims in the Arctic Ocean for the exclusive rights to resources within a 12-square-nautical-mile range equal to a country’s territorial sea. This solution will still require strict regulations and monitoring of resources both outside and

8. See, e.g., Wei-en Tan & Yu-tai Tsai, *After the Ice Melts: Conflict Resolution and the International Scramble for Natural Resources in the Arctic Circle*, 3 J. POL. & L. 91, 92 (2010).

9. Third United Nations Conference on the Law of the Sea: Final Act, 21 I.L.M. 1245, 1280 (1982) [hereinafter Third United Nations Conference].

10. Two-hundred nautical miles equals approximately 230 miles. A nautical mile is the unit used to measure distance at sea and corresponds to one minute of latitude. One knot is equal to one nautical mile per hour.

11. Third United Nations Conference, *supra* note 9, at 1280.

12. Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983).

13. See, e.g., Sverrir Steinsson, *The Cod Wars: A Re-Analysis*, 25 EUR. SEC. 2, 256–75 (2016) (describing the fishing disputes in the 1970s between Iceland and the United Kingdom, known as the Cod Wars).

14. See Leticia Diaz et al., *When Is a “Rock” an “Island”?—Another Unilateral Declaration Defies “Norms” of International Law*, 15 MICH. ST. J. INT’L L. 519–20 (2007) (describing how Japan claimed an island sticking 2.9 inches out of the ocean as an island).

15. *Id.*

16. See Van Wagner, *supra* note 6, at 189–90.

within Arctic EEZs and claimed ocean territory. Nevertheless, the solution put forward by this Note provides the most equitable and environmentally conscious remedy to the uncertainty regarding emerging Arctic resources.

I. OVERVIEW OF ENVIRONMENTAL AND ECONOMIC IMPACTS FROM MELTING ARCTIC ICE CAPS

A. Arctic Resources and Fisheries

Today, it is widely known that the Arctic is rich in oil and natural gas; however, when the United States purchased Alaska from Russia, it was generally considered a wasteland for decades,¹⁷ devoid of any major cities and population centers.¹⁸ After the United States acquired Alaska and gained a territory in the Arctic, nations began to discover the economic potential of the Arctic region.¹⁹ Reports from the United States Geological Survey have estimated that 90 billion barrels of oil and over 1,600 trillion cubic feet of natural gas exist, undiscovered, in the Arctic region and that 84% of this total is believed to be located offshore.²⁰ Every nation in the world wants to be a part of this resource-rich goldmine regardless of whether they have territory in the Arctic.²¹ The International Seabed Authority is responsible for deciding what requirements nations must abide by to mine for these resources outside of any one nation's EEZ, and determining these requirements will be a major discussion point in upcoming years in order to guarantee that the Arctic is mined sustainably.²²

17. See Thomas Hunt, *Left Out in the Cold: Contemporary Policy and International Property Issues in the Arctic Circle*, 40 SUFFOLK TRANSNAT'L L. REV. 327, 332–33 (2017) (describing how the sale of Alaska by Russia was for “strategic maneuvering,” and that it was not until after World War II, when Alaska became a state, that its full potential was realized).

18. See, e.g., *Population*, THE ARCTIC (2020), <https://arctic.ru/population/> (“The region represents one of the least populated areas in the world, with sparse nomadic communities and very few large cities and towns.”). The Alaska state license plate describes the state as “The Last Frontier.”

19. Hunt, *supra* note 17, at 339.

20. USGS, CIRCUM-ARCTIC RESOURCE APPRAISAL: ESTIMATES OF UNDISCOVERED OIL AND GAS NORTH OF THE ARCTIC CIRCLE (2008) [hereinafter CIRCUM-ARCTIC RESOURCE APPRAISAL], <https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>.

21. See Van Wagner, *supra* note 6, at 202 (“Even nations that do not currently possess territory in the Arctic rim, like China, are taking an interest and setting up various research stations throughout the area to assess the potential flood of resources that may become available.”).

22. Parker Clote, *Implications of Global Warming on State Sovereignty and Arctic Resources Under the United Nations Convention on the Law of the Sea: How the Arctic Is No Longer Communis Omnium Naturali Jure*, 8 RICH. J. GLOBAL L. & BUS. 195, 210–13 (2008) (explaining how part XI of UNCLOS establishes the International Seabed Authority to regulate natural resources outside of EEZs; how nations wishing to mine Arctic resources would need to abide by the regulations implemented by the Authority; and that to evade some of these restrictions, Arctic states may attempt to expand their continental shelves, which would correspondingly expand their EEZs).

Oil and natural gas are not the only valuable resources found in the Arctic. The region is also home to many important fisheries,²³ and nations must cooperate to prevent overfishing in the world's smallest ocean.²⁴ Climate change and pollution have caused the demise of marine ecosystems and the ocean's biotic resources in recent years,²⁵ but the largest threat to these ecosystems continues to be overfishing.²⁶ While recent changes in climate do alter how fisheries should generally be managed to guarantee that only sustainable yields are harvested from the world's oceans,²⁷ the majority of the world's fish stocks are either overfished or fully fished.²⁸ Part of the reason for overfishing is to feed the world's ever-growing population. As the population increases exponentially,²⁹ the demand for food increases. One effect already being felt from this population boom has occurred in the oceans, where 80% of fishery stocks are predicted to become overfished by 2050.³⁰

23. See, e.g., Jørgen S. Christiansen et al., *Arctic Marine Fishes and Their Fisheries in Light of Global Change*, 20 GLOBAL CHANGE BIOLOGY 352, 354 (2014) (“Overall landings from industrial fisheries in northern seas are huge with for example 7.5 million tonnes in the northeast Atlantic and 15.8 million tonnes in the northwest Pacific.”).

24. See Michael Distefano, *Managing Arctic Fish Stocks*, 8 SUSTAINABLE DEV. L. & POL'Y 13, 13 (2008) (“As sea ice begins to disappear during summer months, a previously inaccessible fishing ground is emerging, and like all fishing grounds, it will be susceptible to mismanagement and exploitation.”).

25. E.g., Olga Goldberg, *Biodegradable Plastics: A Stopgap Solution for the Intractable Marine Debris Problem*, 42 TEX. ENVTL. L.J. 307, 342 (2012) (describing the “marine plastic problem” in the Pacific Ocean); Stephanie A. Henson et al., *Rapid Emergence of Climate Change in Environmental Drivers of Marine Ecosystems*, 8 NATURE COMM. 1, 2 (2017), <https://www.nature.com/articles/ncomms14682.pdf> (describing the impacts of climate change on the marine environment).

26. Oertel, Hoffman, Fernandez & Cole, P.A., *Florida Prof, Other Scientists Tie Coastal Ecosystems' Decline to Past Overfishing*, 12 NO. 8 FLA. ENVTL. COMPLIANCE UPDATE 3 (2001).

27. See Merrick Burden & Rod Fujita, *Better Fisheries Management Can Help Reduce Conflict, Improve Food Security, and Increase Economic Productivity in the Face of Climate Change*, 108 MARINE POL'Y 1, 2 (2019) (“Climate change is causing changes in ocean temperature, vertical mixing, oxygen, pH levels, salinity, and other factors, many of which influence the distribution, abundance, and productivity of fish populations.”); Don Gourlie, *Reeling in Uncertainty: Adapting Marine Fisheries Management to Cope with Climate Effects on Ocean Ecosystems*, 47 ENVTL. L. 179, 187 (2017) (describing the impacts of ocean acidification, sea level rise, and extreme weather events on marine communities).

28. M. CASTRO DE SOUZA & M. VASCONCELLOS, INT'L CTR. FOR TRADE & SUSTAINABLE DEV., *OVERFISHING, OVERFISHED STOCKS, AND THE CURRENT WTO NEGOTIATIONS ON FISHERIES SUBSIDIES* 1, 8 (2018). The Maximum Sustainable Yield corresponds to the maximum number of fish that can be harvested sustainably. A fishery is overfished if a fish is being harvested at a rate greater than the Maximum Sustainable Yield; in which case, a fish is being depleted from the ocean at a greater rate than it can breed and recover. A fishery is fully fished if being harvested at the Maximum Sustainable Yield.

29. See, e.g., Max Roser et al., *World Population Growth*, OUR WORLD IN DATA, <https://ourworldindata.org/world-population-growth> (last updated May 2019) (showing many graphics on historical human population growth).

30. Burden, *supra* note 27, at 1.

With overfishing becoming a major international environmental issue, nations must manage and achieve sustainable yields around the world, and especially in the Arctic Ocean where sea ice will melt and reveal new fishing grounds.³¹ In the United States, fisheries are regulated through the Magnuson–Stevens Act, which Congress ratified for the sole purpose of conserving and managing fisheries found within U.S. EEZs.³² The Magnuson–Stevens Act notes the importance of fisheries “to the food supply, economy, and health of the Nation and [in] provid[ing] recreational opportunities.”³³ Most of the time, however, fish do not live their entire lives within one country’s EEZ.³⁴ For highly migratory species, the United States cooperates with other international organizations and nations to obtain the optimum yield for each species.³⁵ Under this section of the Magnuson–Stevens Act, the National Marine Fisheries Service has the ability to extend their authority beyond the U.S. EEZs and charge fishermen in violation of the Act under international agreements.³⁶ Following a similar principle, the United States may have a strong starting point in the Arctic Ocean to help conserve and manage fisheries that fall outside of U.S. EEZs in the Arctic.

B. Trade Routes and the Opening of the Northwest Passage

In addition to potential resource exploitation, melting Arctic sea ice will also create a more direct route from the Atlantic Ocean to the Pacific Ocean through the Northwest Passage.³⁷ From east to west, the Northwest Passage travels along the northern Canadian coast, navigating around Canada’s Arctic Archipelago before passing across the northern coast of Alaska and out through the Bering Sea.³⁸ The commercial use of this newly revealed shipping route will likely bring many negative environmental consequences to the ecologically productive Arctic region.³⁹ Canada claims that it controls this territory as part of its internal waters and that the

31. See Distefano, *supra* note 24, at 13.

32. 16 U.S.C. § 1801(b)(1).

33. *Id.* § 1801(a)(1).

34. See Karen L. Smith, *Highly Migratory Fish Species: Can International and Domestic Law Save the North Atlantic Swordfish?*, 21 W. NEW ENG. L. REV. 5, 6 (1999) (“Highly migratory species create a special problem in the fishery industry because they migrate in and out of the high seas, and thus in and out of the exclusive economic zones of various states.”).

35. § 1812(a).

36. See *Blue Water Fishermen’s Ass’n v. Nat’l Marine Fisheries Serv.*, 158 F. Supp. 2d 118, 122–23 (D. Mass. 2001) (finding violations of the Magnuson–Stevens Act after fisherman violated a ban on pelagic long-line fishing, to reduce by-catch of sea turtles, in a section of the Atlantic Ocean outside of the EEZ).

37. See, e.g., Hannah E. King, *Protecting the Northwest Passage: Assessing the Threat of Year-Round Shipping to the Marine Ecosystem and the Adequacy of the Current Environmental Regulatory Regimes*, 14 OCEAN & COASTAL L.J. 269, 270 (2009).

38. *Id.* at 269.

39. *Id.* at 270 (“As the primary protection for the Passage’s marine ecosystem has historically been the absence of commercial activity, the possibility of year-round commercial use raises several questions.”).

route should “be subject to [its] stringent environmental laws.”⁴⁰ However, the United States and other European nations classify these waters as an international strait;⁴¹ therefore these nations believe that they should be allowed to transit this area of the Arctic Ocean through the freedom of international navigation.⁴²

Granting Canada authority to implement its environmental protections would help to better protect the area, but after a nearly three-decade dispute, the United States is not acquiescing.⁴³ This issue was never really a concern until recently.⁴⁴ Since signing the U.S.–Canada Free Trade Agreement in 1988, the United States has always asked Canada for permission before using the passage, and Canada has always granted it.⁴⁵ But traditionally, the only U.S. vessels using this passage were a few ice breakers on coast guard patrol; as sea ice melts, many more U.S. vessels are beginning to use this passage, which is beginning to erode the Agreement and Canada’s territorial claim.⁴⁶

Given that this trade route is located within Canada’s EEZs, the portion of the Northwest Passage surrounding the Canadian Arctic Archipelago should be subject to Canadian laws, especially in light of Canada’s strong environmental regulations.⁴⁷ No valid freedom of navigation argument can be made for the Northwest Passage because its use does not impose significant economic concerns when compared to other straits that have been found to support freedom of navigation out of economic necessity.⁴⁸ Should countries be permitted to send vessels through this strait, they should be subject to Canadian environmental laws.

C. Melting Sea Ice Effects on Arctic Communities

Along with sensitive resources and expanding trade routes, the melting of Arctic ice significantly jeopardizes Arctic and Inuit communities. Traditionally,

40. *Id.* at 270, 293–94 (describing the Arctic Waters Pollution Prevention Act passed in 1970 and how it “establish[es] shipping control zones and standards for construction, operation, and navigation on all ships passing within the Act’s jurisdiction”).

41. Matt Roston, *The Northwest Passage’s Emergence as an International Highway*, 15 SW. J. INT’L L. 449, 454 (2009).

42. See Jeanine B. Womble, *Freedom of Navigation, Environmental Protection, and Compulsory Pilotage in Straits Used for International Navigation*, 61 NAVAL L. REV. 134, 135 (2012) (“One of the innovations of UNCLOS is the regime of transit passage through straits used for international navigation. Straits used for international navigation are a focal point for both environmental and freedom of navigation concerns.”).

43. See Zoë Schlanger, *The US Is Picking a Fight with Canada over a Thawing Arctic Shipping Route*, QUARTZ (June 27, 2019), <https://qz.com/1653831/the-us-is-picking-a-fight-with-canada-over-an-arctic-shipping-route/> (stating that Secretary of State Mike Pompeo has called Canada’s claim “illegitimate”).

44. *Id.*

45. *Id.*

46. *Id.*

47. King, *supra* note 37, at 270–71.

48. See, e.g., JOSÉ A. DE YTURRIAGA, STRAITS USED FOR INTERNATIONAL NAVIGATION: A SPANISH PERSPECTIVE 48 (1991) (describing how the Strait of Gibraltar enjoys freedom of passage to allow countries to have open navigation of the Mediterranean Sea). The Strait of Gibraltar is the only entrance into the Mediterranean Sea from the Atlantic Ocean.

U.S. environmental laws—the Endangered Species Act and Marine Mammal Protection Act—have exempted Arctic communities in Alaska who hunted endangered species for subsistence.⁴⁹ Native Arctic communities rely on these species, but as melting sea ice creates new trade routes, pollution on these trade routes will further endanger these species.⁵⁰ Melting sea ice is directly harming Arctic animals.⁵¹ For example, whales and other marine mammals are struggling to find prey that live on the dwindling ice.⁵² To stay consistent with traditional exemptions of Alaskan Natives and Inuit communities throughout the Arctic region, all international treaties and EEZs regulating the Arctic should create equivalent exemptions for these communities to allow them to continue their way of life without any interference.

II. HOW SHOULD ARCTIC OCEAN RESOURCES BE REGULATED?

There are a few possible methods to regulate Arctic resources. Each of these methods should be analyzed to promote fairness and environmental sustainability while following international maritime law. These methods from lowest to highest levels of environmental protections include: (1) installing similar regulations in the Arctic as seen in the Antarctic with a full 200-square-nautical-mile EEZ off of each country's coastlines and allowing countries with no Arctic territory to lay claim to portions of the Arctic Ocean to achieve a full EEZ; (2) limiting the exclusive rights to Arctic resources to the distance of a territorial sea of only 12-square-nautical-miles for countries that are claiming Arctic territory; (3) having the entire Arctic Ocean regulated by the United Nations outside of EEZs in the Arctic and treating the entire ocean as the "High Seas;" or (4) ending fishing and resource extraction outside of Arctic EEZs altogether to curb overfishing in the world's oceans. In the interest of fairness and environmental protection, the best approach is to ultimately limit Arctic claims to the territorial seas of 12 square nautical miles, while strictly regulating the area outside any one country's territorial seas or EEZs to prevent the overexploitation of Arctic resources in a tragedy-of-the-commons scenario.⁵³ The rest of this Note will describe these four options in greater detail.

A. Option 1: Impose Similar Regulations in the Arctic to Those That Are Seen in Antarctica Which Would Recognize EEZs and Allow Outside Countries to Lay Territorial Claims in the Arctic Ocean

One fair and sustainable legal system for allocating Arctic resources would be to implement a similar international treaty in the Arctic to that which is seen in

49. 16 U.S.C. §§ 1531–1544; *id.* § 1539(e) (exempting Alaskan natives from the illegal "taking of any endangered or threatened species" if used for subsistence as part of the Endangered Species Act).

50. Elizabeth Barrett Ristroph, *Alaska Tribes' Melting Subsistence Rights*, 1 ARIZ. J. ENVTL. L. & POL'Y 47, 62 (2010) ("Increased shipping activity may have a number of repercussions on marine mammals used for subsistence.").

51. *Id.* at 59–60.

52. *Id.*

53. For more information on this scenario, see Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1245 (1968).

Antarctica.⁵⁴ The Antarctic Treaty of 1959, signed by 12 nations, allows nations to engage in scientific research in Antarctica, while maintaining peace with other nations.⁵⁵ Not only does this treaty call for the peaceful engagement in scientific research among nations, it actually encourages the exchanging of scientific information and personnel.⁵⁶ On paper, the open communication of scientific research in the Antarctic region appeared to facilitate international collaboration; however, some countries exploited the Antarctic Treaty's broad terms, including Japan which justified whaling off the Antarctic coast by stretching the meaning of "scientific research."⁵⁷ This brought about one of the first instances where EEZs in the Antarctic were really tested.⁵⁸

Most of this Japanese whaling took place off the coast of Australia's Antarctic Territory, and Australian courts issued an injunction to stop it.⁵⁹ However, the battle continued when whalers brought suit in the United States under the Alien Tort Statute,⁶⁰ with the Ninth Circuit ruling in favor of the Japanese whalers.⁶¹ This Ninth Circuit ruling prevented the Sea Shepherd Conservation Society from physically attacking the Japanese whalers, thus demonstrating that U.S. courts would rule against recognition of Australia's Antarctic territory.⁶² Only a handful of nations recognize Australia's claim to an EEZ based on their Antarctic claim, and the United States is not among them.⁶³

Despite the fact that the United States does not recognize Australia's EEZ claim in the Antarctic, under international law, territorial sovereignty can be established through permanent occupation, and Australia and the other "Antarctic countries" have achieved this to a certain degree.⁶⁴ The rest of the world allows the seven nations to claim parts of Antarctica, despite the lack of formal recognition,

54. See Antarctic Treaty, Dec. 1, 1959, T.I.A.S. No. 4780 ("Recognizing that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord.").

55. *Id.*

56. *Id.* at art. III(1).

57. See Benjamin Nucci, *From Comity to Comedy: The Ninth Circuit's Blanket Injunction on the Sea Shepherd's Southern Ocean Activities May Be Laughing in the Face of Established International Law*, 3 ARIZ. J. ENVTL. L. & POL'Y 1051, 1052 (2013) (describing Japan's decision to enact the Japanese Whaling Research Program Under Special Permit in the Antarctic Act for scientific research purposes, even when no scientific studies were ever published).

58. *Id.*

59. See *id.* at 1053 ("Ninety percent of Japanese authorized whaling takes place in the [Australian Whale Sanctuary].").

60. 28 U.S.C. § 1350.

61. *Inst. of Cetacean Research v. Sea Shepherd Conservation Soc.*, 702 F.3d 573, 573 (9th Cir. 2012).

62. *Id.*

63. See Nucci, *supra* note 57, at 1053 ("Several states, including Japan and the United States, decline to recognize any territorial land claims over Antarctica.").

64. *Id.* at 1057.

because resource exploitation has generally been banned on the continent.⁶⁵ But the need to establish whether EEZs should be granted under the United Nations Convention on the Law of the Sea (“UNCLOS”) will become a major point of discussion in future years.⁶⁶ If resource exploitation becomes prevalent in the future, it would be appropriate to treat the Southern Ocean as the high seas with international limitations and monitoring of resource exploitation to prevent a tragedy of the commons.⁶⁷

Imposing similar regulations to the Arctic would be an easy way to address the issue of EEZs in the region. But it will be difficult to install an international agreement replicating the Antarctic Treaty in the Arctic, in part because the Arctic is a strategic site for military bases,⁶⁸ making “peaceful” engagements among the different nations in the Arctic virtually impossible.⁶⁹ However, the nations with military bases and operations in the Arctic should be allowed to continue operating regularly without heavily impacting an Arctic agreement. This section of the Antarctic Treaty, about peaceful cooperation, does not affect how resources should be divided and is a relatively minor issue for the purposes of this Note.

The collaboration of scientific research and personnel has been one of the most crucial and politically effective principles of the Antarctic Treaty,⁷⁰ and now this same principle has been adopted in the Arctic.⁷¹ International scientific collaboration in the Arctic can help preserve the region because more intense scientific research could potentially decrease the current rate of Arctic ice cap melt.⁷² The number of countries that have territories in the Arctic Ocean is similar to the

65. See Linda A. Malone, *The Waters of Antarctica: Do They Belong to Some States, No States, or All States?*, 43 WM. & MARY ENVTL. L. & POL’Y REV. 53, 60–61 (2018) (describing treaties following the Antarctic Treaty of 1959—the latest of which bans mining in Antarctica for 50 years—including the 1972 Convention on the Conservation of Antarctic Seals, the 1980 Convention on the Conservation of Antarctic Marine Living Resources, the 1964 Agreed Measures for the Conservation of Antarctic Flora and Fauna, and the 1991 Madrid Protocol to the Antarctic Treaty).

66. *Id.* at 54 (asking whether the “boundaries under UNCLOS apply to Antarctica”).

67. See *id.* at 66–67.

68. See, e.g., Pavel K. Baev, *Shifts in Russian Military Build-Up in the Arctic Driven by the Interactions with China*, SEC. INSIGHTS (June 2019), https://www.marshallcenter.org/mcpublicweb/mcdocs/security_insights_32_-_pavel_baev_-_shifts_in_russian_military_build-up_in_the_arctic_driven_by_the_interactions_with_china_-_june_2019.pdf (describing the importance of military activity in the Arctic for Russia); Talal Husseini, *Thule Air Base: Inside the US’s Northernmost Military Base in Greenland*, AIRFORCE TECH. (June 5, 2019), <https://www.airforce-technology.com/features/thule-military-base-in-greenland/> (describing the United States’ establishment of the Thule Air Base in Greenland).

69. Antarctic Treaty, *supra* note 54.

70. See *id.* at art. III(1).

71. See *Agreement on Enhancing International Arctic Scientific Cooperation*, ARCTIC COUNSEL (May 11, 2017), <https://oaarchive.arctic-council.org/handle/11374/1916>.

72. See Edward Canuel, *Sustainable Development, Natural Resource Extraction, and the Arctic: The Road Ahead*, 33 ALASKA L. REV. 31, 32 (2016); Benjamin D. Trump et al., *A Sustainable Arctic: Making Hard Decisions*, 50 ARCTIC ANTARCTIC & ALPINE RES. 1, 2 (2018).

number of countries that lay claims to territories in Antarctica.⁷³ An obvious hurdle to creating an international treaty in the Arctic similar to the Antarctic Treaty is that Antarctica is a continent, not the open ocean, but allowing countries to lay “claims” to different sections of the Arctic Ocean and the ice caps in the region could create the same result of collaborative research and nonexploitation as occurred in the Southern Ocean and Antarctica.⁷⁴ Under this scenario, the countries that currently have an EEZ in the Arctic will be able to extract Arctic resources within their EEZ; and countries that do not have an EEZ in the Arctic, such as China,⁷⁵ can claim Arctic territory further north, outside of any one country’s EEZ, in the open Arctic Ocean. This may result in the fairest way to both reward countries for having territory in the Arctic while still allowing countries that want access to marine resources to claim portions of the ocean if the resources are valued.

A weakness of the Antarctic Treaty that may transfer over to an Arctic Treaty is that most of the international community does not recognize Antarctic claims,⁷⁶ but rather ignores these claims because the extraction of resources in the Antarctic region is generally controlled through treaties.⁷⁷ So, it may be necessary to implement similar treaties in a comprehensive Arctic agreement to effectively protect environmental interests in the sensitive region and prevent a tragedy of the commons.⁷⁸ Also, without these additional regulations seen in the Antarctic, it is likely that the international community will be even less willing to recognize other nations’ claims in the Arctic because of the immense value of this territory. Based on how it has responded to previous similar attempts, the international community would never grant a license to exploit resources within a 200-square-nautical-mile zone in the open Arctic Ocean, even if countries unilaterally made these claims.⁷⁹ Given the uncertainty of the recognition of expansive claims to the Arctic, this option would not allow for the fair and sustainable use of Arctic resources.

73. Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom have territorial claims in Antarctica (and Norway is the only country with both Arctic and Antarctic territorial claims). See Jill Grob, *Antarctica’s Frozen Territorial Claims: A Meltdown Proposal*, 30 B.C. INT’L & COMP. L. REV. 461, 462 (2007).

74. See Malone, *supra* note 65, at 54.

75. See Van Wagner, *supra* note 6, at 202.

76. For more information on the rationale in which these seven nations base their Antarctic claims, see KLAUS DODDS & CHRISTY COLLIS, HANDBOOK ON THE POLITICS OF ANTARCTICA 54 (Klaus Dodds et al. eds., 2017).

77. See Malone, *supra* note 65, at 60–61.

78. See, e.g., Hardin, *supra* note 53, at 1245; Patrick A. Nickler, *A Tragedy of the Commons in Coastal Fisheries: Contending Prescriptions for Conservation, and the Case of the Atlantic Bluefin Tuna*, 26 B.C. ENVTL. AFF. L. REV. 549, 550 (1999) (describing Hardin’s essay on the tragedy of the commons where herders add additional animals to a common pasture for benefits to the individual herder until the pasture is overgrazed and destroyed, and how a similar analysis of Hardin’s overgrazing example can be applied to the “commons” of the open ocean, resulting in overfishing).

79. See Diaz, *supra* note 14, at 520.

B. Option 2: Still Use the Antarctic Treaty Model but Limit Arctic Claims to a Much Smaller Territory of 12 Nautical Miles

Another potential strategy would be to limit Arctic territorial claims to only 12 square nautical miles, which is equal to the distance of a nation's territorial waters starting from the coastline⁸⁰ for non-Arctic nations. Under maritime law, if a nation claims a territorial sea, then that nation would have "sovereignty over its territorial sea, the airspace above it, and the seabed and subsoil beneath it."⁸¹ Foreign ships would be allowed transit when in another nation's territorial sea, but they would be subject to that nation's laws⁸² like how foreign vessels should be subjected to Canadian environmental laws when navigating through the Northwest Passage.⁸³

The exclusive rights to resources within a 12-square-nautical-mile zone provide a definitive and administrable boundary that would allow more nations to make Arctic claims. The only purpose of claiming these 12-square-nautical-mile territories would be for the exclusive rights to extract resources in this area. Outside nations will be much more willing to recognize a territorial claim of 12 square nautical miles compared to 200, and this option would allow more countries to claim a section of the Arctic Ocean while preserving areas outside a country's EEZ or territorial claim through regulations.

Problems do arise over what a nation is allowed to do in its EEZ.⁸⁴ Similar to what occurs in the other world oceans, one of the main concerns in the Arctic Ocean will be the unlawful overexploitation of resources in an EEZ or territorial Arctic claim.⁸⁵ Patrol and monitoring by the different nations would be necessary to make certain that no illegal activities, such as illegal fishing or illegal dumping, take place in these regions.⁸⁶

Of course, there are concerns about the effects legally permissible activities can have on the Arctic environment as well, especially since the region is so rich in

80. *Maritime Zones and Boundaries*, NOAA OFF. GEN. COUNS., https://www.gc.noaa.gov/gcil_maritime.html (last updated Mar. 1, 2019). The establishment of territorial seas also occurred at the Third United Nations Conference, *supra* note 9, at 1280; see Carol Elizabeth Remy, *U.S. Territorial Sea Extension: Jurisdiction and International Environmental Protection*, 16 FORDHAM INT'L L.J. 1208, 1208 (1993) ("The 1982 United Nations Convention on the Law of the Sea . . . suggests that every nation endorse a twelve-mile territorial sea limit.").

81. *Maritime Zones and Boundaries*, *supra* note 80.

82. *Id.*

83. King, *supra* note 37, at 270–71.

84. See, e.g., Ved P. Nanda & Jonathan Bellish, *Moving from Crisis Management to a Sustainable Solution for Somali Piracy: Selected Initiatives and the Role of International Law*, 46 CASE W. RES. J. INT'L L. 43, 80 (2013) (describing how until piracy is stopped in Somalia and until Somalia "conforms with UNCLOS," it will be "deprived of a territorial sea and an exclusive economic zone").

85. See O S Ibrahim, *To Patrol Is to Control: Ensuring Situational Awareness in Africa's Maritime Exclusive Economic Zones*, 18 AFR. SEC. REV. 124, 124–31 (2009) (describing the need to patrol the EEZs off of the African coasts to halt the illegal activities taking place, such as illegal fishing and illegal dumping of nuclear wastes, that are destroying the coastal marine environments).

86. *Id.*

oil,⁸⁷ and oil spills can have such devastating, long-term effects on marine environments.⁸⁸ The Exxon Valdez oil spill in Alaska and British Petroleum (“BP”) oil spill in the Gulf of Mexico devastated their respective marine environments, and the regions are still feeling the effects of these oil spills years later.⁸⁹ While oil spills have furthered our understanding of more efficient cleanup methods,⁹⁰ the better strategy would be to prevent these spills from occurring in the first place.⁹¹

Under the 12-nautical-mile model, non-Arctic nations will only have exclusive access to resources within a small zone. This will prevent those nations from depleting large areas of the ocean as might occur under the 200-nautical-mile model. Additionally, the 12-nautical-mile model creates larger areas of open ocean. Having a larger area of open ocean can be beneficial because it prevents outside nations from competing for resources in relatively small open ocean areas, which can lead to overfishing of those areas.⁹² As previous examples have demonstrated, the smaller the area of open ocean that is available for resource extraction, the greater the chance that the sea will be overfished.⁹³

This principle can be easily demonstrated by what is known as the “Peanut Hole” in the Russian Sea of Okhotsk.⁹⁴ The Sea of Okhotsk, located on the northern Pacific coast of Russia across the Kamchatka Peninsula from the Bering Sea and bordering Siberia, is not quite small enough to be fully contained within Russia’s EEZ.⁹⁵ As a result, foreign vessels began exploiting resources out of a small section in the middle of the Sea known as the “Peanut Hole,” resulting in negative environmental impacts including the overfishing of pollack.⁹⁶ This issue was finally resolved in 2014 when the United Nations granted Russia’s request to include the

87. See CIRCUM-ARCTIC RESOURCE APPRAISAL, *supra* note 20, at 4.

88. See Charles H. Peterson et al., *Long-Term Ecosystem Response to the Exxon Valdez Oil Spill*, 302 SCI. 2082, 2082–86 (2003) (describing the long-term impacts from the Valdez oil spill years after exposure). For more information on the BP oil spill, the largest oil spill of all time, see generally Lawrence C. Smith, Jr. et al., *Analysis of Environmental and Economic Damages from British Petroleum’s Deepwater Horizon Oil Spill*, 74 ALB. L. REV. 563, 576 (2010).

89. See Peterson et al., *supra* note 88.

90. For more information on environmental cleanups, see *Superfund: CERCLA Overview*, EPA (last updated Jan. 4, 2021), <https://www.epa.gov/superfund/superfund-cercla-overview> (providing an overview of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) which establishes liability for the creation of hazardous sites).

91. Smith, Jr. et al., *supra* note 88, at 570 (stating the BP oil spill had an “estimated total damages of \$36.9 billion to BP, the environment, and the U.S. Gulf Coast economy”).

92. See Jon K. Goltz, *The Sea of Okhotsk Peanut Hole: How the United Nations Draft Agreement on Straddling Stocks Might Preserve the Pollack Fishery*, 4 PAC. RIM L. & POL’Y J. 443, 443 (1995).

93. See *id.* at 445.

94. *Id.*; RealLifeLore, *The World’s Strangest Borders Part 4: Ocean Madness*, YOUTUBE (Nov. 20, 2019), <https://www.youtube.com/watch?v=KdAmSfBnQaE&t=555s> (explaining EEZs in general, and more specifically, the Peanut Hole).

95. Goltz, *supra* note 92, at 445.

96. *Id.*

“Peanut Hole” as an official part of Russia’s continental shelf.⁹⁷ Therefore, following this example, if nations without Arctic territories must lay claim to smaller areas, then the open Arctic Ocean common area will increase in size, resources will not be exploited from a small area, and more nations could lay territorial claims in the Arctic, which will hopefully limit the negative environmental impacts from the tragedy of the commons.⁹⁸

Altering the 200-square-nautical-mile range for Arctic countries’ EEZs would require reworking the UNCLOS ruling on the Law of the Sea, and this Note is not calling for an entirely new international treaty.⁹⁹ Instead, it calls for allowing countries to have full exclusive rights to resources within their EEZs and allowing countries without any Arctic territories, but that value the region, to lay Arctic claims of 12 square nautical miles. This will not only be much more widely accepted by the international community than a full 200 square nautical miles, but it will also provide greater environmental protections.

While limiting nations’ territorial claims to 12 square nautical miles appears to be the better option for environmental concerns and efficacy, the prospects for installing Antarctic treaties to the Arctic territory took a major hit with the Ilulissat Declaration signed by five of the Arctic nations in 2008.¹⁰⁰ The Ilulissat Declaration addressed many concerns including climate change, the opposition to an Arctic Treaty, and “a defense of the institutional status quo in the region.”¹⁰¹ This declaration amounted to an attempt to limit outside nations’ influences on Arctic affairs.¹⁰²

97. See COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF, SUMMARY OF RECOMMENDATIONS OF THE COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF IN REGARD TO THE PARTIAL REVISED SUBMISSION MADE BY THE RUSSIAN FEDERATION IN RESPECT OF THE SEA OF OKHOTSK ON 28 FEBRUARY 2013, at 11 (2014), https://www.un.org/Depts/los/clcs_new/submissions_files/rus01_rev13/2014_03_13_COM_REC_RUS_Summary.pdf.

98. This Note is not arguing the common misconception that the “solution to pollution is dilution.” The best solution to the tragedy of the commons would be to either create a system of private property rights or have strict government regulations. See Kirsten Engel, Esther Loiseleur & Elise Drillhon, *Arizona’s Groundwater Management Act at Forty: Tackling Unfinished Business*, 10 ARIZ. J. ENVTL. L. & POL’Y 187, 200 (2020). Granting more nations smaller-sized property rights will hopefully limit the negative environmental effects in the Arctic by creating more territorial claims.

99. Especially in light of the 2008 Ilulissat Declaration. See Arctic Law & Policy Institute, University of Washington, *Arctic Law & Policy Year in Review: 2017*, 8 WASH. J. ENVTL. L. & POL’Y 106, 112 (2018) [hereinafter *Arctic Law & Policy Year in Review*] (describing the Ilulissat Declaration which was signed by five Arctic nations and effectively “rejected calls for a new treaty regime, similar to the Antarctic Treaty System”).

100. *Id.* (signed by the United States, Canada, Russia, Norway, and Denmark).

101. Brooks B. Yeager, *The Ilulissat Declaration: Background and Implications for Arctic Governance*, ARCTIC REP. (Nov. 5, 2008), <https://www.arctic-report.net/en/product/background-and-implications-2008/>.

102. See *id.*

The Ilulissat Declaration was a response by the Arctic nations after European governments proposed a new Arctic Treaty.¹⁰³ Although the Declaration “is primarily a defensive document,” there is potential for these five nations to agree to strengthening Arctic environmental regulations, especially with the growing threat of climate change.¹⁰⁴ Even in light of the Ilulissat Declaration, there is no guarantee that these five nations will prevail in this emerging battle.¹⁰⁵ In fact, in recent years, many agreements have already been adopted in the Arctic that are similar to the Antarctic treaty, including the desire for international scientific collaboration and the prohibition of unregulated commercial fishing.¹⁰⁶ Even with this trend towards the adoption of environmental regulations in the Arctic,¹⁰⁷ the Arctic nations still want to follow the Law of the Sea in regards to EEZs and territorial seas to prevent outside nations from extracting Arctic resources.¹⁰⁸ Therefore, the nations need to determine a fair strategy to satisfy all the interested countries while still preserving the Arctic marine environment. Allowing outside nations to claim a small 12-square-nautical-mile territory in the Arctic is a fair and equitable means to accomplish this goal as opposed to a much larger 200-square-nautical-mile area. Nevertheless, nations must cooperate both within an EEZ or territorial claim and in the open ocean to ensure that Arctic marine resources are properly managed.

C. Option 3: Have Entire Arctic Ocean Outside of EEZs Strictly Regulated as High Seas

A third option is to prevent territorial claims in the Arctic altogether, in accord with the Ilulissat Declaration, and to treat the areas outside of EEZs as the high seas.¹⁰⁹ This legal framework would maintain the status quo because the majority of the Arctic Ocean would go unclaimed and will be treated as the high seas, similar to the Southern Ocean off of the coast of Antarctica.¹¹⁰ As previously mentioned, if the United Nations creates similar treaties for the Arctic as seen in Antarctica,¹¹¹ then these treaties would provide the best environmental protections for the Arctic’s fragile environment by preventing many forms of resource

103. *Id.* Especially in response to the new economic activity that can now occur without ice caps. Then again, part of this Declaration was in response to Russia planting a flag at the bottom of the North Pole in 2007, as part of a demonstration for Arctic territorial claims. See Vsevolod Gunitskiy, *On Thin Ice: Water Rights and Resource Disputes in the Arctic Ocean*, 61 J. INT’L AFF. 261, 261 (2008).

104. Yeager, *supra* note 101.

105. See *Arctic Law & Policy Year in Review*, *supra* note 99, at 118–19 (describing some of the other Arctic agreements that have recently been signed, thus potentially weakening the Ilulissat Declaration).

106. *Id.*

107. *Id.*; See *The Paris Agreement*, UNITED NATIONS CLIMATE CHANGE (2019), <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> (explaining the international treaty to combat climate change).

108. *Arctic Law & Policy Year in Review*, *supra* note 99, at 112.

109. For a definition of the “high seas,” see Malone, *supra* note 65, at 59 (citing Article 1 of the Convention on the High Seas) (“[H]igh seas [are] the seas ‘not included in the territorial sea or in the internal waters of a State.’”).

110. See *id.* at 66–67.

111. See *id.* at 60.

extraction.¹¹² By contrast, countries that have an Arctic EEZ will be able to extract resources within their EEZ, and other nations will then need to comply with whatever environmental regulations develop.¹¹³ Plus, if foreign vessels are navigating through the Northwest Passage, they should be forced to comply with the more pro-environment Canadian regulations.¹¹⁴

However, the issues arising under this scenario bring about the purpose of this Note. Hypothetically, even if similar environmental regulations could be imposed in the Arctic as seen in the Antarctic Treaty of 1959,¹¹⁵ one of the principal concerns is that the few nations with Arctic territories will reap major benefits from Arctic ice cap melt. It can be said that nations which value Arctic resources can always attempt to negotiate for the purchase of land in the region, similar to what the United States did when purchasing Alaska in the nineteenth century or of its purported interest in purchasing Greenland in 2019,¹¹⁶ but opportunities to purchase land from other nations in the twenty-first century are very rare.¹¹⁷

The analysis of whether this option would be fair for outside nations depends on what international environmental high seas regulations in the Arctic would be installed.¹¹⁸ If the United Nations follow the Antarctic Treaty in the Arctic, it is likely that as ice caps melt, the newly opened Arctic ocean basin will be strictly regulated in regard to resource extraction like in Antarctica.¹¹⁹ However, it is unclear whether this principle of nonextraction can be accomplished in the Arctic as well, even when some of the international agreements that govern how the Antarctic is managed are being carried over to the Arctic.¹²⁰ The Ilulissat Declaration tried to

112. *Id.* at 60–61.

113. When considering alternate plans of action in environmental law, it is common practice to fully consider no action under the National Environmental Policy Act (“NEPA”). See 42 U.S.C. § 4321; James R. Holcomb, IV, *NEPA and Climate Change: After the CEQ’s Draft Guidance*, 41 TEX. ENVTL. L.J. 259, 275–76 (2011) (discussing that when “assessing the effects of climate change on a proposed action,” the agency should start by assessing the foreseeable impacts of no action); *National Environmental Policy Act*, EPA (Jan. 28, 2019), <https://www.epa.gov/nepa>.

114. King, *supra* note 37, at 270.

115. See Antarctic Treaty, *supra* note 54.

116. See Angela Dewan & Michelle Toh, *Here’s What It Could Cost for America to Buy Greenland (If It Was for Sale, That Is)*, CNN BUSINESS, <https://www.cnn.com/2019/08/16/business/how-much-greenland-cost-intl/index.html> (last updated Aug. 21, 2019) (explaining that the price for Greenland would be at least one-billion dollars).

117. See, e.g., Mariel Padilla, *Greenland Aside, Buying Foreign Land Used to Be Common*, N.Y. TIMES (Aug. 27, 2019), <https://www.nytimes.com/2019/08/27/us/greenland-us-land-purchases.html> (describing the United States’ history of purchasing foreign territories, none of which has occurred since the purchase of the U.S. Virgin Islands from Denmark in 1917).

118. *Arctic Law & Policy Year in Review*, *supra* note 99, at 118–19.

119. The Antarctic Treaty created a plethora of environmental protections including the ban on the extraction of Antarctic resources. Malone, *supra* note 65, at 59–60. If the Arctic follows the Antarctic Treaty, then similar limits on resource extraction will likely follow.

120. See *Arctic Law & Policy Year in Review*, *supra* note 99, at 117–19 (describing recent Arctic environmental agreements including the collaboration of scientific information which was a major part of the Antarctic Treaty).

prevent other outside nations from extracting resources in the Arctic region so that the Arctic nations would be the sole beneficiaries of the economic potential with the retraction of the Arctic ice caps.¹²¹ But if no outside territorial claims will be granted, then treating the entire Arctic outside of any EEZ as the open ocean may not be the fairest option because the seven Arctic nations would reap all the benefits of climate change in the region.

Whatever the case, the Arctic nations clearly expressed, through the Ilulissat Declaration, that they will be unwilling to acquiesce their Arctic EEZs through a new international treaty¹²² or agree to have the entire Arctic Ocean regulated as the “high seas” through a similar agreement to the Antarctic Treaty.¹²³ Therefore, it is unlikely that a solution to the Arctic resources problem will be accomplished through this third option, even though this option probably establishes the greatest environmental protections by treating the entire Arctic as the high seas found around the Antarctic; if strict environmental regulations did develop, then this option likely has a great chance to avoid the tragedy of the commons through strict limitations on resource extraction.¹²⁴

D. Option 4: Eliminate All Forms of Resource Extraction in the Arctic

Although the previous option called for the elimination of any Arctic Ocean territorial claims and emphasized the importance of environmental regulations on the extraction of resources for outside nations in the Arctic, this fourth option is the total elimination of resource extraction beyond EEZs. This is not a new idea; rather, ending fishing outside of EEZs has received some support in recent years.¹²⁵ An option for ending high seas fishing is “negotiating a framework for closure through a United Nations (‘UN’) process,” which would call for a new Law of the Sea.¹²⁶ Another solution is to have the countries that contain areas of open ocean completely surrounded by their EEZ limit access to this area.¹²⁷ Finally, certain countries can unilaterally prohibit fish imports from the high seas.¹²⁸

This fourth option, banning high seas fishing, constitutes one of the most extreme environmental measures, but with so much of the ocean’s fisheries being overfished,¹²⁹ an extreme measure such as ending high seas fishing may be the only way to truly replenish the biological diversity of the oceans and put a stop to the

121. Yeager, *supra* note 101.

122. *Arctic Law & Policy Year in Review*, *supra* note 99, at 112.

123. *Id.*

124. See Fikret Berkes & Taysha Palmer, *Managing Shared Resources: Collective Community Action is the Best Way to Close the Curtain On the Tragedy of the Commons*, 41 ALTERNATIVES J. 67, 67 (2015) (explaining the four solutions to the tragedy of the commons which are: privatization by individuals, privatization by state through strict government regulations, collective management of shared resources, or a combination of the three). This again reinforces the common solution to the tragedy of the commons. If the open ocean in the Arctic is highly regulated, there will be less potential for resource depletion.

125. Katrina M. Wyman, *Unilateral Steps to End High Seas Fishing*, 6 TEX. A&M L. REV. 259, 263 (2018).

126. *Id.*

127. See Goltz, *supra* note 92, at 443.

128. Wyman, *supra* note 125, at 263.

129. CASTRO DE SOUZA, *supra* note 28.

ongoing mass extinction.¹³⁰ This Note is not addressing the end of high sea fishing altogether, but rather is considering the option of ending high seas fishing solely in the melted Arctic Ocean. The Oslo Declaration, signed by five Arctic nations in 2015, already called for the end of commercial fishing in the Arctic, so pieces are in place to actually go a step beyond mere consideration of this idea,¹³¹ but because the current ice is still preventing most commercial vessels from navigating in the Arctic,¹³² there is not much fishing occurring in the region at the moment to begin with.¹³³ However, banning high seas fishing in the middle of the Arctic Ocean is a great first step to fully protecting the biotic resources in that region.¹³⁴

Four areas that need to be addressed further include what to do with migratory species, how the ban on high seas fishing would be enforced and patrolled, how nonbiotic resources will be regulated, and how native communities will be regulated per these environmental protections.

Even with the banning of high seas fishing in the Arctic, many marine species are highly migratory, and if nations are able to exploit these fisheries when these species enter the Northern Pacific or Northern Atlantic Oceans, then these Arctic species may still be at risk of being overfished.¹³⁵ As previously mentioned, the National Marine Fisheries Service in the United States has the ability to regulate the fisheries of migratory species outside of their EEZ under the Magnuson–Stevens Act through international agreements to obtain optimum fishing yields.¹³⁶ It will be important to install a similar scheme in the Arctic Ocean to guarantee migratory species will not be overfished when they traverse outside of the Arctic Ocean basin if commercial fishing is banned in the central Arctic but not in the Atlantic or Pacific.

Additionally, it is still unclear how stringent the ban on commercial fishing would end up being in the Arctic because fishing is not yet feasible due to the current presence of the ice caps. Once the ice caps do melt, a new issue will arise in just

130. See Ceballos, *supra* note 4. Of course, by-catch also plays a major role the consequences of overfishing. For an example of the negative impacts of by-catch on sea turtles, see Susan Bisong, *The WTO Panel Decision on the U.S. Shrimp Embargo: Another Ruling Against U.S. Enforcement of Species Protection in Trade*, 40 NAT. RESOURCES J. 699, 721–26 (2000) (describing the options the United States has in whether to adhere to sea turtle laws in prohibiting the trade of shrimp caught without Turtle Excluder Devices, whether United States should follow trade laws, or negotiate an agreement to trade laws that will protect turtles).

131. *Arctic Law & Policy Year in Review*, *supra* note 99, at 118–19.

132. Schlanger, *supra* note 43.

133. The Oslo Declaration just addressed unregulated commercial fishing. Scientific analysis should still be implemented to better understand fisheries in the Arctic. Grace Elizabeth Shephard et al., *Assessing the Added Value of the Recent Declaration on Unregulated Fishing for Sustainable Governance of the Central Arctic Ocean*, 66 MARINE POL'Y 50, 53–55 (2016).

134. See Klaus Dodds, 'Real Interest'? Understanding the 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, 10 GLOBAL POL'Y 542 (2019), <https://www.globalpolicyjournal.com/articles/global-commons-and-environment/real-interest-understanding-2018-agreement-prevent>.

135. See Smith, *supra* note 34, at 6.

136. 16 U.S.C. § 1812(a).

how to police the ban on commercial fishing in the newly exposed waters.¹³⁷ If the nations fail to patrol the Arctic Ocean actively and effectively, then species may still be overfished.¹³⁸ A classic example of this occurring can be found in the Sea of Cortez where the highly endangered totoaba fish are still being illegally fished for their highly prized swim bladders.¹³⁹ The illegal fishing of the totoaba has also caused the vaquita, a small species of cetacean, to become ensnared in the gillnets meant for the fish. As a result, the vaquita is the most endangered marine mammal in the world with only 10–20 remaining as of 2019.¹⁴⁰ Mexico formed a three-country agreement with China and the United States at the Convention on International Trade in Endangered Species of Wild Fauna and Flora to help curb the illegal poaching of the totoaba to save both the totoaba and the vaquita.¹⁴¹ Through this three-country agreement, new measures were put in place to help save the vaquita before it was too late.¹⁴² As this example demonstrates, Arctic nations will need to work together to police and patrol the Arctic Ocean to prevent illegal fishing and to enforce whatever fishing regulations end up being approved in the Arctic.

While there is some support to end high seas fishing in the Arctic Ocean in the near future, this ban does not address what to do with nonfisheries, including oil and natural gas reserves. With so much oil and natural gas existing in the Arctic,¹⁴³ it may be considered wasteful to prevent the total consumption of these nonrenewable resources; world leaders have found the decision justifiable, as demonstrated by President Obama withdrawing from any future plans to drill in the Arctic.¹⁴⁴ On the other hand, the Trump administration planned to mine the Arctic

137. For just one example of an endangered species on the brink of extinction, thanks in large part to illegal fishing, see Lorenzo M. Juarez, Pablo A. Konietzko & Michael H. Schwarz, *Totoaba Aquaculture and Conservation: Hope for an Endangered Fish from Mexico's Sea of Cortez*, WORLD AQUACULTURE SOC'Y (Dec. 15, 2016), <https://www.was.org/articles/Totoaba-Aquaculture-and-Conservation-From-sea-of-cortez.aspx#.XjDqKmhKhPY>.

138. *See id.*

139. *Collateral Damage*, ENVTL. INVESTIGATION AGENCY (Sept. 20, 2016), <https://eia-international.org/report/collateral-damage/>.

140. Priyanka Sundareshan, *Prosecution for A Porpoise: Strengthen U.S. Enforcement Against Criminal Networks to Address International Trafficking of Endangered Species*, 10 ARIZ. J. ENVTL. L. & POL'Y 216, 218 (2020). For more information on the relationship between the vaquita and the totoaba, including the roles of the Mexican drug cartels and Chinese mafia, see my posting on the University of Arizona's Natural Resource Blog. Neil Berglund, *Desperate Action Needed to Save a Small Species of Porpoise from Extinction*, NAT. RESOURCE USE & MGMT. CLINIC (Nov. 6, 2019), <https://westernlandsblog.arizona.edu/desperate-action-needed-save-small-species-porpoise-extinction>; *see also* SEA OF SHADOWS (National Geographic Documentary Films 2019) (exploring the same subject).

141. John R. Platt, *Saving the Vaquita: New Promises and New Threats*, SCI. AM. (Oct. 26, 2019), <https://blogs.scientificamerican.com/extinction-countdown/saving-the-vaquita-new-promises-and-new-threats/>.

142. *Id.*

143. *See* CIRCUM-ARCTIC RESOURCE APPRAISAL, *supra* note 20.

144. *See Offshore Drilling: Arctic Ocean*, WILDERNESS SOC'Y, <https://www.wilderness.org/wild-places/alaska/offshore-drilling-arctic-ocean> (last visited

of its natural resources, and the fight over whether to mine the oil and natural gas reserves in the region is still an ongoing issue.¹⁴⁵

Following the Antarctic Treaty,¹⁴⁶ and the most stringent environmental protections of this fourth potential option, the best possible course of action may be to ban all offshore oil drilling in the Arctic Ocean altogether. If this were to come to fruition, then the rest of this Note would be moot. The Arctic region would effectively be turned into the Antarctic where nations will be able to lay claims to territory, but the rest of the international community would likely not care as there would be no valuable resources, neither biotic nor abiotic, to exploit. Under this scenario, countries without any Arctic territories, like China, would probably not be interested in obtaining territories in the Arctic anymore if there was no potential for economic gain.¹⁴⁷ However, it is highly unlikely that the international community will adopt this approach to banning all offshore drilling in the Arctic due to its economic potential and the need to find more sources of nonrenewable energy to support the ever-growing human population and improving technology.¹⁴⁸ Whatever the case may be, once again, strong international environmental regulations need to be implemented to prevent another disastrous oil spill in the Arctic Ocean.¹⁴⁹

Finally, even if fishing is banned on the high seas, the native communities should still be exempt from this regulation in accordance with the exemption of the Endangered Species Act, which allows native Alaskan communities to take endangered species if used for subsistence.¹⁵⁰

Ultimately, this fourth option puts the most severe environmental regulations in place, but given the environment's current state, extreme measures may be the only possible way to stop climate change and the ongoing extinctions.¹⁵¹ While pro-environmentalists will most definitely argue in favor of leaving the Arctic region as an environmental sanctuary,¹⁵² the potential economic gain from all of the unharvested nonrenewable resources in the Arctic is likely too much to be completely ignored by the United States and other nations that do not even have an Arctic territory.¹⁵³ This is likely to be the fourth option's biggest hurdle and the

Mar. 9, 2021) (describing the fight that the Wilderness Society is imposing in court to prevent President Trump's decision to drill in the Arctic).

145. *Id.*

146. Malone, *supra* note 65, at 60–61 (describing how the Madrid Protocol bans mining in Antarctica for 50 years).

147. Van Wagner, *supra* note 6, at 202 (describing non-Arctic nations' interest in exploiting Arctic resources).

148. *See, e.g.,* Roser, *supra* note 29.

149. *See* Peterson et al., *supra* note 88, at 2082–86.

150. 16 U.S.C. § 1539(e) (exempting Alaskan natives from the illegal "taking of any endangered or threatened species" if used for subsistence as part of the Endangered Species Act).

151. *See* Ceballos, *supra* note 4.

152. *See Offshore Drilling: Arctic Ocean, supra* note 144.

153. *See* S. Niggol Seo, *Economic Questions on Global Warming During the Trump Years*, 19 J. PUB. AFF. 1, 3–4 (2019) (noting that under President Trump, the United States took a very different approach to policies related to climate change, including the withdrawal from the Paris Climate Agreement).

prohibition against all extraction of resources, fishing and drilling alike, make adoption of this option unlikely.

III. BEST APPROACH TO ALLOCATE ARCTIC RESOURCES

This Note has discussed four potential solutions to determine how to handle the ongoing issue of allocating Arctic resources analyzed in order from the lowest to greatest levels of environmental protections. All these solutions have positive and negative attributes. The first solution may be the fairest way to allocate Arctic resources, but issues will arise as to which countries should be granted full 200-square-nautical-mile claims, and the Arctic nations would likely never agree nor recognize any potential full 200-nautical-mile EEZ claims following the Ilulissat Declaration.¹⁵⁴ This option is not a viable approach to addressing Arctic resources, given the political implications.

The third option is basically the no-action alternative, which should always be considered.¹⁵⁵ This option is also not a viable approach because the need to address this problem in the Arctic is of pressing concern and is the entire focus of this Note. Potentially, this issue could be resolved by implementing a similar international treaty to the Antarctic Treaty, but too many variables exist to consider this a viable option.

This would leave the second solution with elements of the fourth solution as the best possible way to deal with this pressing issue. Granting outside Arctic nations the ability to claim very small, 12-square-nautical-mile regions in the open Arctic Ocean will be beneficial from an environmental perspective¹⁵⁶ and will be much more likely to be acceptable to the current Arctic nations,¹⁵⁷ not to mention the fact that this solution would also be fair by allowing outside nations access to extract Arctic resources.¹⁵⁸ Of course, the Ilulissat Declaration will need to be reworked to allow outside nations to obtain Arctic resources, but considering that these five nations would have full, exclusive access to the Arctic resources found within their EEZs, they should be much more willing to cooperate.¹⁵⁹

Preventing all high seas fishing and resource extraction in the open areas of the Arctic would be a fair way to maintain the status quo by preventing every nation from accessing Arctic resources that were previously unavailable to them. This would clearly be the best strategy from an environmental viewpoint, but with the ever-increasing need for resources,¹⁶⁰ this proposal is unlikely to be accepted by the international community. That does not mean, however, that resource extraction in the Arctic should go unregulated. Strict regulations will still be needed, regardless

154. Yeager, *supra* note 101.

155. *See supra* note 113.

156. *See Goltz, supra* note 92, at 443.

157. *See Arctic Law & Policy Year in Review, supra* note 99, at 112 (describing the Ilulissat Declaration which was signed by five Arctic nations and effectively “rejected calls for a new treaty regime, similar to the Antarctic Treaty System”).

158. *See Van Wagner, supra* note 6, at 202.

159. *See Arctic Law & Policy Year in Review, supra* note 99, at 112.

160. *See, e.g., Roser, supra* note 29.

of whether nations are fishing or extracting oil, to prevent a tragedy of the commons.¹⁶¹

Overall, the best way to deal with resource allocation following the melting of the Arctic ice caps is to allow the current Arctic nations full exclusive rights to the resources found within their EEZs. Outside Arctic nations should be granted much smaller 12-square-nautical-mile claims in the Arctic, which would essentially be treated like an EEZ. Strict regulations would also be needed to control what countries do in both their EEZs and in the open ocean to prevent the deterioration of the Arctic marine environment.¹⁶² Much greater restrictions will need to be implemented in the open ocean areas of the Arctic Ocean not under an EEZ or territorial claim to avoid the tragedy of the commons.¹⁶³

CONCLUSION

Climate change's effects can be felt all over the world.¹⁶⁴ In the marine environment climate change is causing Arctic ice caps to melt leading to rising sea levels,¹⁶⁵ while also intensifying tropical hurricanes and cyclones,¹⁶⁶ and acidifying the oceans,¹⁶⁷ all due to warming ocean temperatures.¹⁶⁸ Coupled with the exponentially growing human population,¹⁶⁹ the world's fishery stocks are being overfished at an alarming rate, placing the fate of marine ecosystems in jeopardy.¹⁷⁰ As the Arctic glaciers recede,¹⁷¹ unexplored areas of the world will be opened for resource extraction for the first time. Therefore, it is necessary to address how these resources will be divided.

Ultimately, this question should not be answered by establishing an entirely new Law of the Sea, but should follow the basic framework from the UNCLOS establishing EEZs.¹⁷² Under this model, nations with Arctic territories would get the

161. See Hardin, *supra* note 53, at 1245.

162. For example, oil spills and overfishing. See, e.g., Distefano, *supra* note 24, at 13; Peterson et al., *supra* note 88, at 282–86.

163. Potentially including a ban on high seas commercial fishing in the Arctic altogether. See, e.g., *Arctic Law & Policy Year in Review*, *supra* note 99, at 118–19.

164. See, e.g., *Massachusetts v. E.P.A.*, 549 U.S. 497, 499 (2007) (“[G]lobal warming threatens . . . a precipitate rise in sea levels, severe and irreversible changes to natural ecosystems, a significant reduction in winter snowpack with direct and important economic consequences, and increases in the spread of disease and the ferocity of weather events.”).

165. Dutton, *supra* note 5.

166. See Diana C. Rypkema et al., *How Climate Affects Extreme Events and Hence Ecological Population Models*, 100 *ECOLOGICAL SOC'Y AM.* 1 (Mar. 8, 2019), <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecy.2684> (“With climate change, hurricane magnitude is projected to increase 2–11% by 2100.”).

167. *Ocean Acidification*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification> (last updated Apr. 2020).

168. Pendleton, *supra* note 5.

169. See Roser, *supra* note 29.

170. Burden, *supra* note 27.

171. Pendleton, *supra* note 5.

172. Third United Nations Conference, *supra* note 9, at 1280.

exclusive rights to resources found within their EEZs and outside nations may lay claims to 12-square-nautical-mile territories in the Arctic, equal to the distance of a territorial sea.¹⁷³ Finally, areas of the open ocean in the Arctic should be strictly regulated through international cooperation to prevent a tragedy of the commons, which may mean banning commercial fishing altogether.¹⁷⁴ By implementing the 12-square-nautical-mile model along with strict international regulations, interested nations can allocate valuable biotic and abiotic resources while taking into account current maritime law, environmental concerns, and equitable principles.

173. *Maritime Zones & Boundaries*, *supra* note 80.

174. *Arctic Law & Policy Year in Review*, *supra* note 99, at 118–19; *see* Wyman, *supra* note 125, at 263.