

Washington Journal of Environmental Law & Policy

Volume 8 | Issue 1

3-1-2018

Arctic Law & Policy Year in Review: 2017

Arctic Law & Policy Institute, University of Washington

Follow this and additional works at: <https://digitalcommons.law.uw.edu/wjelp>



Part of the [Environmental Law Commons](#)

Recommended Citation

Arctic Law & Policy Institute, University of Washington, *Arctic Law & Policy Year in Review: 2017*, 8 WASH. J. ENVTL. L. & POL'Y 106 (2018).

Available at: <https://digitalcommons.law.uw.edu/wjelp/vol8/iss1/4>

This Article is brought to you for free and open access by the Law Reviews and Journals at UW Law Digital Commons. It has been accepted for inclusion in Washington Journal of Environmental Law & Policy by an authorized editor of UW Law Digital Commons. For more information, please contact lawref@uw.edu.

ARCTIC LAW & POLICY YEAR IN REVIEW: 2017

Arctic Law & Policy Institute, University of Washington*

I. INTRODUCTION: ARCTIC NEWS HIGHLIGHTS

According to the U.S. National Oceanic and Atmospheric Administration's 2017 Arctic Report Card, while 2017 did not shatter as many records as 2016, the Arctic shows no sign of returning to the reliably frozen region it was decades ago.¹ Arctic temperatures continue to increase at double the global rate.²

2017 marked the end of the United States' chairmanship of the Arctic Council and the beginning of another term for Finland. At the May 11, 2017 Fairbanks Ministerial hosted by Secretary of State Rex Tillerson – the first ministerial in which all eight member states were represented by their Foreign Ministers – the Arctic Council member states adopted the Fairbanks Declaration and the Agreement on Enhancing International Arctic Scientific Cooperation, the council's third legally binding agreement. The purpose of the Agreement is “to enhance cooperation in Scientific Activities in order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic.”³ During its two-year chairmanship Finland intends to emphasize the implementation of the Paris Agreement on climate change and the UN sustainable development goals (SDGs) while working to strengthen Arctic cooperation and its continuity at the highest political level.

* Craig H. Allen, Judson Falknor Professor of Law, Director, UW Arctic Law and Policy Institute, with assistance from Malina Dumas (UW Law '18).

1. *Arctic Report Card: Update for 2017*, ARCTIC PROGRAM, <http://www.arctic.noaa.gov/Report-Card/Report-Card-2017> (last visited Jan. 25, 2018).

2. *Id.*

3. *Agreement on Enhancing International Arctic Scientific Cooperation*, U.S. DEP'T. OF STATE, (May 11, 2017), <https://www.state.gov/e/oes/rls/other/2017/270809.htm>.

On June 1, 2017, President Trump announced that the U.S. would cease all participation in the 2015 Paris Agreement on climate change mitigation.⁴

In November 2017, delegations from the five States that border the Arctic Ocean (Canada, Denmark/Greenland and the Faroe Islands, Norway, Russia and the U.S.), four States whose vessels engage in distant water fishing operations (China, Iceland, Japan and South Korea) and the European Union, on behalf of its member States, met in Washington, DC, to negotiate a draft a legally binding agreement to prevent illegal, unreported and unregulated (IUU) fishing in the high seas area of the Central Arctic Ocean.

A sign, perhaps, of waning Arctic interest, two media sources of Arctic reporting and analysis ceased publication in 2017. *Alaska Dispatch News* (ADN.com) filed for bankruptcy on August 13, 2017. Its assets were acquired by new owners who rebranded the publication as *Anchorage Daily News*. New York-based digital media project *Arctic Deeply* ceased publication on September 15, 2017. Calling the move a “transition,” the announcement indicated that Arctic-related news would be included in the *Oceans Deeply* newsletter service.

5

Arctic Council Ministerial

The United States hosted the Arctic Council’s 10th Ministerial in Fairbanks, Alaska, from May 10-11, 2017. Ministers representing the eight Arctic States, joined by representatives of the six Permanent Participant organizations, adopted the 20-page, 46-point Fairbanks Declaration.⁶ The Declaration addressed: Arctic Ocean Safety, Security and Stewardship, Improving Economic and Living Condition, Addressing the Impacts of Climate Change, and Strengthening the Arctic Council.

4. *Paris climate deal: Trump pulls US out of 2015 accord*, BBC NEWS, (June 1, 2017), <https://www.bbc.com/news/world-us-canada-40127326>.

5. John Thompson, *Thank You, Deeply: An important message for the Arctic Deeply community*, ARCTIC DEEPLY, (Sept. 15, 2017), <https://www.newsdeeply.com/arctic/articles/2017/09/15/thank-you-deeply>.

6. *Fairbanks Declaration*, ARCTIC COUNCIL, (May 11, 2017), https://oaarchive.arctic-council.org/bitstream/handle/11374/1910/EDOCS-4339-v1-ACMMUS10_FAIRBANKS_2017_Fairbanks_Declaration_Brochure_Version_w_Layout.PDF?sequence=8&isAllowed=y.

Senior Arctic Officials Meetings

Under the U.S. Arctic Council chairmanship, the Senior Arctic Officials met twice in 2017: in Juneau, Alaska from March 7-9, 2017, and in Anchorage, Alaska from May 8-9, 2017. Under Finland's chairmanship, the SAOs met from October 25-26, 2017 in Oulu, Finland.

Arctic Scientific Cooperation

The Arctic Council member States adopted the Agreement on Enhancing International Arctic Scientific Cooperation at the May 11, 2017 Ministerial in Fairbanks, Alaska. It is the Council's third binding agreement.

Arctic Ice Conditions: Older sea ice tends to be thicker, stronger, and better able to bounce back from unfavorable conditions. In 2017, these ice cover continued to be relatively young and thin with older, thicker ice comprising only 21 percent of the ice cover in 2017 compared to 45 percent in 1985. The winter ice maximum on March 7, 2017 was the lowest on record (which goes back to 1979), eight percent lower than the average ice maximum between 1981 and 2010. Arctic sea ice extent for December 2017 averaged 4.54 million square miles, the second lowest in the 1979 to 2017 satellite record.⁷

Arctic Climate Conditions: The average surface air temperature for the reporting year ending September 2017 was the second warmest since 1900; however, cooler spring and summer temperatures contributed to a rebound in snow cover in the Eurasian Arctic, slower summer sea ice loss, and below-average melt extent for the Greenland ice sheet.⁸ Sea temperatures are climbing: surface temperatures in the Barents and Chukchi Sea are 7.2 degrees Fahrenheit above the average.⁹ Vegetation and greening is taking over tundra, accompanying record permafrost thawing.¹⁰

U.S. Oil and Gas Activities

7. *Arctic Sea Ice News and Analysis*, NATIONAL SNOW & ICE DATA CENTER, <http://nsidc.org/arcticseaicenews/> (last visited Jan. 24, 2018).

8. *Arctic Report Card: Update for 2017*, Arctic Program, <http://www.arctic.noaa.gov/Report-Card/Report-Card-2017> (last visited Jan. 25, 2018).

9. *Id.*

10. *Id.*

After dipping as low as \$28/barrel in 2015, and as low as \$47/barrel in 2017, Brent crude oil futures (the global benchmark for oil prices) recovered to close in late December 2017 at \$67/barrel. On Jan. 9, 2018, the U.S. Energy Information Administration published its Short-Term Energy Outlook, forecasting Brent crude to average around \$60 a barrel in 2018 and \$61 in 2019.¹¹

On January 17, 2017—three days before leaving office—Secretary of the Interior Sally Jewell approved a 2017-2022 OCS Oil and Gas Leasing Program and issued a Record of Decision (ROD) for the Programmatic Environmental Impact Statement (EIS). Under the Obama Administration program, some 94 percent of the OCS, including all of the federal OCS lease areas in the Chukchi and Beaufort Seas, were to be off limits for oil and gas leasing.¹² Upon taking office on January 20, 2017, the Trump Administration announced that it would revisit the decision. On January 4, 2018, Secretary of Interior Ryan Zinke announced a draft National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program) for 2019-2024, which proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas under consideration for future exploration and development.¹³

In February 2017 Sweden's Lundin Petroleum announced it had found an estimated 35 million to 100 million barrels of oil equivalent (BOE) in the Norwegian Barents Sea.¹⁴ The prospect — known as Filicudi — could contain up to 700 million barrels.

Russia's Yamal gas plant opened on December 8, 2017. When fully operational, the plant is expected to reach an

11. *Short-Term Energy Outlook*, U.S. Energy Information Administration (2017), https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf.

12. *2017-2022 OCS Oil and Gas Leasing Program*, BUREAU OF OCEAN ENERGY MANAGEMENT, <https://www.boem.gov/National-OCS-Program-for-2017-2022/> (last visited Jan. 24, 2018).

13. Press Release, Dep't of the Interior, Secretary Zinke Announces Plan for Unleashing America's Offshore Oil and Gas Potential (Jan. 4, 2018), <https://www.doi.gov/pressreleases/secretary-zinke-announces-plan-unleashing-americas-offshore-oil-and-gas-potential>.

14. Richard Milne, *Lundin outlines oil discovery in Norwegian Arctic*, FINANCIAL TIMES (Feb. 13, 2017), <https://www.ft.com/content/39ae2020-f1e4-11e6-8758-6876151821a6>.

annual peak production of 16.5 million tons. Three icebreaking LNG tankers were quickly put into service transporting gas from the Yamal Peninsula to northern Asia markets via the Bering Strait.¹⁵

Arctic Shipping

Northern Sea Route (NSR): The Northern Shipping Administration (NSRA) established a new web site in 2017.¹⁶ As this YIR Report was being compiled the NSRA had not published statistics on 2017 traffic. One unofficial source reported that 9,737 million tons of goods was shipped on the Northern Sea Route in 2017, an increase of almost 35 percent from 2016.¹⁷

Chinese shipping companies accounted for a dozen of the NSR vessel transits in 2017, compared to five vessels transiting through the NSR in 2016, reflecting the inclusion of the NSR in China's One Belt One Road project discussed below.¹⁸

Northwest Passage: One paper reports that thirty-three vessels navigated the Northwest Passage in 2017, and twenty-three of those were pleasure yachts.¹⁹

From July 12 to August 28, 2017, the U.S. Coast Guard buoy tender *Maple* transited from her homeport in Sitka, Alaska to the Coast Guard Yard in Maryland, via the NWP. The Canadian Coast Guard icebreaker *Terry Fox* assisted in *Maple's* transit.

The crew of U.S. Coast Guard Cutter *Maple* follows the crew of Canadian Coast Guard Icebreaker *Terry Fox* through the icy waters of Franklin Strait, in Nunavut Canada, August 11,

15. *Christophe de Margerie Class Icebreaking LNG Carriers*, SHIP TECHNOLOGY, <http://www.ship-technology.com/projects/christophe-de-margerie-class-icebreaking-lng-carriers/> (last visited Jan. 24, 2018).

16. See THE NORTHERN SEA ROUTE ADMINISTRATION, <http://www.nusra.ru/en/home.html> (last visited Jan. 24, 2018).

17. Atle Staalesen, *As ice layers get thinner, ship sets another Arctic speed record*, BARENTS OBSERVER (Jan. 16, 2018), <https://thebarentsobserver.com/en/arctic/2018/01/ice-layers-get-thinner-ship-sets-another-arctic-speed-record>.

18. Ekaterina Klimenko, *China sends more than a dozen vessels through the Arctic Ocean*, HIGH NORTH NEWS (Dec. 6, 2017), <http://www.highnorthnews.com/china-sends-more-than-a-dozen-vessels-through-the-arctic-ocean/>.

19. R. K. Headland et. al., *Transits of the Northwest Passage to End of the 2017 Navigation Season*, SCOTT POLAR RESEARCH INSTITUTE (Dec. 14, 2017), <https://www.spri.cam.ac.uk/resources/infosheets/northwestpassage.pdf>.

2017. U.S. Coast Guard photo by Petty Officer 2nd Class Nate Littlejohn.

Legislation/ International Agreements

The U.S. FY 2018 National Defense Authorization Act authorized funds to begin the construction of a Polar Class heavy icebreaker to replace the Coast Guard's aging *Polar Star*.²⁰

Carbon Tax? On July 26, 2017, Rep. Earl Blumenauer introduced a bill proposing the "American Opportunity Carbon Fee Act of 2017."²¹ If enacted, the bill would have imposed fees on: (1) fossil fuel products producing carbon dioxide emissions, including coal, petroleum products, and natural gas; (2) fluorinated greenhouse gases; (3) emissions of any greenhouse gas from any greenhouse gas emissions source; and (4) associated emissions (attributable to venting, flaring, and leakage across the supply chain). The bill did not make it out of any of the seven committees to which it was assigned. Readers may recall that in June 2016 the House of Representatives passed a resolution (237-163) listing the pitfalls of a tax on carbon dioxide emissions and concluding that such a policy "would be detrimental to American families and businesses, and is not in the best interest of the United States."²²

Council on Foreign Relations releases its Arctic Imperatives Report

In March 2017, the Council on Foreign Relations issued its 83-page report *Arctic Imperatives: Reinforcing U.S. Strategy on America's Fourth Coast*. The report was prepared by the twenty-member Independent Task Force that was co-chaired by former New Jersey Governor Christine Todd Whitman and retired Coast Guard Admiral and former Commandant Thad Allen. The Report identified six main goals the United States should pursue in the Arctic region²³:

20. National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Cong. (2017).

21. American Opportunity Carbon Fee Act of 2017, S. 1639, 115th Cong. (2017).

22. Expressing the sense of Congress that a carbon tax would be detrimental to the United States economy., H.Con.Res. 89, 114th Cong. (2015).

23. Thad W. Allen et. al., *Arctic Imperatives: Reinforcing U.S. Strategy on America's*

Accession to the U.N. Law of the Sea Convention, to enable the U.S. to secure its claims to an extended continental shelf in the Arctic.

Fund up to six U.S. Coast Guard icebreakers.

Improve telecommunications, energy and other infrastructure in Alaska.

Deepen U.S. work with all Arctic states, including Russia, on confidence building and cooperative security measures through the Arctic Council.

Support sustainable development for the people of the Arctic and further consult with Alaska Natives to improve their well-being.

Sustain robust research funding to understand the ongoing profound changes in the region and their impact on the globe.

II. TREATIES AND OTHER INTERNATIONAL AGREEMENTS

U.N. Convention on the Law of the Sea

In the 2008 Ilulissat Declaration, the five coastal nations bordering the Arctic Ocean (Canada, Denmark/Greenland, Norway, Russia, and the U.S.), jointly affirmed their commitment to settle any Arctic maritime disputes within the framework provided by the Law of the Sea.²⁴ In doing so, they rejected calls for a new treaty regime, similar to the Antarctic Treaty System. The declaration concludes that the Law of the Sea framework “provides a solid foundation for responsible management by the five coastal States and other users of this Ocean through national implementation and application of relevant provisions. We therefore see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.”²⁵

2017 brought no significant progress on possible U.S. accession to the 1982 U.N. Convention on the Law of the Sea. At an Arctic economic development event hosted by the Center for International and Strategic Studies in DC, Senator Murkowski (R-Alaska) and Senator King (I-Maine), both

Fourth Coast, COUNCIL ON FOREIGN RELATIONS (2017), https://www.cfr.org/sites/default/files/pdf/2017/02/TFR75_Arctic.pdf.

24. See *The Ilulissat Declaration*, (May 28, 2008), http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf.

25. *Id.*

members of the Arctic Caucus, spoke strongly in support of the United States acceding to the LOS Convention.²⁶ Senator King called the Senate's failure to ratify the pact "a huge self-inflicted wound" that limits the country's power in deciding broad maritime issues.²⁷

Opponents argue accession relinquishes too much sovereignty to a dispute resolution regime proven ineffective at checking territorial aggression, for example by China in the South China Sea.²⁸ Proponents—which includes every president since Bill Clinton's presentment to Congress over 20 years ago, the Navy, the U.S. Coast Guard, and the Alaska Arctic Policy Commission—point out that accession would, among other things, help the United States maximize international recognition and legal certainty regarding the outer limits of the U.S. continental shelf.²⁹

The LOS Convention is supported by two implementation agreements. The first implements (and amends) Part XI of the Convention, which deals with mineral resources of the deep seabed beyond national jurisdiction. The second deals with straddling and highly migratory fish stocks. The latter agreement, to which the United States is a party, will likely figure in management of straddling fish stocks in the Central Arctic Ocean. A third implementation agreement on conserving biological diversity in areas beyond national jurisdiction ("BBNJ") is under development at the United Nations.

U.N. Framework Convention on Climate Change (UNFCCC)

The UNFCCC, which entered into force on March 21, 1994, sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change.³⁰ It recognizes

26. John Grady, *Senators Renew Call to Ratify Law of the Sea Treaty to Help Chart Future of the Arctic*, U.S. NAVAL INSTITUTE (July 19, 2017), <https://news.usni.org/2017/07/19/senators-renew-call-ratify-law-sea-treaty-help-chart-future-arctic>.

27. *Id.*

28. *The United Nations Convention on the Law of the Sea: Hearing on S. Treaty Doc. No. 103-39 Before the S. Comm. on Foreign Relations*, 110th Cong. (2007) (prepared statement of John D. Negroponte, Deputy Secretary of State), <https://www.gpo.gov/fdsys/pkg/CHRG-110shrg45282/html/CHRG-110shrg45282.htm>.

29. *Id.*

30. United Nations Framework Convention on Climate Change, May 9, 1992, S. TREATY DOC. NO. 102-38, 1771 U.N.T.S. 107.

that the climate system is a shared resource that can be degraded by industrial and other emissions of carbon dioxide and other greenhouse gases.³¹ Under the Convention, governments: (1) gather and share information on greenhouse gas emissions, national policies, and best practices, (2) launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries, and (3) cooperate in preparing for adaptation to the impacts of climate change.³²

The convention provides a framework that is then implemented by a series of protocols designed to limit average global temperature increases and the resulting climate change, and to cope with climate change impacts.³³ On April 22, 2016, the vast majority of States agreed upon a new framework—the “Paris Agreement.” The U.S. delegation was led by Secretary of State John Kerry.

Paris Agreement

The 2016 Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.

The Paris Agreement entered into force on November 4, 2016. By December 2017, 171 States had ratified the Agreement. On June 1, 2017, however, President Trump announced that the U.S. would cease all participation in the Paris Agreement.³⁴

31. *Id.*

32. *Id.*

33. *See, e.g.*, Kyoto Protocol to the United Nations Framework Convention on Climate Change, (Dec. 11, 1997), 2303 U.N.T.S. 148.

34. *Paris Climate Deal: Trump Pulls US Out of 2015 Accord*, BBC NEWS (June 1, 2017), <http://www.bbc.com/news/world-us-canada-40127326>.

COP23 [The 23rd Conference of Parties]

Under the leadership of UNFCCC Executive Secretary Patricia Espinosa, the November 6-17, 2017 UN Climate Change Conference (COP23) in Bonn, Germany took steps to implement the Paris Climate Change Agreement and non-Party stakeholders made some major action announcements in support of the Paris Agreement and the UN's Sustainable Development Goals. The dramatic reality of recent extreme weather events and scientific findings that climate change is accelerating and that greenhouse gas emissions are again on the rise persuaded the COP23 attendees that climate action must speed up.

International Convention for Prevention of Pollution from Ships (MARPOL)

The MARPOL Convention establishes a framework for the prevention and control of vessel-source pollution that is then implemented by six annexes.³⁵ The U.S. is a party, and MARPOL is implemented in the U.S. by regulations promulgated under the Act to Prevent Pollution from Ships, 33 U.S.C. §§ 1901-1915. The six annexes include: Annex I Prevention of pollution by oil, Annex II Control of pollution by noxious liquid substances, Annex III Prevention of pollution by harmful substances in packaged form, Annex IV Prevention of pollution by sewage from ships, Annex V Prevention of pollution by garbage from ships, and Annex VI Prevention of air pollution from ships.³⁶

MARPOL Annex VI prescribes global limits on vessel exhaust emissions of sulfur and nitrogen oxides (SO_x and NO_x) and particulate matter, and prohibits deliberate emissions of ozone depleting substances (ODS).³⁷ It also allows states to seek IMO approval of sulfur special emissions control areas (SECA), within which stricter emission limits may be

35. See International Convention for the Prevention of Pollution from Ships, (Nov. 2, 1973), 94 Stat. 2297, 1340 U.N.T.S. 1884.

36. *Id.*; *International Convention of the Prevention of Pollution from Ships (MARPOL)*, INT'L MAR. ORG., [http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-\(marpol\).aspx](http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx) (last visited Mar. 26, 2017).

37. *Id.*

set.³⁸

The IMO approved an application by the U.S., Canada, and France to establish a SECA for North America in 2010.³⁹ It entered into force in 2011 and its 0.1 percent sulfur emissions limit went into effect January 1, 2015.⁴⁰ The North American SECA does not presently extend into the Arctic (see above). As a result, the less stringent global Annex VI emissions standards apply in those waters.⁴¹

In 2016, the IMO's MEPC set a January 1, 2020 deadline for implementing the 0.5 percent sulfur limit for marine fuel (outside of any of the Emission Control Areas, where lower limits apply).⁴² The stricter requirements, prescribed in regulation 14.1.3 of MARPOL Annex VI, raised concerns about the availability of marine fuel meeting the low-sulfur content requirements.⁴³

To meet regional vessel emission restrictions in IMO-adopted Emission Control Areas and the global emission caps set for implementation in 2020, a number of companies are building new vessels or converting existing vessels to run on LNG. LNG-powered vessels reported emit up to 25 percent less carbon dioxide, 99 percent less sulfur, 99 percent fewer particles, and 85 percent less nitrogen oxides. The advent of LNG-fueled vessels will necessitate a commitment to LNG bunkering capacity building.

Following President Trump's announcement that the U.S. would withdraw from the Paris Agreement, Environmental NGOs suggested that the decision could put added pressure on the IMO to cut greenhouse gas emissions from international shipping. Although international shipping is not included in

38. *Id.*

39. Press Release, Int'l Mar. Org., Ships Face Lower Sulphur Fuel Requirements in Emissions Control Areas from 1 January 2015 (Dec. 23, 2014), <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/44-ECA-sulphur.aspx#.VwPqTfkrLIU>.

40. *Id.*

41. *Id.*

42. Press Release, Lars Robert Pedersen, BIMCO, BIMCO Raises Serious Concern Over Data on Available Fuel Ahead of MEPC 70 Sulphur Decision (Oct. 10, 2016), <https://www.bimco.org/News/Press-releases/20161010-MEPC-decision-on-sulphur>.

43. Lars Robert Pedersen, *BIMCO Raises Serious Concern Over Data On Available Fuel Ahead of MEPC 70 Sulphur Decision*, BALTIC AND INTERNATIONAL MARITIME COUNCIL (Oct. 10, 2016), <https://www.bimco.org/News/Press-releases/20161010-MEPC-decision-on-sulphur>.

the Paris Agreement, NGOs opine the U.S. withdrawal will raise the pressure on all major industrial sectors to decrease their emissions. International shipping accounts for over two percent of man-made carbon emissions, collectively ranking it among one of the world's most significant greenhouse gas emitters.

Ballast Water Management Convention

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM), adopted in 2004, received the requisite number of ratifications and will enter into force on September 28, 2017.⁴⁴ Incoming Arctic Council Chair Finland provided the necessary ratification.⁴⁵ The U.S. is not a party to the Convention.⁴⁶ The U.S. ballast water management is regulated by both the federal government (National Invasive Species Act, 16 U.S.C. Chapter 67; 33 C.F.R. Part 151 Subparts C & D) and the states.

Arctic Council Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic

The Marine Oil Pollution Cooperation Agreement was signed by all Arctic Council member-states at the 2013 ministerial meeting in Kiruna, Sweden.⁴⁷ The Agreement builds on frameworks established by UNCLOS, the Oil Pollution Preparedness, Response and Co-Operation

44. *International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM)*, INTERNATIONAL MARITIME ORGANIZATION, [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships'-Ballast-Water-and-Sediments-\(BWM\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships'-Ballast-Water-and-Sediments-(BWM).aspx) (last visited Apr. 28, 2017).

45. Marcus Hand, *IMO Ballast Water Convention to Come into Force in 2017 as Finland Ratifies*, SEATRADE MARITIME NEWS (Sept. 8, 2016), <http://www.seatrade-maritime.com/news/americas/imo-ballast-water-convention-to-come-into-force-in-2017-as-finland-ratifies.html>.

46. *But see Ballast Water: U.S. Federal Management*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., http://www.gc.noaa.gov/gcil_ballast_federal.html (last visited Mar. 26, 2017).

47. *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*, (May 15, 2013), https://oaarchive.arctic-council.org/bitstream/handle/11374/529/EDOCS-2067-v1-ACMMSE08_KIRUNA_2013_agreement_on_oil_pollution_preparedness_and_response__in_the_arctic_formatted.PDF?sequence=5&isAllowed=y.

Convention (OPRC)⁴⁸, and the 1969 International Convention Related to Intervention on the High Seas in Cases of Oil Pollution Casualties.⁴⁹

Arctic Council Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (SAR) was the first binding agreement negotiated under the auspices of the Arctic Council.⁵⁰ The agreement coordinates international search and rescue coverage and response in the Arctic, and establishes the area of SAR responsibility of each state party.⁵¹ Member states of the Arctic Coast Guard Forum tested the SAR Agreement in Exercise Arctic Guardian, conducted off the coast of Iceland from September 4-6, 2017.

Arctic Council Agreement on Enhancing International Scientific Cooperation

The Arctic Council's third legally binding agreement was adopted at the Fairbanks ministerial on May 11, 2017. The purpose of the Agreement on Enhancing International Arctic Scientific Cooperation is "to enhance cooperation in Scientific Activities in order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic."⁵² The Agreement calls on signatories to provide full and open access to scientific metadata, promote opportunities for early career scientists and students at all levels of education to get involved with research activities conducted under the Agreement, and encourage the utilization of traditional and local knowledge as appropriate.⁵³

Declaration Concerning the Prevention of Unregulated High

48. International Convention on Oil Pollution Preparedness, Response and Cooperation, (Nov. 30, 1990), 1891 U.N.T.S. 77.

49. International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, Nov. 29, 1969, 26 Stat. 765, 970 U.N.T.S. 211.

50. Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, (May 12, 2011), 13 T.I.A.S. No. 13-119.

51. *Id.*

52. Arctic Council, Agreement on Enhancing International Arctic Scientific Cooperation, (May 11, 2017), <https://oaarchive.arctic-council.org/handle/11374/1916>.

53. *Id.*

Seas Fishing in the Central Arctic Ocean

The Oslo Declaration, signed by five Arctic states in 2015, deters unregulated commercial fishing in the high seas waters of the Central Arctic Ocean.⁵⁴ The declaration, which is non-binding, recognizes that, although commercial fishing in Arctic waters is not imminent, the reduction of Arctic sea ice and environmental challenges in the region necessitate a precautionary approach to prevent unregulated fishing in the area.⁵⁵ The Fifth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean took place in Ottawa, Canada from October 24-26, 2017.⁵⁶ The diplomatic negotiations pursued at the meeting built on the 2015 Oslo Declaration.⁵⁷

Draft Multilateral Fishing Agreement for Central Arctic Ocean

Building on the 2015 Oslo Declaration, delegations from the five States that border the Arctic Ocean (Canada, Denmark/Greenland and the Faroe Islands, Norway, Russia and the U.S.), four States whose vessels engage in distant water fishing operations (China, Iceland, Japan and South Korea) and the European Union met in Washington, DC, from November 28-30, 2017 and successfully negotiated a draft agreement to prevent illegal, unreported and unregulated (IUU) fishing in the 2.8 million square mile high seas area of the Central Arctic Ocean. The date when the agreement will be opened for signature has not yet been announced.⁵⁸

III. STATE PRACTICE

United States: Federal Government

54. Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean, (July 16, 2015), <https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/folkerett/declaration-on-arctic-fisheries-16-july-2015.pdf>.

55. *Id.*

56. *Chairs' Statement: 5th Meeting of Scientific Experts on Fish Stocks of the Central Arctic Ocean*, NOAA, (Oct. 26, 2017), https://www.afsc.noaa.gov/Arctic_fish_stocks_fifth_meeting/pdfs/5th_FiSCAO_chair_statement_final.pdf.

57. *Id.*

58. *Chairman's Statement: Meeting on High Seas Fisheries in the Central Arctic Ocean*, OCEAN CONSERVANCY (Nov. 30, 2017), <https://oceanconservancy.org/wp-content/uploads/2017/11/Chairmans-Statement-from-Washington-Meeting-2017.pdf>.

U.S. Congress

Arctic Caucus. Alaska Senator Lisa Murkowski and Maine Senator Angus King announced in March 2015 the creation of an Arctic caucus that will focus on building U.S. leadership in the region and provide a forum for discussion on defense, energy, environment and trade.⁵⁹ Senator Murkowski called on her colleagues to take on the U.S.'s leadership role as an Arctic nation and “[e]mbrace your inner-Arctic self.”⁶⁰

Within the House, Representatives Don Young of Alaska and Rick Larsen of Washington State formed the Congressional Arctic Working Group on January 23, 2015.⁶¹

Senator King joined Alaska's and Washington's senators to advocate for increased funding for the Coast Guard budget for construction of additional U.S. icebreakers.⁶² These vessels, explained Senator King, are essential to maintaining shipping routes in the Northwest Passage which is the “highway of the Arctic.”⁶³

FY18 Appropriations. As the 2017 Year in Review was being prepared, the federal government was operating on a series of continuing resolutions.

National Defense Authorization Act for FY 2018

President Trump signed the National Defense Authorization Act for fiscal year 2018 into law on December 12, 2017.⁶⁴ Although section 122 of the Act *authorizes* construction of one

59. Jordain Carney, *Alaska Senator Launches Arctic Caucus*, THE HILL (Mar. 4, 2015), <http://thehill.com/blogs/floor-action/senate/234659-alaska-senator-launches-arctic-caucus>; Press Release, Angus King, Senator, Murkowski Announce U.S. Senate Arctic Caucus (Mar. 4, 2015), <http://www.king.senate.gov/newsroom/press-releases/king-murkowski-announce-us-senate-arctic-caucus>.

60. Jordain Carney, *Alaska Senator Launches Arctic Caucus*, THE HILL (Mar. 4, 2015), <http://thehill.com/blogs/floor-action/senate/234659-alaska-senator-launches-arctic-caucus>; Press Release, U.S. Senate, King, Murkowski Announce U.S. Senate Arctic Caucus (Mar. 4, 2015), <http://www.king.senate.gov/newsroom/press-releases/king-murkowski-announce-us-senate-arctic-caucus>.

61. CONGRESSIONAL ARCTIC WORKING GROUP, <http://congressionalarcticworkinggroup-larsen.house.gov/> (last visited Apr. 3, 2016).

62. Tom Bell, *Sen. Angus King Pursues Funding to Add Icebreakers in Arctic*, PORTLAND PRESS HERALD (Dec. 8, 2015), <http://www.pressherald.com/2015/12/08/sen-angus-king-pursues-funding-to-add-icebreakers-in-arctic/>.

63. *Id.*

64. National Defense Authorization Act for Fiscal Year, H.R. 2810, 115th Cong. (2017).

Polar class heavy icebreaker, the authorization act does not *appropriate* the necessary funds.⁶⁵ Section 355 of the NDAA acknowledges the effects of climate change on the work of the Department of Defense, quoting Secretary Mattis as stating: “I agree that the effects of a changing climate — such as increased maritime access to the Arctic, rising sea levels, desertification, among others — impact our security situation.”⁶⁶ In the Arctic in particular, “the combination of melting sea ice, thawing permafrost, and sea-level rise is eroding shorelines, which is damaging radar and communication installations, runways, seawalls, and training areas.”⁶⁷

President Donald J. Trump took office as the 45th president of the United States on January 20, 2017. As expected, the new administration revisited several decisions made by its predecessors.

Regulatory Reviews. Following through on his campaign promise to reduce the regulatory burdens imposed by the federal government, President Trump issued three Executive Orders in his first three months in office directing all federal agencies to conduct regulatory reviews (E.O. 13771, E.O. 13777, and E.O. 13783).

Elimination of Bering Sea Climate Resilience Area. On April 28, 2017, President Trump issued an Executive Order outlining an “America-First Offshore Energy Strategy” that repealed President Obama’s executive order issued four months earlier establishing the Bering Sea Climate Resilience Area. (Sec. 4(c)).⁶⁸

On November 28, 2017, the Bureau of Safety and Environmental Enforcement (BSEE) issued *Eni U.S.*, a unit of Italy’s *Eni*, a permit to explore for oil from an artificial island known as *Spy Island* in the Beaufort Sea. In approving the permit, BSEE Director Scott Angelle stated that “responsible resource development in the Arctic is a critical component to

65. *Id.*

66. *Id.*

67. *Id.*

68. Exec. Order No. 13795, 82 Fed. Reg. 20,815 (May 3, 2017).

achieving American energy dominance.”⁶⁹ Eni began drilling at the end of December 2017.⁷⁰

Withdrawal from Paris Agreement. In June 2017, President Trump announced that the U.S. would withdraw from the Paris Agreement.⁷¹

U.S. Fines Exxon over Russia Sanctions. In July 2017, the U.S. Treasury Department imposed a \$2 million fine on Exxon Mobil Corporation for what it called a “reckless disregard” of U.S. sanctions on Russia.⁷² Exxon fought back against the allegations, filing a complaint in U.S. District Court in the Northern District of Texas that requested relief from the fine.⁷³

Department of State

In 2017, the U.S. State Department created a list of 39 Russian defense organizations that could be placed under sanctions in response to Moscow’s involvement in the 2016 U.S. presidential election.⁷⁴ The draft list covered a wide swath of the Russian defense industry, including shipyard owners Kalashnikov Concern, Admiralty Shipyard, and United Shipbuilding Corporation. The statute requiring the creation of the list (the Countering America’s Adversaries through Sanctions Act of 2017) takes effect on January 29, 2018.

69. *U.S. Approves New Drilling Operations in the Arctic*, MARITIME EXECUTIVE (Nov. 11, 2017), <https://www.maritime-executive.com/article/us-approves-new-drilling-operations-in-the-arctic#gs.ReSJYp4>.

70. Eric Haun, *Eni Begins Drilling Oil Well in Alaska’s Beaufort Sea*, MARINE LINK (Dec. 27, 2017), <https://www.marinelink.com/news/drilling-beaufort-alaskas432456#.WkQXCZ51CDA.twitter>.

71. Michael D. Shear, *Trump Will Withdraw U.S. From Paris Climate Agreement*, NEW YORK TIMES (June 1, 2017), https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html?_r=0.

72. Samuel Rubinfeld et. al., *U.S. and Exxon Spar Over Russia Sanctions Violation*, WALL STREET JOURNAL (July 21, 2017), <https://www.wsj.com/articles/u-s-fines-exxon-2-million-over-russia-sanctions-breaches-1500570876>.

73. Yeganeh Torbati & Ernest Scheyder, *Exxon sues U.S. over fine levied for Russia deal under Tillerson*, REUTERS (July 20, 2017), <https://www.reuters.com/article/us-exxon-mobil-usa-ukraine/exxon-sues-u-s-over-fine-levied-for-russia-deal-under-tillerson-idUSKBN1A51UH>.

74. *State Dept. Places Russian Shipyards on Sanctions List*, MARITIME EXECUTIVE (Oct. 27, 2017), <https://maritime-executive.com/article/state-dept-places-russian-shipyards-on-sanctions-list#gs.eYYHR18>.

In mid-December 2017, Ambassador David Balton announced his retirement from the U.S. Department of State, where Balton has long provided leadership on the department's oceans and Arctic issues.⁷⁵ Reportedly, Balton will join Princeton's Wilson Center as a Global Fellow with the Center's Polar Initiative.⁷⁶

Department of Homeland Security/ U.S. Coast Guard

On December 6, 2017, Kirstjen Nielsen was sworn in as Secretary of Homeland Security, replacing John F. Kelly who was earlier appointed White House Chief of Staff.⁷⁷

State of the Coast Guard. Admiral Paul Zukunft, Commandant of the U.S. Coast Guard, Delivered his State of the Coast Guard address on March 16, 2017, at the National Press Club. The 2017 theme was "Ensuring National Security."⁷⁸ Among the accomplishments he cited, he reported that the Coast Guard has established an "Integrated Program Office with the Navy and just recently awarded industry studies to accelerate the delivery of a new heavy icebreaker and to commence build-out of a fleet of three heavy and three medium icebreakers" and the U.S. is "sprinting out of the starting blocks to deliver the first heavy icebreaker by 2023."⁷⁹

U.S. Coast Guard Rear Admiral Paul Thomas reported during his May 3, 2017 testimony before the House Subcommittee on Coast Guard and Maritime Transportation that, due to resource constraints, the Coast Guard has not been aggressively enforcing the Oil Pollution Act of 1990 requirements for vessel response plans to include Salvage and

75. Yereth Rosen, *A US diplomat who's long worked on Arctic issues leaves on a high note*, ARCTIC NOW (Dec. 14, 2017), <https://www.arcticnow.com/arctic-news/2017/12/14/a-us-diplomat-whos-long-worked-on-arctic-issues-leaves-on-a-high-note/>.

76. *Id.*

77. Press Release, Dep't Homeland Security, Kirstjen M. Nielsen Sworn-in as the Sixth Homeland Security Secretary (Dec. 6, 2017), <https://www.dhs.gov/news/2017/12/06/kirstjen-m-nielsen-sworn-sixth-homeland-security-secretary>.

78. Adm. Paul F. Zukunft, Commandant, U.S. Coast Guard, Address of the State of the Coast Guard 2017 (Mar. 16, 2017), <http://www.overview.uscg.mil/Portals/6/cg2017/SOTCGA17.pdf>.

79. *Id.*

Marine Firefighting (SMFF) response service commitments.⁸⁰

Admiral Paul Zukunft hosted the commissioner of the Canadian Coast Guard, Mr. Jeffery Hutchinson, in a one-day “Summit” at the Coast Guard sector field office in Grand Haven, Michigan.⁸¹ A highlight of the meeting was the signing of the 2017 update to the Joint Marine Pollution Contingency Plan, which serves as a coordinated system for planning, preparedness, and responding to harmful substance incidents in the contiguous waters along the shared maritime borders of the U.S. and Canada.⁸²

Arctic Coast Guard Forum. The Department of Homeland Security released a joint statement on October 30, 2015, officially establishing the Arctic Coast Guard Forum (ACGF).⁸³ The ACGF is an operationally-focused, consensus-based organization with the purpose of leveraging collective resources to foster safe, secure, and environmentally responsible maritime activity in the Arctic.⁸⁴ Membership includes all eight Arctic nations: Canada, Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation, and the United States.⁸⁵ At the first principals’ meeting, representatives approved the ACGF Terms of Reference and a Joint Statement of the participating states.⁸⁶

Representatives of the eight member-states of the Arctic

80. *Testimony of Rear Admiral Paul F. Thomas Assistant Commandant for Prevention Policy on Maritime Regulatory Programs Before the House Committee on Transportation & Infrastructure Subcommittee on Coast Guard & Maritime Transportation*, 116th Cong. (2017), https://transportation.house.gov/uploadedfiles/2017-05-03_-_thomas_testimony.pdf.

81. LT Amy Midgett, *Top U.S., Canadian Coast Guard leaders hold summit*, COAST GUARD MARITIME COMMONS (Aug. 4, 2017), <http://mariners.coastguard.dodlive.mil/2017/08/04/842017-top-u-s-canadian-coast-guard-leaders-hold-summit/>.

82. *Id.*

83. Jerry Markon & Dan Lamothe, *Retired Marine Gen. John F. Kelly Picked to Head Department of Homeland Security*, WASH. POST (Dec. 7, 2016), https://www.washingtonpost.com/world/national-security/retired-marine-gen-john-f-kelly-picked-to-head-department-of-homeland-security/2016/12/07/165472f2-bbe6-11e6-94ac-3d324840106c_story.html.

84. *Id.*

85. *Id.*

86. Vice Admiral Charles D. Michel, Vice Commandant, Testimony at the USCG, U.S. Dept’ Homeland Security (Nov. 17, 2015), <http://docs.house.gov/meetings/FA/FA14/20151117/104201/HHRG-114-FA14-Wstate-MichelC-20151117.pdf>.

Coast Guard Forum met in Boston from March 20-24, 2017. The meeting culminated in a Joint Statement calling for cooperation on emergency maritime response and combined operations in the Arctic.

U.S. Coast Guard Commandant Admiral Paul Zukunft joined leaders representing Canada, Denmark, Finland, Iceland, Norway, Sweden and the Russian Federation in the signing. The signing was followed by a ceremony handing off chairmanship of the group from the U.S. to the Finnish Border Guard.

The Joint Statement adopts doctrine, tactics, procedures and information-sharing protocols for emergency maritime response and combined operations in the Arctic. It culminated two years of international collaboration, as working groups established strategies, objectives and tactics aimed towards achieving common operational goals in the region. The members agreed to hold a live exercise (*Arctic Guardian 2017*, summarized below) in the Danish Strait later in the year, to exercise the new Voluntary Guidelines for Combined Operations and enhance multilateral cooperation. They also scheduled a workshop to be held in Murmansk June 4-7, 2017 to pilot the Automated Information Exchange System and evaluate its potential for adoption by the Forum.

Search and Rescue Exercises. In March 2017, the ACGF commenced planning to establish the first of its kind search and rescue exercise in the Arctic (*Arctic Chinook* 2016 was primarily a joint exercise by the United States and Canada, designed in part to prepare for the upcoming voyage of the *Crystal Serenity*). Significant efforts ensued over the next several months with personnel, maritime, and air assets arriving in Reykjavik, Iceland, to prepare for an event called “Arctic Guardian 2017.”

Events kicked-off with a successful tabletop communication exercise to test cooperation, coordination, and communication across partner nations’ rescue coordination centers. Participating units successfully worked together during a live exercise portraying a fictional cruise line operator who lost communications with their cruise ship transiting the Denmark Strait from Greenland to Iceland. All assets responded based upon the ship’s last known position and were able to locate life rafts by operating together.

The next exercise scenario commenced when Joint Rescue

Coordination Center Iceland received notification of a missing crewmember from a fictional vessel transiting the Denmark Strait. All maritime and air assets successfully coordinated their search and rescue efforts throughout the course of the day.

The final exercise took place aboard Canadian coast guard icebreaker CCGS *Pierre Radisson*. Following the vessels returning to port in Reykjavik. To conclude the exercise, participants met aboard frigate HDMS *Vaedderen* (Denmark) to identify lessons learned.

In November 2017, the ACGF met in Turku, Finland.

Final Rule on Polar Ship Certificate Carriage Requirements. On September 21, 2017, the U.S. Coast Guard published a final rule that added the Polar Ship Certificate to a list of certificates that certain U.S. and foreign-flag ships need to carry on board if they engage in international voyages in polar waters.⁸⁷ The rule also enabled the Coast Guard to authorize recognized classification societies to issue the Polar Ship Certificate on the Coast Guard's behalf.⁸⁸ The final rule became effective on October 23, 2017.⁸⁹

Regulations for Tug and Barge Operations. Much of the maritime service to and from Alaska is provided by U.S. flag tug and barge operators, an industry that was only lightly regulated (tug and barge operations involving the carriage of oil are the prominent exception) until a series of fatal incidents persuaded the U.S. Congress to take action. The Coast Guard Maritime and Transportation Act of 2004 (Pub. L. No. 108-293, section 415) directed the Coast Guard to promulgate regulations for the inspection of towing vessels. Over a period of five years, the Coast Guard developed and promulgated (in the Federal Register on June 20, 2016) Subchapter M of 46 C.F.R. (Parts 136-144).⁹⁰ The 5,000-plus existing towing vessels covered by Subchapter M (see the rule applicability provisions in 46 C.F.R. § 143.200) must comply with the

87. Adding the Polar Ship Certificate to the List of Solas Certificates and Certificates Issued by Recognized Classification Societies, 82 Fed. Reg. 44,108 (Sept. 21, 2017).

88. *Id.*

89. *Id.*

90. Inspection of Towing Vessels, 81 Fed. Reg. 40,004 (June 20, 2016).

requirements in Parts 140-144 on a phased-in basis beginning July 20, 2018.

The rules provide two compliance options: (1) Towing Safety Management System (TSMS) certification by a third party, such as a classification society, or (2) periodic compliance inspections by the Coast Guard. Vessels that choose the Coast Guard inspection option are not also required to adopt a TSMS, but may choose to do so. As inspected vessels (see 46 U.S.C. § 3301(15)), the towing vessels will also come under Coast Guard health and safety oversight (rather than OSHA), and any state regulation of towing vessel design, construction, alteration, repair, maintenance, operation, equipping, personnel qualification, and manning is preempted (see Federalism analysis on 81 Federal Register at 40097).

Updated Alternative Planning Criteria National Guidelines. The U.S. Coast Guard published updated Alternative Planning Criteria Guidelines for vessel spill response in the Federal Register on October 16, 2017.⁹¹ The updated national guidelines provided the maritime industry with current information on developing and submitting alternative planning criteria and were intended to facilitate consistency in the Coast Guard's review of proposed alternatives.⁹²

U.S.-China Dialogue on the Law of the Sea and Polar Issues. The United States hosted the Eighth Annual U.S.-China Dialogue on the Law of the Sea and Polar Issues at the U.S. Coast Guard First District Headquarters in Boston, Massachusetts from August 28-29, 2017.⁹³ Experts from U.S. and Chinese foreign affairs and maritime agencies exchanged views on a wide range of issues related to oceans, the law of the sea, and the polar regions.⁹⁴ Evan Bloom, Director for Ocean and Polar Affairs in the Bureau of Oceans and

91. Update to Alternative Planning Criteria National Guidelines, 82 Fed. Reg. 47,975 (Oct. 16, 2017).

92. *Id.*

93. Press Release, U.S. STATE DEP'T, United States and China Complete Dialogue on Law of the Sea and Polar Issues

(Aug. 29, 2017), <https://www.state.gov/r/pa/prs/ps/2017/08/273701.htm#.Wabnaz918CB.twitter>.

94. *Id.*

International Environmental and Scientific Affairs of the U.S. Department of State and Ma Xinmin, Deputy-Director General in the Department of Treaty and Law in China's Ministry of Foreign Affairs led the delegations for each country. China plans to host the next round in 2018.⁹⁵

Arctic Shield 2017. As part of Operation Arctic Shield 2017, the Coast Guard deployed cutters, aircraft, and personnel from Dutch Harbor through the Bering Strait and along the North Slope, including the Northern Alaska Outer Continental Shelf. Arctic Shield 2017 operations, conducted under the overall command of Rear Admiral Michael McAllister, commander, Coast Guard 17th District, focused on promoting national interests and security throughout the Arctic.⁹⁶The Arctic Shield 2017 objectives were to:

Perform Coast Guard missions and activities in the Arctic;

Enhance Arctic Maritime Domain Awareness (MDA);

Broaden partnerships in support of Coast Guard Arctic operations; and

Enhance and improve preparedness, prevention, and response capabilities.⁹⁷

Arctic Shield 2017 began July 1, with deployments by the crews of the Coast Guard Cutters *Healy*, *Sherman*, *Maple*, *Hickory*, and *Alex Haley*, as well as Coast Guard participation in Operation Arctic Guardian, a multi-agency pollution response exercise to take place in Utqiagvik.⁹⁸

The Coast Guard's Director of Marine Transportation Systems and Senior Arctic Policy Advisor, Mr. Mike Emerson, presented on *Maritime Challenges Across the Arctic* at the 12th Annual Patuxent Defense Forum on December 12, 2017. The theme of the Forum was "The Arctic Domain: From Economics to National Security." Emerson identified three priorities for the Coast Guard: Increased access, maritime activity, and national security challenges in the U.S. Arctic; continued international cooperation and maturation of the Arctic Coast Guard Forum; and recapitalization of ice-capable assets,

95. *Id.*

96. United States Coast Guard, *Coast Guard concludes Operation Arctic Shield 2017*, ALASKA BUSINESS (Nov. 8, 2017), <http://www.akbizmag.com/Government/Coast-Guard-concludes-Operation-Arctic-Shield-2017/>.

97. *Id.*

98. *Id.*

including of the Heavy Polar Icebreaker and aviation assets.

Coast Guard Center for Arctic Study and Policy (CASP). The Coast Guard established the Center for Arctic Study and Policy (CASP) in September 2014.⁹⁹ SES Michael Emerson, Director of the Coast Guard's Marine Transportation Systems Management Directorate (CG-5PW), provides overall direction for CASP.

The CASP mission is to promote academic research on Arctic policy and strategy by facilitating collaboration, partnerships, and dialogue among specialists from academia, government, tribal organizations, NGOs, industry, and the Coast Guard.¹⁰⁰ The core CASP team is assisted by four research fellows: Roger Rufe (Vice Admiral, U.S. Coast Guard, retired and former president of Ocean Conservancy),¹⁰¹ Lawson W. Brigham¹⁰², James B. Ellis¹⁰³, and Craig H. Allen Sr.¹⁰⁴

The CASP fellows met three times in 2017. The first meeting—a CASP Fellows Summit with Mr. Mike Emerson—was held at the Coast Guard Academy March 27-28, 2017. In May and July, the fellows met again to prepare an addendum to the Coast Guard's 2010 *High Latitude Region Mission Analysis*, to inform the Coast Guard in its acquisition of icebreakers and associated aircraft and communications infrastructure.

On September 4, 2017 the Coast Guard's newly appointed CASP Director, Ms. Cara Condit, assumed her duties. A former Coast Guard attorney specializing in international and environmental law, Ms. Condit has advised on the Polar Code, MARPOL, and the CG Arctic Strategy.

99. *History*, CENTER FOR ARCTIC STUDY & POLICY, UNITED STATES COAST GUARD ACADEMY, <http://www.uscga.edu/CASP/display2.aspx?id=6336> (last visited Feb. 2, 2017).

100. CENTER FOR ARCTIC STUDY & POLICY U.S. COAST GUARD ACADEMY, <http://uscga.edu/casp/default.aspx> (last visited Feb. 2, 2017).

101. *Roger T. Rufe, Jr.*, CENTER FOR ARCTIC STUDY & POLICY U.S. COAST GUARD ACADEMY, <http://uscga.edu/CASP/display2.aspx?id=66193> (last visited Mar. 27, 2017).

102. *Dr. Lawson W. Brigham*, CENTER FOR ARCTIC STUDY & POLICY U.S. COAST GUARD ACADEMY, <http://uscga.edu/CASP/display2.aspx?id=6590> (last visited Mar. 27, 2017).

103. *James B. Ellis*, CENTER FOR ARCTIC STUDY & POLICY U.S. COAST GUARD ACADEMY, <http://uscga.edu/CASP/display2.aspx?id=6592> (last visited Mar. 27, 2017).

104. *Prof. Craig H. Allen*, CENTER FOR ARCTIC STUDY & POLICY U.S. COAST GUARD ACADEMY, <http://uscga.edu/CASP/display2.aspx?id=6592> (last visited Mar. 27, 2017).

DHS Arctic Domain Awareness Center. The Department of Homeland Security's Arctic Domain Awareness Center (ADAC) is a research and development center currently located at the University of Alaska Anchorage.¹⁰⁵ Although a formal ribbon-cutting ceremony was held in Anchorage in 2015, the Center has been operating since August 2014, bringing together academics, industry groups, stakeholders, and government agencies working on technology in the Arctic.¹⁰⁶ Reportedly, the Center will offer scholarships and other opportunities for studies to research navigation simulation and Arctic modeling.¹⁰⁷

The Coast Guard hosted an ADAC meeting at its headquarters from November 28-29, 2017.¹⁰⁸ The meeting brought together researchers from the Department of Homeland Security (DHS) Center of Excellence with leaders from the Coast Guard, its principal client.¹⁰⁹ The Center is currently studying capabilities to track Arctic oil spills, map new sea lanes, forecast sea ice, and improve situational awareness. ADAC is also working to develop a Great Lakes Ice Classification System that could be applied in the Arctic.¹¹⁰

Other Coast Guard Developments

In late September, 2017, the U.S. Coast Guard was called upon to medevac an injured crewmember from the Chinese research vessel *Xuelong* near Nome, Alaska.¹¹¹

Coast Guard Cutter *Healy* (WAGB 20), which travels annually to the Arctic, deployed on June 27, 2017, from its home port in Seattle with 85 Coast Guardsmen and 40

105. *Arctic Domain Awareness Center (ADAC)*, HOMELAND SECURITY UNIVERSITY PROGRAMS, <https://www.hsuniversityprograms.org/centers/adac-arctic-domain-awareness/> (last visited May 19, 2017).

106. Asaf Shalev, *Coast Guard Anticipates High-tech Future with New Arctic R&D Center*, ARCTIC NEWSWIRE (Nov. 1, 2015), <http://www.adn.com/article/20151101/coast-guard-anticipates-high-tech-future-new-arctic-rd-center>.

107. *Id.*

108. News Release, *U.S. Coast Guard hosts Arctic Domain Awareness Center meeting*, United States Coast Guard (Dec. 1, 2017), <https://content.govdelivery.com/accounts/USDHSCG/bulletins/1c8e4a8#.WiVWMAAfAk.twitter>.

109. *Id.*

110. *Id.*

111. *Coast Guard medevacs man from Chinese research vessel near Nome*, COAST GUARD NEWS, (Sept. 24, 2017), <http://coastguardnews.com/coast-guard-medevacs-man-from-chinese-research-vessel-near-nome/2017/09/24/>.

scientists.¹¹² During its 147 day Arctic West Summer 2017 deployment, *Healy* participated in the Coast Guard's annual Operation Arctic Shield readiness exercise and hosted a research team from the Coast Guard's Research and Development Center, who tested unmanned boat systems among the ice floes, an oil skimmer and a quadcopter.¹¹³ A team of NOAA scientists and collaborators also came aboard for a 22-day cruise to study environmental change in the western Arctic Ocean. Among this year's Arctic deployment highlights, *Healy* deployed scuba equipped divers—the first time divers entered Arctic waters from a Coast Guard vessel since a tragic accident took two *Healy* divers' lives in 2006. *Healy* returned to Seattle on November 21, 2017.¹¹⁴

Department of Commerce/NOAA

Wilbur Ross was sworn in as Secretary of Commerce on February 28, 2017, replacing Penny Pritzker.¹¹⁵ In October, President Trump nominated Accu-Weather CEO Barry Myers to serve as the next NOAA Administrator. On June 19, 2017, Chris Oliver, formerly Executive Director of the North Pacific Fishery Management Council, was appointed Assistant Administrator for Fisheries (commonly referred to as the National Marine Fisheries Service).

Charting the Arctic. According to the U.S. National Oceanic and Atmospheric Administration (NOAA), only 1.5 percent of U.S. Arctic waters have been surveyed with modern survey methods. Many of the charts, including those covering the waters off western Alaska and the Aleutian Islands, contain information that dates back to before World War II. Other regions remain entirely unsurveyed. NOAA's 2017

112. *Coast Guard Cutter Healy holds change-of-command ceremony*, COAST GUARD NEWS, (June. 22, 2017), <http://coastguardnews.com/coast-guard-cutter-healy-holds-change-of-command-ceremony/2017/06/22/>.

113. Dan Lamothe, *In a changing Arctic, a lone Coast Guard icebreaker maneuvers through ice and geopolitics*, WASHINGTON POST (Sept. 4, 2017), https://www.washingtonpost.com/world/national-security/in-a-changing-arctic-a-lone-coast-guard-icebreaker-maneuvers-through-ice-and-geopolitics/2017/09/03/dfad84d4-7d12-11e7-9d08-b79f191668ed_story.html?utm_term=.a3739bd12b99.

114. *Coast Guard Cutter Healy crew returns from Arctic for Thanksgiving*, COAST GUARD NEWS, (Nov. 22, 2017), <http://coastguardnews.com/coast-guard-cutter-healy-crew-returns-from-arctic-for-thanksgiving/2017/11/22/>.

115. *Wilbur Ross, Secretary of Commerce*, DEP'T OF COMMERCE, <https://www.commerce.gov/directory/wilburross> (last visited Jan. 26, 2018).

Hydrographic Survey plan included several areas off Alaska, including Port Clarence, an oft-mentioned candidate for development as a deep water port. NOAA also deployed unmanned sailing drones to the Bering Strait region to collect data.

Ocean Acidification. Ocean acidification is spreading rapidly in the western Arctic Ocean in both area and depth, potentially affecting shellfish, other marine species in the food web and communities that depend on these resources, according to new research published in *Nature Climate Change* by NOAA, Chinese marine scientists and other partners.¹¹⁶ Ocean acidification combined with warming of the world oceans and loss of oxygen is having a severe impact on key Arctic marine species such as polar cod in the Barents Sea, according to a new study conducted by German scientists.¹¹⁷

Ringed Seal Critical Habitat. The ringed seal is the smallest and most common seal in the Arctic. They are commonly associated with ice floes and pack ice. Ringed seals are a primary food source for polar bears, and share the polar bears' reliance on ice and snow in the Bering, Chukchi, and Beaufort Seas.

The total Alaska ringed seal population is estimated at 300,000. All ringed seals are protected under the Marine Mammal Protection Act.¹¹⁸ Some ringed seal stocks are also protected as threatened or endangered under the Endangered Species Act, which requires designation of critical habitat areas. In December 2014, NOAA proposed to designate roughly 350,000 square miles of Alaska's north and west coasts as critical habitat for ringed seals.¹¹⁹ The proposed designation

116. *New research shows ocean acidification is spreading rapidly in the Arctic*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (Mar. 9, 2017), <http://www.noaa.gov/news/new-research-shows-ocean-acidification-is-spreading-rapidly-in-arctic>.

117. Levon Sevunts, *Ocean acidification could doom key Arctic fish species: study*, BARENTS OBSERVER (Oct. 26, 2017), <https://thebarentsobserver.com/en/ecology/2017/10/ocean-acidification-could-doom-key-arctic-fish-species-study>.

118. *Ringed Seal*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (last visited Jan. 26, 2018), <http://www.nmfs.noaa.gov/pr/species/mammals/seals/ringed-seal.html>.

119. *Id.*

includes “no regulatory restrictions, only a consultation requirement for federal agencies.”¹²⁰ The public comment period closed on March 31, 2015. No further action has been reported.¹²¹

Beluga Whales. Beluga Whale stocks are found in Alaska’s Beaufort Sea, Bristol Bay, eastern Bering Sea, and eastern Chukchi Sea waters. In 2016, the National Marine Fisheries Service (NMFS) designated the Sakhalin Bay-Nikolaya Bay-Amur River stock of beluga whales as a depleted stock under the Marine Mammal Protection Act (MMPA).¹²²

Ocean Noise Strategy Roadmap. In 2016, NOAA released the final Ocean Noise Strategy Roadmap, which will guide the agency’s efforts to manage ocean noise effects on marine life.¹²³ The Roadmap highlights a path to expand NOAA’s historical focus on protecting specific species by additionally addressing noise impacts on high value acoustic habitats.¹²⁴ According to NOAA, the Strategy Roadmap will serve as an organizing tool to rally its multiple agency offices that address ocean noise impacts around a more integrated and comprehensive approach.¹²⁵ The roadmap suggests key roles for continuing partnerships and starting new ones with other federal agencies, industries, academic researchers, environmental advocates, and others.¹²⁶

Department of Interior/BOEM/BSEE/USGS

Ryan Zinke was sworn in as the 52nd Secretary of the Interior on March 1, 2017, replacing Sally Jewell.¹²⁷

A widely cited 2008 report on the oil and gas potential north

120. *Id.*.

121. *Id.*.

122. Designating the Sakhalin Bay-Nikolaya Bay-Amur River Stock of Beluga Whales as a Depleted Stock Under the Marine Mammal Protection Act (MMPA), 81 Fed. Reg. 74,711 (Oct. 27, 2016) (to be codified at 50 C.F.R. pt. 216).

123. J. Gedamke, et al., *Ocean Noise Strategy Roadmap*, NOAA (Sept. 2016), http://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS_Roadmap_Final_Complete.pdf.

124. *Id.* at 1.

125. *Id.* .

126. *Id.*.

127. *Secretary Ryan Zinke*, DEP’T OF THE INTERIOR, <https://www.doi.gov/whoweare/secretary-ryan-zinke> (last visited Jan. 26, 2018).

of the Arctic Circle by the DOI's U.S. Geological Survey (USGS) concluded that the area north of the Arctic Circle has an estimated 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas, and 44 billion barrels of technically recoverable natural gas liquids in 25 geologically defined areas.¹²⁸ That represents 13 percent of the undiscovered oil, 30 percent of the undiscovered natural gas, and 20 percent of the undiscovered natural gas liquids in the world.¹²⁹ About 84 percent of the estimated resources are expected to occur offshore.¹³⁰

In July 2015, USGS issued its Arctic Science Strategy 2015–2020.¹³¹ The Strategy supports five of the goals established by the President's National Strategy for the Arctic Region.

2012-2017 OCS Lease Cancellations. In mid-October 2015, the Department of Interior announced that the lease sales in the Beaufort and Chukchi Seas planned under the 2012-2017 leasing program were being cancelled, reportedly due to lack of interest.¹³²

2017-2022 OCS Lease Program. Oil and Gas leasing under the Outer Continental Shelf Lands Act begins with a five-year plan developed by the Department of Interior. On March 15, 2016, Secretary Jewell announced the Proposed Program for 2017-2022.¹³³ As planning got underway, there were 13 potential lease sales in four program areas in all or parts of six outer continental shelf planning areas. That

128. Press Release, U.S. Geological Survey, 90 Billion Barrels of Oil and 1,670 Trillion Cubic Feet of Natural Gas Assessed in the Arctic, USGS (July 23, 2008), http://www.usgs.gov/newsroom/article.asp?ID=1980&from=rss_home#.VxK17fkrLIU.

129. *Id.*

130. U.S. Geological Survey, USGS Fact Sheet 2008-3049, Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle (2008), <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf> (last visited February 12, 2018).

131. Mark Shasby & Durelle Smith, *USGS Arctic Science Strategy Fact Sheet 2015-2020*, U.S. GEOLOGICAL SURVEY (2015), <https://pubs.er.usgs.gov/publication/fs20153049> (last visited Jan. 26, 2018).

132. Press Release, Dep't of the Interior, Interior Department Cancels Arctic Offshore Lease Sales (Oct. 16, 2015), <https://www.doi.gov/pressreleases/interior-department-cancels-arctic-offshore-lease-sales>.

133. *2017–2022 Outer Continental Shelf Oil and Gas Leasing Proposed Program*, BOEM, <https://www.boem.gov/2017-2022-Proposed-Program-Decision/> (last visited Feb. 12, 2017).

includes 10 sales in the combined Gulf of Mexico Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska. No lease sales are proposed for the Pacific or Atlantic OCS. The public comment period for the Draft Programmatic EIS ran from March 18, 2016 to May 2, 2016.

According to the Department, the Arctic sales were not scheduled until late in the five-year program in order “to provide additional opportunity to evaluate and obtain information regarding environmental issues, subsistence use needs, infrastructure capabilities, and results from any exploration activity associated with existing leases.”¹³⁴ However, President Obama later struck most of the Beaufort and Chukchi Seas Planning Areas from the list of BOEM sites.

On January 17, 2017—three days before leaving office—Secretary of the Interior Sally Jewell approved a 2017-2022 OCS Oil and Gas Leasing Program and issued a Record of Decision (ROD) for the Programmatic EIS.¹³⁵ Under the Obama Administration program, some 94 percent of the OCS, including all of the federal OCS lease areas in the Chukchi and Beaufort Seas, were to be off limits for oil and gas leasing. Upon taking office on January 20, 2017, the Trump Administration announced that it would revisit the decision. On January 4, 2018, Secretary of Interior Ryan Zinke announced a draft National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program) for 2019-2024, which proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas under consideration for future exploration and development.¹³⁶

No Threatened Species Status for Pacific Walrus. In October 2017, the Trump administration announced it would not list the Pacific walrus as a threatened species despite

134. *Id.* at 6.

135. *Record of Decision and Approval of the 2017-2022 Outer Continental Shelf Oil and Gas Leasing Program*, BUREAU OF OCEAN ENERGY MANAGEMENT (Jan. 17, 2017), <https://www.boem.gov/2017-2022-Record-of-Decision/>.

136. Press Release, Dep’t of Interior, Secretary Zinke Announces Plan For Unleashing America’s Offshore Oil and Gas Potential (Jan. 4, 2018), <https://www.doi.gov/pressreleases/secretary-zinke-announces-plan-unleashing-america-offshore-oil-and-gas-potential>.

diminished Arctic Ocean sea ice.¹³⁷ U.S. Fish and Wildlife Service officials said they cannot determine with certainty that walrus are likely to become endangered “in the foreseeable future,” which the agency defines as the year 2060.¹³⁸ In 2011, agency officials indicated that the walrus did deserve the additional protection of being labeled as threatened, but then delayed the listing because other species were a higher priority at the time and later changed course as a result of new information.¹³⁹

Public Comments on Eni Beaufort Sea Exploration Plan. In June 2017, BOEM announced that Eni US Operating Co., Inc. had met the regulatory requirements for its Beaufort Sea exploration plan (EP) to be “deemed submitted,” and invited public comment on the plan.¹⁴⁰ Eni US is a subsidiary of Italian multinational oil and gas company Eni S.p.A. If approved, the company’s work program would take 18 months, according to the proposed work plan submitted to the agency. The work would start with the drilling of the first well in December 2017 and end when the flow test of the final well would be complete in May of 2019.

Draft Environmental Impact Statement on the Liberty Development and Production Plan in the Beaufort Sea Planning Area. The Bureau of Ocean Energy Management (BOEM) announced the availability of a Draft Environmental Impact Statement (EIS) for the Liberty Development and Production Plan (DPP) in the Beaufort Sea Planning Area and accepted public comments through November 17, 2017.¹⁴¹ The Draft EIS analyzed the potential environmental impacts of the proposed action described in the Liberty DPP and reasonable alternatives to the proposed

137. Dan Joling, *Federal government: No threatened species listing for walrus*, PHYS.ORG (Oct. 4, 2017), <https://phys.org/news/2017-10-federal-threatened-species-walrus.html>.

138. *Id.*

139. *Id.*

140. Press Release, Bureau of Ocean Energy Management, BOEM Accepting Public Comment on Eni Beaufort Sea Exploration Plan (June 12, 2017), <https://www.boem.gov/press06122017/>.

141. Draft Environmental Impact Statement on the Liberty Development and Production Plan in the Beaufort Sea Planning Area, 82 Fed. Reg. 39,453 (Aug. 18, 2017).

action.¹⁴²

Department of Defense

James Mattis, retired Marine Corps general and former commander of U.S. Central Command, was sworn in as secretary of defense on January 20, 2017.

The Department of Defense's Arctic Strategy sets out the Department's desired end-state for the Arctic: a secure and stable region where U.S. national interests are safeguarded, the U.S. homeland is protected, and nations work cooperatively to address challenges.¹⁴³ It articulates two main supporting objectives: (1) ensure security, support safety, and promote defense cooperation, and (2) prepare to respond to a wide range of challenges and contingencies—operating in conjunction with other nations when possible, and independently if necessary—in order to maintain stability in the region.

The Department of Defense's Arctic Strategy sets out the Department's desired end-state for the Arctic: a secure and stable region where U.S. national interests are safeguarded, the U.S. homeland is protected, and nations work cooperatively to address challenges.¹⁴⁴ It articulates two main supporting objectives: (1) ensure security, support safety, and promote defense cooperation, and (2) prepare to respond to a wide range of challenges and contingencies—operating in conjunction with other nations when possible, and independently if necessary—in order to maintain stability in the region.¹⁴⁵

The strategy identifies the ways and means DoD intends to use to achieve these objectives as it implements the National Strategy for the Arctic Region.¹⁴⁶ The ways include (1) exercise sovereignty and protect the homeland, (2) engage public and private sector partners to improve domain awareness in the Arctic, (3) preserve freedom of the seas in the Arctic, (4) evolve

142. *Id.*

143. U.S. DEPT OF DEFENSE, ARCTIC STRATEGY 2, 5–6 (2013), http://www.defense.gov/Portals/1/Documents/pubs/2013_Arctic_Strategy.pdf (last visited Feb. 12, 2018).

144. U.S. DEPT OF DEFENSE, ARCTIC STRATEGY 2, 5–6 (2013), http://www.defense.gov/Portals/1/Documents/pubs/2013_Arctic_Strategy.pdf (last visited Feb. 12, 2018).

145. *Id.* at 7–11.

146. *Id.*

Arctic infrastructure and capabilities consistent with changing conditions, (5) support existing agreements with allies and partners while pursuing new ones to build confidence with key regional partners, (6) provide support to civil authorities, as directed, (7) partner with other departments and agencies and nations to support human and environmental safety, and (8) support the development of the Arctic Council and other international institutions that promote regional cooperation and the rule of law.¹⁴⁷

The United States Navy, in its Arctic Roadmap, predicts that the region will remain a low threat security environment characterized by peaceful resolution of differences.¹⁴⁸ The Navy considers its present Arctic posture sufficient for near-term defense requirements, but recognizes that increased activity in shipping, oil and gas development, and fishing will alter the strategic importance of the Arctic.¹⁴⁹ With particular attention on increasingly open Arctic Sea shipping routes, the Navy's objectives seek to ensure Arctic sovereignty and homeland defense, provide naval forces ready to respond to crisis and contingencies, preserve freedom of the seas, and promote international partnerships.¹⁵⁰

In a September 12, 2016 speech to the Center for American Progress, U.S. Chief of Naval Operations (CNO) John Richardson observed that melting polar caps would have a profound impact on how the Navy does business.¹⁵¹ He acknowledged that the U.S. Navy's presence in the Arctic has been limited due to constrained budgets and urgent needs elsewhere in the world, but stated that future ships should still be designed with potential Arctic operations in mind.¹⁵²

Deep-Water Arctic Ports Feasibility Study Put on Hold. The Army Corps of Engineers and the Alaska Department of Transportation and Public Facilities released a

147. *Id.* at 7–11.

148. U.S. NAVY, THE UNITED STATES NAVY ARCTIC ROADMAP FOR 2014 TO 2030 6 (2014), http://www.navy.mil/docs/USN_arctic_roadmap.pdf (last visited Feb. 12, 2018).

149. *Id.* at 6–7.

150. *Id.* at 15.

151. CENTER FOR AMERICAN PROGRESS, *Naval Strategy in Asia and the Arctic*, YOUTUBE (Sept. 12, 2016), https://www.youtube.com/watch?v=VNa9_gRgKJg.

152. *Id.*

draft report on the continuing Deep-Draft Arctic Port System Study in February 2015.¹⁵³ After spending several years considering possible locations, the study recommended expanding the capacity of Nome Harbor,¹⁵⁴ and found no significant adverse impact on species or historic sites protected under various federal laws.¹⁵⁵ The plan objectives included addressing the need for enhanced marine infrastructure to support multiple maritime missions, facilitating holistic economic growth, being compatible with cultural, subsistence and natural resources, taking into account existing land uses, encouraging shared responsibility for development in the Arctic, and allowing for multi-purpose use of Arctic resources.¹⁵⁶

The estimated project cost, which includes lands, easements, facilities, and construction of general navigation features, is \$210.8 million with an estimated additional \$8.3 million for deepening the navigation features, and roughly \$244,000 in annual operation and maintenance costs.¹⁵⁷ These costs would be apportioned between Federal and non-Federal sources in accordance with the Water Resources Development Act of 1986.

In October 2015, the Army Corps of Engineers suspended work on the Nome deep-water feasibility study,¹⁵⁸ following Shell's September 28th announcement that it was suspending its Arctic exploration activities for the "foreseeable future."¹⁵⁹ Although activity remained suspended throughout 2016, Section 1202(b) of the Water Infrastructure Improvements for

153. Alaska Deep-Draft Arctic Port System Draft Interim Integrated Feasibility Report and Environmental Assessment, U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT, (Feb. 2015),

<http://www.poa.usace.army.mil/Portals/34/docs/civilworks/arcticdeepdraft/ADDMainReportwithoutappendixes.pdf> (last visited Feb. 12, 2018).

154. *Id.* at 72.

155. *Id.* at 32.

156. *Id.* at Executive Summary.

157. *Id.*

158. Alex DeMarban, *Work Toward Deep-Water Port in Alaska Arctic on Hold*, *Army Corps Says*, ARCTIC NEWSWIRE (Oct. 26, 2015), <http://www.adn.com/article/20151026/work-toward-deep-water-port-alaska-arctic-hold-army-corps-says>.

159. Juliet Eilperin & Steven Mufson, *Royal Dutch Shell Suspends Arctic Drilling Indefinitely*, WASHINGTON POST (Sept. 28, 2015), <https://www.washingtonpost.com/news/energy-environment/wp/2015/09/28/royal-dutch-shell-suspends-arctic-drilling-indefinitely/>.

the Nation (WIIN Act), Pub. L. No. 114-322, enacted in late December 2016, called for further studies, to specifically include benefits to national security and support of Coast Guard missions.¹⁶⁰

National Aeronautics and Space Administration

The National Aeronautics and Space Administration's Cryospheric Science Program is a major contributor to the nation's Arctic science effort. Among other missions, NASA provides ice observations by satellite and aircraft observations.

Environmental Protection Agency

Former Oklahoma Attorney General Scott Pruitt was sworn in as Administrator of the EPA on February 17, 2017.¹⁶¹ Among other things, the new administration pledged to revisit the EPA's stance on the proposed Pebble Creek Mine and rules expanding the definition of "navigable waters of the United States." The EPA's regulatory activity also came under scrutiny as a result of Executive Orders directing all federal agencies to conduct regulatory reviews.¹⁶²

Significant U.S. Court Decisions

Upon President Trump's nomination, Colorado appeals court judge Neil M. Gorsuch was sworn in as the Supreme Court's 113th justice on April 10, 2017.¹⁶³ The event marked the conclusion of a nearly 14-month process to fill Scalia's seat.¹⁶⁴

Juliana v. U.S. Climate Lawsuit Updates

A number of youth plaintiffs filed a constitutional climate lawsuit against the U.S. government in the District Court for the District of Oregon in 2015.¹⁶⁵ The plaintiffs' argument is

160. Water Infrastructure Improvements for the Nation Act, Pub. L. No. 114-322, 130 Stat. 1628 (2016).

161. Press Release, Environmental Protection Agency, Scott Pruitt Confirmed and Sworn in as EPA Administrator (Feb. 17, 2017), <https://www.epa.gov/newsreleases/scott-pruitt-confirmed-and-sworn-epa-administrator>.

162. See Exec. Order No. 13771, 82 Fed. Reg. 9339 (Feb. 3, 2017); Exec. Order No. 13777, 82 Fed. Reg. 12,285 (Mar. 1, 2017); Exec. Order No. 13,783, 82 Fed. Reg. 16,093 (Mar. 31, 2017).

163. Robert Barnes & Ashley Parker, *Neil M. Gorsuch sworn in as 113th Supreme Court justice*, WASHINGTON POST (Apr. 10, 2017), https://www.washingtonpost.com/politics/courts_law/gorsuch-to-be-sworn-in-to-supreme-court-today-in-two-ceremonies/2017/04/10/9ac361fe-1ddb-11e7-ad74-3a742a6e93a7_story.html?utm_term=.db7cf8078fd0.

164. *Id.*

165. *Juliana v. U.S.-Climate Lawsuit*, OUR CHILDREN'S TRUST,

that the federal government has violated the youngest generation's constitutional rights to life, liberty, and property, through affirmative actions that cause climate change.¹⁶⁶ The complaint also asserts that the government has failed to protect essential public trust resources.¹⁶⁷ Representatives of the fossil fuel industry initially intervened in the case as defendants, joining the U.S. government in advocating for dismissal of the case, but in June 2017 Judge Coffin issued an order releasing the fossil fuel industry defendants from the case and setting a trial date for February 5, 2018 before Judge Aiken at the U.S. District Court of Oregon in Eugene.¹⁶⁸ The case is currently under a stay pending a decision from the Ninth Circuit, which heard oral arguments on Monday, December 11, 2017. The arguments may be viewed online.¹⁶⁹

Alaska Oil and Gas Ass'n v. Jewell, No. 13-35619

In 2016, the Ninth Circuit reversed a lower court decision and reinstated the U.S. Fish and Wildlife Service's (FWS) designation of a critical habitat for protection of the polar bear.¹⁷⁰ Previously, the lower court had agreed with Alaska state officials and energy industry groups that protections for the bears ordered by the FWS six years ago were too arbitrary to be enforced.¹⁷¹ The Ninth Circuit disagreed, stating that while use of land by polar bears is a sufficient basis to designate habitat, it is not a necessary basis.¹⁷² The decision will affect all proposed greenfield and expansion projects along the Beaufort and Chukchi seas north of Alaska and east of Russia, although existing projects are likely to be grandfathered in.¹⁷³

<https://www.ourchildrenstrust.org/us/federal-lawsuit/> (last visited Jan. 27, 2018).

166. *Id.*

167. *Id.*

168. *Major Court Orders and Filings*, OUR CHILDREN'S TRUST, <https://www.ourchildrenstrust.org/court-orders-and-pleadings/> (last visited Jan. 27, 2018).

169. See United States Court of Appeals for the Ninth Circuit, *17-71692 USA v. USDC-ORE*, YOUTUBE (Dec. 11, 2017), https://www.youtube.com/watch?time_continue=19&v=j0aDihmHep0.

170. *Alaska Oil & Gas Ass'n v. Jewell*, 815 F.3d 544 (9th Cir. 2016).

171. Kartikay Mehrotra & Jennifer A. Dlouhy, *Polar Bear Critical Habitat in Alaska Restored by Appeals Court*, BLOOMBERG (Feb. 29, 2016), <https://www.bloomberg.com/news/articles/2016-02-29/polar-bear-critical-habitat-in-alaska-restored-by-appeals-court>.

172. *Jewell*, 815 F.3d at 544.

173. Kartikay Mehrotra & Jennifer A. Dlouhy, *Polar Bear Critical Habitat in Alaska Restored by Appeals Court*, BLOOMBERG (Feb. 29, 2016),

A petition for certiorari was filed with the U.S. Supreme Court in November 2016 but the Court denied the petition in May 2017.¹⁷⁴

Alaska Oil & Gas Ass'n v. Pritzker, No. 14-35806 (9th Cir. Oct. 24, 2016)

The Ninth Circuit reinstated a decision protecting bearded seals in Alaska under the Endangered Species Act.¹⁷⁵ The October 2016 decision reversed a lower-court ruling and accepted that projections of climate change present a long-term threat to the ice-dependent species.¹⁷⁶ The opinion was based on whether the National Marine Fisheries Service can list an animal population as endangered that is not currently endangered but is likely to suffer a population decline in decades to come.¹⁷⁷ The decision is similar to an earlier legal battle over the polar bear, which is now listed as threatened because of projections modeled out to 2050.¹⁷⁸ The Ninth Circuit denied rehearing on February 22, 2017. A petition for certiorari (*Alaska Oil and Gas Ass'n v. Ross*, Dkt No. 17-118) was pending at the end of 2017 and the Court denied the petition on January 22, 2018.¹⁷⁹

U.S. Arctic Research Commission

The U.S. Arctic Research Commission (USARC) was established by the Arctic Research and Policy Act of 1984.¹⁸⁰ Its principal duties are to (1) establish the national policy, priorities, and goals necessary to construct a federal program for basic and applied scientific research with respect to the Arctic, including natural resources and materials, physical, biological and health sciences, and social and behavioral sciences; (2) promote Arctic research, to recommend Arctic

<https://www.bloomberg.com/news/articles/2016-02-29/polar-bear-critical-habitat-in-alaska-restored-by-appeals-court>.

174. Kat Sieniuc, *High Court Will Not Hear Alaska Polar Bear Habitat Spat*, LAW360 (May 1, 2017), <https://www.law360.com/articles/918892>.

175. *Alaska Oil & Gas Ass'n v. Pritzker*, 840 F.3d 671 (9th Cir. 2016).

176. *Id.*

177. *Id.*

178. *See In re Polar Bear Litig.*, 709 F.3d 1 (D.C. Cir. 2013).

179. *Alaska Oil & Gas Association v. Pritzker*, CLIMATE CASE CHART, <http://climatecasechart.com/case/alaska-oil-gas-association-v-pritzker/> (last visited Jan. 27, 2018).

180. 15 U.S.C. §§ 4101–4111 (2012).

research policy, and to communicate our research and policy recommendations to the President and the Congress; (3) work with the National Science and Technology Council and the National Science Foundation as the lead agency responsible for implementing the Arctic research policy and to support cooperation and collaboration throughout the Federal Government; (4) give guidance to the Interagency Arctic Research Policy Committee to develop national Arctic research projects and a five-year plan to implement those projects (see White House National Science and Technology Council, Arctic Research Plan 2013–2017);¹⁸¹ and (5) interact with Arctic residents, international Arctic research programs and organizations and local institutions including regional governments in order to obtain the broadest possible view of Arctic research needs.¹⁸²

The current USARC Research Plan spans the period 2017–2021. The Commission recently released an updated **Report on the Goals and Objectives for Arctic Research 2017–2018**.¹⁸³ The Report highlights USARC’s six priority research goals:

1. Observe, Understand, and Predict Arctic Environmental Change
2. Improve Arctic Human Health
3. Transform Arctic Energy
4. Advance the Arctic “Built Environment”
5. Explore Arctic Cultures and Community Resilience
6. Enhance International Scientific Cooperation in the Arctic¹⁸⁴

The Commission held its 107th Meeting on July 17, 2017 in Washington, DC and its 108th Meeting on October 10, 2017 in Anchorage, Alaska.¹⁸⁵

181. NATIONAL SCIENCE AND TECHNOLOGY COUNCIL, EX. OFFICE OF THE PRESIDENT, ARCTIC RESEARCH PLAN: FY 2013–2017 (2013), https://www.whitehouse.gov/sites/default/files/microsites/ostp/2013_arctic_research_plan.pdf (last visited Feb. 12, 2018).

182. *About USARC*, UNITED STATES ARCTIC RESEARCH COMMISSION, https://www.arctic.gov/about_usarc.html (last visited May 2, 2016).

183. *Report on the Goals and Objectives for Arctic Research 2017–2018 For the US Arctic Research Program Plan*, UNITED STATES ARCTIC RESEARCH COMMISSION (2017), https://storage.googleapis.com/arcticgov-static/publications/goals/usarc_goals_2017-2018_version_2.pdf (last visited Feb. 12, 2018).

184. *Id.*

185. *Meetings Archive*, UNITED STATES ARCTIC RESEARCH,

National Ocean Council

President Obama issued the “National Ocean Policy” in 2010¹⁸⁶ and the “National Ocean Policy Implementation Plan” in 2011.¹⁸⁷ Under the policy, the U.S. marine and Great Lakes waters were divided into nine planning regions.¹⁸⁸ Federal, state and tribal governments in those regions were invited to submit regional Marine Spatial Plans to the National Ocean Council for approval.¹⁸⁹ On February 12, 2016, the Council released its 2016 Annual Work Plan and Guidance on Marine Plans.¹⁹⁰

In late 2016, two regional plans, the Northeast Ocean Plan and the Mid-Atlantic Ocean Action Plan, were approved.¹⁹¹

No significant activity by the National Ocean Council was reported in 2017. Indeed, the staff of the White House Office of Science and Technology (where the NOC is positioned) has reportedly shrunk from 135 in the Obama administration under John Holdren to 35 under President Trump.

Committee on the Marine Transportation System

The Committee on the Marine Transportation System (CMTS), established by President George W. Bush in 2004, is a federal cabinet-level, inter-departmental committee chaired by the Secretary of Transportation.¹⁹² Its purpose is to create a partnership of federal departments and agencies with responsibility for the Marine Transportation System (MTS).¹⁹³

The secretary of transportation directed the Committee on

https://www.arctic.gov/meeting_archive.html#yr2017 (last visited Jan. 27, 2018).

186. Exec. Order No. 13,547, 75 Fed. Reg. 43,023 (July 19, 2010) (revoking Exec. Order No. 13,366, 69 Fed. Reg. 76,591 (Dec. 17, 2004)).

187. *Obama Administration Releases Plan to Promote Ocean Economy and Reliance*, WHITE HOUSE COUNCIL ON ENVTL. QUALITY (Apr. 16, 2013), https://www.whitehouse.gov/sites/default/files/final_marine_planning_handbook.pdf.

188. Exec. Order No. 13,547, 75 Fed. Reg. 43,023 (July 19, 2010) (revoking Exec. Order No. 13,366, 69 Fed. Reg. 76,591 (Dec. 17, 2004)).

189. *Id.*

190. Beth Kerttula, *Releasing New Guidance Under the National Ocean Policy*, THE WHITE HOUSE: PRESIDENT BARACK OBAMA (Feb. 12, 2016, 10:43 AM), <https://obamawhitehouse.archives.gov/blog/2016/02/12/releasing-new-guidance-under-national-ocean-policy>.

191. Christy Goldfuss & John P. Holdren, *The Nation's First Ocean Plans*, WHITE HOUSE (Dec. 7, 2016), <https://obamawhitehouse.archives.gov/blog/2016/12/07/nations-first-ocean-plans>.

192. *What We Do*, COMM. ON MARINE TRANSP. SYS., <http://www.cmts.gov/About/Index.aspx> (last visited Feb. 3, 2017).

193. *Id.*

the Marine Transportation System (CMTS) to complete three items required by the president's National Strategy for the Arctic Region (NSAR) Implementation Plan (2014) related to the U.S. Arctic maritime domain.¹⁹⁴ The second task was completed on April 15, 2015, with the publication of the CMTS "Ten-year Prioritization of Infrastructure Needs in the U.S. Arctic."¹⁹⁵

The third and final action assigned to the CMTS by the NSAR Implementation Plan was completed in 2017, with publication of the *Recommendations and Criteria for Using Federal Public-Private Partnerships to Support Critical U.S. Arctic Maritime Infrastructure*.¹⁹⁶ The report puts forward 19 recommendations for the implementation of public-private partnerships (P3s) in developing, improving, and maintaining infrastructure in support of Federal maritime activities, national security, navigation safety, and stewardship of natural resources in the U.S. Arctic.¹⁹⁷ The report was signed by the Secretary of Transportation and transmitted to the White House in January 2017.¹⁹⁸

National Academies Transportation Research Board

No significant Arctic developments in 2017.

United States: Alaska

In 2015, Alaska's legislature passed a resolution declaring 2015-2017 the "Years of the Arctic."¹⁹⁹

State of Alaska

194. ARCTIC STEERING COMM., IMPLEMENTATION FRAMEWORK FOR THE NATIONAL STRATEGY FOR THE ARCTIC REGION (2016), [https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/National%20Strategy%20for%20the%20Arctic%20Region%20Implementation%20Framework%20\(Appendix%20A\)%20Final.pdf](https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/National%20Strategy%20for%20the%20Arctic%20Region%20Implementation%20Framework%20(Appendix%20A)%20Final.pdf) (last visited Feb. 12, 2018).

195. COMM. ON MARINE TRANSP. SYS. ARCTIC MARINE TRANSP. INTEGRATED ACTION TEAM, A TEN-YEAR PRIORITIZATION OF INFRASTRUCTURE NEEDS IN THE U.S. ARCTIC (2016), http://www.cmts.gov/downloads/NSAR_1.1.2_10-Year_MTS_Investment_Framework_Final_5_4_16.pdf (last visited Feb. 12, 2018).

196. U.S. Committee on the Marine Transportation System, *Recommendations and Criteria for Using Federal Public-Private Partnerships to Support Critical U.S. Arctic Maritime Infrastructure* (2017), http://www.cmts.gov/downloads/NSAR_1.1.3_Recommendations_and_Criteria_2017_FINAL.pdf (last visited Feb. 12, 2018).

197. *Id.*

198. *Id.*

199. Press Release, Alaska House of Representatives, Legislature Declares 2015-17 as "Years of the Arctic" (Apr. 9, 2015), <http://www.housemajority.org/2015/04/09/legislature-declares-2015-17-as-years-of-the-arctic/>.

At 586,400 square miles, Alaska is more than twice the size of Texas, the second largest state, and is larger than all but eighteen of the nations in the world. The state has more shoreline (34,000 miles) than the rest of the nation combined. Alaska has produced over seventeen billion barrels of oil. From 1980–2000 Alaska accounted for twenty percent of the U.S. domestic oil production.²⁰⁰ More than half of the fish harvested in the U.S. are taken from the federal and state waters off Alaska.²⁰¹ Cruise ships carry some one million passengers to Alaska each year.²⁰²

Alaska's Coastal Zone Management (CZM) Program, in place since 1977, was allowed to sunset on July 1, 2011.²⁰³ In 2012, Alaska voters overwhelmingly (62% to 38%) rejected an initiative (Ballot Measure 2) that would have restored the CZM Program.²⁰⁴ As a result, Alaska is the only coastal state in the U.S. that does not have a CZM plan developed and approved under the federal Coastal Zone Management Act of 1972.²⁰⁵ Reportedly, the state has also declined to participate in the voluntary regional marine spatial planning called for by the President's National Ocean Policy. Whether Governor Walker will reverse that stand is unclear.

In 2017, Alaska's economy continued to struggle after Shell's withdrawal. Alaska's gross state product, the total value of all the goods and services the state produces, has declined for five years and is down 22 percent due to the lower oil prices and production.²⁰⁶ In order to close Alaska's budget deficit,

200. *Alaska's Oil & Gas Industry*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/oilgas/overview.html> (last visited Apr. 9, 2016).

201. *Alaska's Fishing Industry*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/fisheries/overview.html> (last visited Apr. 9, 2016).

202. *Tourism*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/tourism/> (last visited Apr. 9, 2016).

203. Richard Mauer, *Loss of Coast Zone Program Hurts State's Beluga Whale Case*, ALASKA DISPATCH NEWS (Oct. 30, 2011), <http://www.adn.com/article/20111030/losscoast-zone-program-hurts-states-beluga-whale-case>.

204. Alyssa Carducci, *Alaska Voters Reject Coastal Management Program*, HEARTLAND INSTITUTE (Oct. 10, 2012), <http://news.heartland.org/newspaper-article/2012/10/10/alaska-voters-reject-coastal-management-program>.

205. *See Coastal Zone Management Programs*, OFFICE OF COASTAL MGMT., <http://coast.noaa.gov/czm/mystate/> (last visited Apr. 9, 2016).

206. Charles Wohlforth, *Economists say recession will last three more years, followed by a smaller, poorer Alaska*, ANCHORAGE DAILY NEWS (Dec. 2, 2017), <https://www.adn.com/opinions/2017/01/20/economists-say-recession-will-last-three->

analysts suggest that oil must reach about \$94 per barrel.²⁰⁷

According to new estimates from the Alaska Department of Labor and Workforce Development, Alaska's population declined in 2017 for the first time in 29 years.²⁰⁸ According to preliminary figures from the Department of Labor, Alaska lost 3,600 jobs between 2016 and 2017. Another 1,800 jobs are expected to be lost between 2017 and 2018.²⁰⁹

As noted in the Shipping Routes section below, the Arctic cruise industry set new records in 2017; however, the *Crystal Serenity's* 2018 voyage through the Northwest Passage was cancelled because it did not sell out in 2017. Interest in the Arctic appears to be waning to some extent, which limits opportunities for Alaska to be in the spotlight when it comes to politics and economic development.

Oil Discoveries. In January 2017, ConocoPhillips announced a new oil discovery on its large acquisitions from state and federal lease sales in December 2016.²¹⁰ According to the oil company, this discovery in Alaska's petroleum reserve could produce up to 100,000 barrels of oil daily, which would be a boon for Alaska's troubled economy.²¹¹ If oil is produced on these federal lands, then Alaska would receive half of the 16.67 percent of the federal share.²¹²

Prudhoe Bay Oil Spill. A British Petroleum oil and gas well on Alaska's Northern Slope blew out and spilled crude oil and gas uncontrollably from April 14-17, 2017.²¹³ There were

more-years-followed-by-a-smaller-poorer-alaska/.

207. Alex DeMarban, *Oil prices reach 2-year highs. It's not enough for Alaska.*, ANCHORAGE DAILY NEWS (Nov. 12, 2017), <https://www.adn.com/business-economy/2017/11/12/oil-prices-reach-2-year-highs-its-not-enough-for-alaska/>.

208. *Alaska Population Estimates*, DEP'T OF LABOR AND WORKFORCE DEV'T, <http://live.laborstats.alaska.gov/pop/index.cfm> (last visited Jan. 27, 2018).

209. *Alaska Economic Trends*, DEP'T OF LABOR AND WORKFORCE DEV'T (Jan. 2018), <http://labor.alaska.gov/trends/jan18.pdf#art1>.

210. Alex DeMarban, *ConocoPhillips announces Alaska discovery with daily production potential of 100,000 barrels*, ALASKA DISPATCH NEWS (Dec. 2, 2017), <https://www.adn.com/business-economy/energy/2017/01/13/conocophillips-announces-alaska-discovery-with-daily-production-potential-of-100000-barrels/>.

211. *Id.*

212. *Id.*

213. Aiswarya Lakshmi, *BP Oil Well Spills Out of Control in Alaska*, MARINELINK (Apr. 16, 2017), <https://www.marinelink.com/news/control-spills-alaska424285#.WPUSt4oZmhU.twitter>.

no reported injuries or damage to wildlife.²¹⁴ Reports suggested that the leak was the result of efforts to boost output from aging wells and to reach new supplies in the North Slope's oil fields.²¹⁵ In July 2017, BP shut down 14 wells at the Prudhoe Bay field as a preventative measure and the company planned to permanently plug and abandon the well that leaked by the end of the year.²¹⁶

Alaska oil-well regulators issued emergency orders to oil companies on October 30, 2017 to prepare for a widespread review of all North Slope wells.²¹⁷ The Alaska Oil and Gas Conservation Commission expressed concern that wells with similar construction to that of the Prudhoe Bay well could be damaged as a result of thawing permafrost, causing the ground to subside and exerting dangerous pressure on pipes carrying hot crude oil.²¹⁸ Consequently, the agency asked all North Slope operators with comparable well designs to shut them down temporarily and provide a list of such wells by December 1, 2017.²¹⁹

Lawsuit over Governor's Veto of Part of 2016 Permanent Fund. In June 2017, the Alaska Supreme Court heard arguments regarding whether or not Governor Bill Walker had the authority to veto part of the 2016 Alaska Permanent Fund dividend (constituting \$650 million) when faced with a large budget deficit.²²⁰ Senator Bill Wielechowski,

214. *Id.*

215. Jessica Summers & Alex Nussbaum, *BP Kills Alaska Well After Capping Oil, Natural Gas Leaks*, BLOOMBERG (Apr. 17, 2017), <https://www.bloomberg.com/news/articles/2017-04-16/bp-races-to-shut-alaska-north-slope-well-after-finding-a-leak>.

216. Alex DeMarban, *Prudhoe Bay spill in April leads to wider review, suspension of 14 wells*, ANCHORAGE DAILY NEWS (July 17, 2017), <https://www.adn.com/business-economy/energy/2017/07/17/prudhoe-bay-spill-in-april-leads-to-wider-review-suspension-of-14-wells/>.

217. Alex Demarban, *State regulators launch wide review of North Slope oil fields following BP leak*, ANCHORAGE DAILY NEWS (Oct. 30, 2017), <https://www.adn.com/business-economy/energy/2017/10/30/state-regulators-launch-wide-review-of-north-slope-oil-fields-following-bp-leak/>.

218. *Id.*

219. *Id.*

220. Jeannette Lee Falsey, *Did Gov. Walker have veto power over PFD payouts? Alaska Supreme Court hears the case.*, ANCHORAGE DAILY NEWS (June 20, 2017), <https://www.adn.com/politics/2017/06/20/did-gov-walker-have-veto-power-over-pfd-payouts-alaska-supreme-court-hears-the-case/>.

argued that although the Permanent Fund dividend payouts have been treated as an appropriation in the legislative process for decades, they are actually “dedicated funds” that are meant to be spent for the same purpose each year.²²¹ Under this classification, they would be exempt from the governor’s veto.²²² On August 25, 2017, the Alaska Supreme Court unanimously upheld the veto.²²³

Alaska Native Corporation Seeking Permit for Oil Exploration in Beaufort Sea. Hoping to succeed where Shell felled in 2016, a subsidiary of Alaska’s wealthiest regional Native corporation is moving ahead with plans to explore for oil in the U.S. Arctic Ocean. In 2017, ASRC Exploration asked federal regulators not to cancel a block of leases once held by Shell in federal waters at Camden Bay about 15 miles off the North Slope coast northwest of the Arctic National Wildlife Refuge.²²⁴ In 2016, officials did not approve Shell’s request to extend those Beaufort Sea leases, most of which are set to expire this year.²²⁵ ASRC Exploration acquired the leases from Shell in 2016 and hopes for a different result given President Trump’s pro-development administration.²²⁶

Alaska Ultimately Supports ExxonMobil Plan to Expand Oil production in Arctic. On August 29, 2017, the Walker administration denied ExxonMobil’s proposal to expand oil production at the Point Thomson field, calling the plan “vague” and claiming that the company has not met the terms of a 2012 settlement that allowed it to keep operating there.²²⁷ The company’s application had two parts, however,

221. *Id.*

222. *Id.*

223. *Wielechowski v. State*, 403 P.3d 1141 (Alaska 2017).

224. Alex DeMarban, *Native corporation makes move toward exploring for oil in Arctic Ocean, where Shell failed*, ALASKA DISPATCH NEWS (July 9, 2017), <https://www.adn.com/business-economy/energy/2017/07/09/native-corporation-makes-move-toward-exploring-for-oil-in-arctic-ocean-where-shell-failed/>.

225. *Id.*

226. *Id.*

227. Alex DeMarban, *Alaska rejects ExxonMobil plan to expand oil production in Arctic*, EYE ON THE ARCTIC (Sept. 1, 2017), <http://www.rcinet.ca/eye-on-the-arctic/2017/09/01/alaska-rejects-exxonmobil-plan-to-expand-oil-production-at-point->

and while the administration rejected the expansion plan it approved the company's proposal for continued operations through 2019.²²⁸ After receiving more information from the company in light of the initial rejection, the state reversed its decision at the end of 2017 and supported the plan.²²⁹

New Efforts to Combat Climate Change. In September 2017, Governor Walker appointed Nikoosh Carlo of Fairbanks and Tanana to the newly created position of senior climate adviser.²³⁰ Carlo most recently worked with the U.S. delegation to the Arctic Council and led the commission that wrote Alaska's official Arctic Policy.²³¹ Carlo said her first action in the new position would be conducting outreach that would bring together local and tribal leaders, industry representatives, and citizen groups.²³²

In October 2017, Governor Walker announced the creation of a state climate change committee that he would task with recommending responses to problems like thawing permafrost and rising sea levels.²³³ The 15-member Leadership Team was appointed on December 12, 2017 and was asked to deliver a "preliminary action plan" by September 1, 2018.²³⁴ The team met for the first time on December 18, 2017 in Anchorage.²³⁵ The Institute of the North serves as secretariat.²³⁶ More

thomson/.

228. *Id.*

229. Erin Granger, *State approves ExxonMobil's expansion of Point Thomson project on North Slope*, DAILY NEWS-MINER (Dec. 22, 2017), http://www.newsminer.com/news/local_news/state-approves-exxonmobil-s-expansion-of-point-thomson-project-on/article_4cbce496-e7af-11e7-beeb-2bce01bae1a2.html.

230. Rachel Waldholz, *Walker administration appoints climate adviser, promises new policy "soon"*, ALASKA PUBLIC MEDIA (Sept. 19, 2017), <https://www.alaskapublic.org/2017/09/19/walker-administration-appoints-climate-adviser-promises-new-policy-soon/>.

231. *Id.*

232. *Id.*

233. Nathaniel Herz, *Gov. Walker creates climate change committee, but leaves decisions for later*, ANCHORAGE DAILY NEWS (Oct. 31, 2017), <https://www.adn.com/politics/2017/10/31/gov-walker-creates-climate-change-committee-but-leaves-decisions-for-later/>.

234. *Governor Walker Appoints Members of Climate Action for Alaska Leadership Team*, ST. LOUIS MEDIA (Dec. 12, 2017), <https://www.stl.news/governor-walker-appoints-members-climate-action-alaska-leadership-team/51146/>.

235. *Id.*

236. *Id.*

details on the Alaska Climate Change Strategy can be found in the Administrative Order that formalized the announcement of the committee on October 31, 2017.²³⁷

Record-Breaking Season for Alaska Cruise Industry.

According to Cruise Lines International Association of Alaska, the state saw a projected 1,067,432 passengers on 33 ships during the season running from May 1-September 30, 2017.²³⁸ That number surpasses the previous high of about 1,032,000 passengers in 2008.²³⁹

Disaster Declaration for Utqiagvik (Formerly Barrow). Governor Walker signed a declaration of disaster emergency on November 14, 2017 that recognized the significant damage suffered in the North Slope Borough after a strong Arctic sea storm tore through the region at the end of September.²⁴⁰ The storm destroyed at least one of Utqiagvik's roads and damaged many others, as well as damaging seven historic and cultural sites.²⁴¹ The declaration allowed the town to access state funds, with repairs expected to cost more than \$1 million.²⁴²

Canada

Canada is a party to UNCLOS and a member, and immediate-past Chair, of the Arctic Council. Canada's extended continental shelf submission to the Commission on Limits of the Continental Shelf is detailed in Section IV.G.

Oceans Protection Plan. Partly in response to the October 13, 2016 foundering of the U.S. flag tugboat Nathan E. Stewart

237. See *Administrative Order No. 289*, OFFICE OF THE GOVERNOR, STATE OF ALASKA (Oct. 31, 2017), <https://gov.alaska.gov/admin-orders/289.html>.

238. Annie Zak, *Projections show Alaska's cruise industry just had a record-breaking season*, ANCHORAGE DAILY NEWS (Dec. 2, 2017), <https://www.adn.com/business-economy/2017/10/30/projections-show-alaskas-cruise-industry-just-had-a-record-breaking-season/>.

239. *Id.*

240. *Declaration of Disaster Emergency*, STATE OF ALASKA (Nov. 14, 2017), <https://aws.state.ak.us/OnlinePublicNotices/Notices/Attachment.aspx?id=110037>.

241. Nathaniel Herz, *Alaska Gov. Walker declares disaster after costly fall storm on North Slope*, ANCHORAGE DAILY NEWS (Nov. 14, 2017), <https://www.adn.com/alaska-news/2017/11/14/alaska-gov-walker-declares-disaster-after-costly-fall-storm-on-north-slope/>.

242. *Id.*

near Bella Bella, British Columbia, which resulted in a 25,000 gallon oil spill,²⁴³ Canadian Prime Minister Trudeau announced his Oceans Protection Plan (OPP) on November 7, 2016.²⁴⁴ The OPP commits \$1.5 billion to improve marine safety and responsible shipping, protect Canada's marine environment, and offer new possibilities for Indigenous and coastal communities.

In October 2015, Prime Minister Trudeau issued a directive to the Minister of Transport to impose a moratorium on crude oil tanker traffic in northern British Columbian waters, and in May 2017 the Trudeau administration introduced a bill in Parliament that will prohibit oil tankers from carrying crude and persistent oils as cargo from stopping, loading or unloading at ports or marine installations in northern British Columbia.²⁴⁵ The bill remained in committee at the end of the year.

Defense Policy. The Canadian government issued a new defense policy, "Strong Secure and Engaged," in June 2017.²⁴⁶ The document references the Arctic more than 70 times, with an increased emphasis on Arctic surveillance and data collection.²⁴⁷ The policy reflects the government's intention to monitor air traffic over all 36,000 islands in Canada's archipelago, invest \$8.8 billion over 20 years for vehicles suitable for army use in the Arctic environment, and coordinate information collection from drones, submarines, and satellites to get a more complete picture of the area, among other steps to increase Arctic security.²⁴⁸ Defense Minister Harjit Sajjan said military spending will grow by 70 percent to

243. Justine Hunter, *The sinking of the Nathan E. Stewart*, THE GLOBE AND MAIL (Nov. 4, 2016), <http://www.theglobeandmail.com/news/british-columbia/inside-the-response-to-a-tug-boat-sinking-off-bcs-northerncoast/article32672711/>.

244. *Canada's Oceans Protection Plan*, TRANSPORT CANADA (Nov. 7, 2016), <http://www.tc.gc.ca/media/documents/communications-eng/oceans-protection-plan.pdf>.

245. Jeremy Nuttall, *No Tanker Ban in Trudeau's \$1.5-Billion Coastal Protection Plan*, THE TYEE (Nov. 7, 2016), <https://thetyee.ca/News/2016/11/07/No-Tanker-Ban-Trudeau-Plan/>.

246. Sara Frizzell, *In new defence policy, Liberals turn focus to Arctic sovereignty*, CBC NEWS (June 8, 2017), <http://www.cbc.ca/beta/news/canada/north/arctic-sovereignty-defence-policy-1.4150888>.

247. *Strong, Secure, Engaged: Canada's Defence Policy*, GOVERNMENT OF CANADA (2017), <http://dgpaapp.forces.gc.ca/en/canada-defence-policy/docs/canada-defence-policy-report.pdf> (last visited Feb. 12, 2018).

248. *Id.*

reach approximately \$24.3 billion over the next decade.²⁴⁹

The policy document specifically references Russia as a security threat in the Arctic, noting that “NATO has also increased its attention to Russia’s ability to project force from its Arctic territory into the North Atlantic, and its potential to challenge NATO’s collective defence posture.”²⁵⁰ In Foreign Minister Chrystia Freeland’s speech to the House of Commons the day before the release of the defense review, the Foreign Minister specifically focused on the assertive/aggressive actions of the Russian government as evidence that Canada is facing an increasingly dangerous and uncertain international system.²⁵¹ According to Rob Huebert of Arctic Deeply, “the 2017 Liberal defense review provides a clear expression of the government’s understanding of the changing security environment as it pertains to the Arctic. . .the terminology is no longer cast in terms of defending Canadian Arctic sovereignty, but is now clearly about defending Canadian Arctic security.”²⁵²

New Arctic Shipping Safety and Pollution Prevention Regulations. New Canadian Arctic Shipping Safety and Pollution Prevention regulations were proposed on July 1, 2017 and entered into force on December 16, 2017.²⁵³ The Department of Transport issued the regulations under authority of the Canada Shipping act of 2001. They are published as an annex to the Arctic Waters Pollution Prevention Act (C.R.C., c. 353). Among other things, the new regulations require covered vessels to hold an Arctic Pollution Prevention Certificate.²⁵⁴ Tankers and other covered vessels while operating in designated zones must have a qualified “ice

249. *Canada to Increase Military Spending 70 Percent in 10 Years*, OODA LOOP (June 8, 2017), <https://www.oodaloop.com/osint/political-risk/2017/06/08/canada-to-increase-military-spending-70-percent-in-10-years/>.

250. Sara Frizzell, *In new defence policy, Liberals turn focus to Arctic sovereignty*, CBC NEWS (June 8, 2017), <http://www.cbc.ca/beta/news/canada/north/arctic-sovereignty-defence-policy-1.4150888>.

251. Rob Huebert, *Canadian Defense Review Depicts Russia as an Arctic Adversary*, ARCTIC DEEPLY (July 4, 2017), <https://www.newsdeeply.com/arctic/community/2017/07/04/canadian-defense-review-depicts-russia-as-an-arctic-adversary>.

252. *Id.*

253. Arctic Shipping Pollution Prevention Regulations, C.R.C., c. 353 (Can.).

254. *Id.* at 12.

navigator” aboard.²⁵⁵

Financial Support to Preserve Indigenous Languages. Ottawa allocated \$19.6 million for the Northwest Territories and \$15.8 million for Nunavut in 2017 in order to support and preserve Indigenous language services in the Canadian north.²⁵⁶ The money will fund community radio stations and education programs geared training within Indigenous governments as well as a portion to be used according to local needs.²⁵⁷ Nunavut’s Minister of Languages said the funding announcement was “an initial positive step toward the establishment of a new partnership with the federal government with regard to the protection and promotion of Nunavut’s official languages.”²⁵⁸

Iqaluit Running Out of Fresh Water. According to an article published by York University in *Environmental Science and Pollution Research*, the capital of Nunavut could start running out of fresh water by 2024 due to climate change and increased demand.²⁵⁹ Andrew Medeiros, who led the research, explained that the availability, quality, and security of freshwater in the Canadian Arctic has become an increasingly pressing issue, particularly given that Arctic lakes are especially vulnerable to climate change.²⁶⁰

Supreme Court Quashes National Energy Board Authorization for Offshore Seismic Testing. In July 2017, the Supreme Court of Canada nullified a regulatory permit for an oil-exploration program in Nunavut that Inuit

255. *Id.* at 26.

256. Levon Sevunts, *Canadian government invests over \$35M to preserve Indigenous languages in the North*, EYE ON THE ARCTIC (May 29, 2017), <http://www.rcinet.ca/eye-on-the-arctic/2017/05/29/canadian-government-invests-over-35m-to-preserve-indigenous-languages-in-the-north/>.

257. *Id.*

258. *Id.*

259. Michael Bakaic, et. al., *Hydrologic monitoring tools for freshwater municipal planning in the Arctic: the case of Iqaluit, Nunavut, Canada*, ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH (2017), <https://link.springer.com/content/pdf/10.1007%2Fs11356-017-9343-4.pdf> (last visited Feb. 12, 2018).

260. *Id.*

feared would damage their hunting rights.²⁶¹ The unanimous decision pointed out that the National Energy Board's process in Clyde River was "significantly flawed" and did not adequately consider the treaty rights of Inuit and their reliance on marine mammals for subsistence.²⁶² At the same time, the court affirmed previous decisions stating that Indigenous people do not have veto power over resource projects affecting their traditional territory.

Nunavut Approves Central Arctic Port Proposal. The Nunavut Impact Review Board formally accepted the Grays Bay Road and Port project proposal in September 2017, a decision that will allow for screening of the project that would establish the first deep-water port at the mid-point of the Northwest Passage at Grays Bay.²⁶³ The proposal also laid out a plan for building of a 145-mile road from the port to Jericho Station.²⁶⁴

New Premier of Nunavut. The Nunavut Legislative Assembly chose Paul Quassa to lead the territorial government in 2017. Prime Minister Trudeau issued a statement offering his congratulations to Premier Quassa and promoting the reconciliation process between Canada and Indigenous peoples across the country.²⁶⁵

China

China became a permanent observer at the Arctic Council in 2013.²⁶⁶ A May 20, 2013 article in the government-controlled Beijing Review titled "How China became an Arctic State" asserted that "China has ultimately managed to re-shuffle the

261. *Clyde River (Hamlet) v. Petroleum Geo- Services Inc.*, [2017] S.C.C. 40.

262. *Id.* at ¶ 52.

263. *Central Arctic Port Proposal Approved*, PORT STRATEGY (Sept. 4, 2017), <http://www.portstrategy.com/news101/world/americas/central-arctic-port-proposal-approved>.

264. *Id.*

265. Press Release, Statement by the Prime Minister on the new Premier of Nunavut, Government of Canada (Nov. 21, 2017), <https://pm.gc.ca/eng/news/2017/11/21/statement-prime-minister-new-premier-nunavut>.

266. Steven Lee Myers, *Arctic Council Adds Six Nations as Observer States, Including China*, N.Y. TIMES (May 15, 2013), <http://www.nytimes.com/2013/05/16/world/europe/arctic-council-adds-six-members-including-china.html>.

Arctic balance of power in record time.”²⁶⁷ China now refers to itself as a “near Arctic state” (jin beiji guojia) and an “Arctic stakeholder” (beiji lihaiguanxguo).²⁶⁸ President Xi Jinping has referred to China as a “polar great power” (jidi daguo).²⁶⁹

Several future scenarios have highlighted China’s increasing overtures to Greenland’s inhabitants and the possibility that the economic opportunities provided by China — particularly, Chinese mining entities — may encourage Greenlanders to declare their full independence from Denmark.²⁷⁰

MOUs on Arctic and Antarctic Cooperation. In 2017, China signed bilateral MOUs on Arctic and Antarctic cooperation with Argentina, Chile, Germany, Norway, Russia, and the U.S. in order to further its role in polar research.²⁷¹ The MOUs cover a wide range of cooperation, including site investigation, scientific research, logistical support, environmental protection and management, staff exchanges, and policy planning.²⁷²

Arctic Sea Route Added to Silk Road Plan. An Arctic sea route was included for the first time in China’s Belt and Road initiative in a document published in June 2017.²⁷³ Hailed by Chinese President Xi Jinping as a “project of the century,” the Belt and Road initiative seeks to boost trade through at least \$900 million worth of investments into ports, railroads, and other infrastructure linking Asia with Europe and Africa via both land and sea routes.²⁷⁴ In the Arctic

267. Mikå Mered, *How China Became an ‘Arctic State,’* BEIJING REVIEW (May 20, 2013), http://www.bjreview.com.cn/expert/txt/2013-05/20/content_544897.htm.

268. Andreas Kuersten, *Russian Sanctions, China, and the Arctic*, THE DIPLOMAT (Jan. 3, 2015), <http://thediplomat.com/2015/01/russian-sanctions-china-and-the-arctic/>.

269. Jane Perlez, *China, Pursuing Strategic Interests, Builds Presence in Antarctic*, N.Y. TIMES (May 3, 2015), <http://www.nytimes.com/2015/05/04/world/asia/china-pursuing-strategic-interests-builds-presence-in-antarctica.html>.

270. See Will Hickey, *China Targets Greenland for Mining*, YALE GLOBAL ONLINE (Apr. 18, 2013), <http://yaleglobal.yale.edu/content/china-targets-greenland-mining>.

271. *China Signs Arctic and Antarctic MOUs with 6 Countries*, GLOBAL TIMES (May 25, 2017), <http://www.globaltimes.cn/content/1048692.shtml>.

272. *Id.*

273. Janne Suokas, *China adds Arctic sea route to its Silk Road plan*, GB TIMES (June 21, 2017), <https://gbtimes.com/china-adds-arctic-sea-route-its-silk-road-plan>.

274. Janne Suokas, *China’s Xi opens first major summit on New Silk Road*, GB TIMES (May 14, 2017), <https://gbtimes.com/chinas-xi-opens-first-major-summit-new-silk-road>.

region, China plans to cooperate with other stakeholders to conduct research of navigational routes as well as environmental changes and to explore the region's potential resources.²⁷⁵ The plan also encourages Chinese companies to take part in the commercial use of the Arctic route and states that China will actively participate in the events organized by Arctic-related international organizations.²⁷⁶

This particular "blue economic passage" would be along Russia's Northern Sea Route, the Arctic shipping lane along the country's north coast. While China has been considering the development of this route for years, the country has been reluctant to do so officially because it has not yet released an official Arctic policy, unlike countries like Japan and South Korea, and remains in the data collection phase.²⁷⁷ The decision could also cause some political uneasiness among Arctic states as increased Chinese involvement in the region could upend the status quo.²⁷⁸

Arctic Northeast Passage Communication Guide. In 2017, China finished compiling a communication guide for the Arctic Northeast Passage.²⁷⁹ The guide will help transportation and logistics businesses better understand the Northeast Passage's ability to guarantee navigation and provides references for ships and cargoes traveling through the area.²⁸⁰

Icebreaker Completes First Trip Through Northwest Passage. The icebreaker *Xuelong* (also known as *Snow Dragon*) became the first Chinese vessel to complete a voyage through the Northwest Passage on September 6, 2017.²⁸¹

275. *Id.*

276. *Id.*

277. Mia Bennett, *China's Belt and Road Initiative moves into the Arctic*, CRYOPOLITICS (June 27, 2017), <https://www.cryopolitics.com/2017/06/27/chinas-belt-and-road-initiative-moves-into-the-arctic/>.

278. *Id.*

279. Xie Zhenqi, *China completes the Arctic Northeast Passage Communication Guide*, CHINA GLOBAL TELEVISION NETWORK (Dec. 24, 2017), https://news.cgtn.com/news/7863444f33637a6333566d54/share_p.html.

280. *Id.*

281. *Chinese icebreaker completes first voyage through the Arctic's Northwest Passage*, GB TIMES (Sept. 8, 2017), <https://gbtimes.com/chinese-icebreaker-completes-first-voyage-through-northwest-passage-in-arctic?cat=current-affairs>.

Xuelong entered the Davis Strait on August 30th and arrived in the Beaufort Sea 2293 nautical miles later.²⁸² Chinese scientists on board completed topographical seabed surveys, recorded meteorological and sea ice data, and collected biodiversity samples.²⁸³ With 96 members on board, the ice breaker traveled over 20,000 nautical miles, including 1,995 nautical miles in the ice zone and traveled the northwest shipping lane for the first time.²⁸⁴

Denmark/Greenland

The Kingdom of Denmark extends to Greenland and the Faroe Islands (at least for now), making Denmark an Arctic State. Denmark's extended continental shelf claim is covered below in Section IV.G.

Greenland Names Members of Constitutional Commission. Greenland's Constitutional Commission, which has seats for representatives from each of the national assembly's parties, was named in April 2017.²⁸⁵ The commission will be responsible for coming up with two constitutions over the next three years: one that will be valid before Greenland pulls out of the Kingdom of Denmark, and one that will apply independence.²⁸⁶

Denmark's Foreign and Security Policy 2017-2018. In June 2017, the Danish government released its foreign and security policy strategy for the next two years.²⁸⁷ The strategy identifies five main areas of priority in the coming years: migration, instability and terrorism; security in Denmark and the surrounding region; Brexit and the future of the EU; seizing opportunities related to globalization; and the Arctic.²⁸⁸ The government will strengthen the embassy in Moscow to ensure stronger representation of Danish interests in dealings

282. *Id.*

283. *Id.*

284. *Id.*

285. Kevin McGwin, *Greenland forms a commission to write its first constitution*, ARCTIC NOW (May 2, 2017), <https://www.arcticonow.com/politics-policy/2017/05/02/greenland-forms-a-commission-to-write-its-first-constitution/>.

286. *Id.*

287. *Danish gov't presents new foreign, security policy strategy*, XINHUANET (June 15, 2017), http://www.xinhuanet.com/english/2017-06/15/c_136366328.htm.

288. *Id.*

with Russia, particularly in relation to the security of the Arctic region and keeping it a conflict-free zone.²⁸⁹

Finland

Finland assumed the chairmanship of the Arctic Council in 2017. During its two-year chairmanship Finland intends to emphasize the implementation of the Paris Agreement on climate change and the UN sustainable development goals (SDGs) in Arctic cooperation. Finland will also work to strengthen the Arctic cooperation and its continuity also at the highest political level.

Finland's Strategy for the Arctic Region was issued in 2013.²⁹⁰ The objectives of the policy are to strengthen multilateral Arctic cooperation, take part in the shaping of the EU's Arctic policy, and raise Finland's profile as an expert in Arctic issues.²⁹¹

Truth and Reconciliation. On May 5, 2017, the State of Finland and the Sami Parliament officially agreed to launch a truth and reconciliation process, which means they will begin to negotiate how to start the process and what the content and mandate of the commission will be, as well as how it will be funded.²⁹²

Database of Arctic Emissions. Finland chairs the Arctic Council's Expert Group on Black Carbon and Methane whose main goal is to create a database on the impact of black carbon emissions.²⁹³ Member and observer states will provide information for the database, which will include data regarding black carbon emissions from ships.²⁹⁴ The main sources of black carbon emissions, which are accelerating

289. *Id.*

290. FINLAND PRIME MINISTER'S OFFICE, FINLAND'S STRATEGY FOR THE ARCTIC REGION 2013 (2013), <http://vnk.fi/documents/10616/334509/Arktinen+strategia+2013+en.pdf/6b6fb723-40ec-4c17-b286-5b5910fbecf4> (last visited Feb. 12, 2018).

291. *Id.* at 17–19.

292. Yle Sapmi, *Truth and Reconciliation Commission may be launched in Finland already after summer*, BARENTS OBSERVER (May 11, 2017), https://thebarentsobserver.com/en/life-and-public/2017/05/truth-and-reconciliation-commission-may-be-launched-finland-already-after#.WRQfbIQO_uo.twitter.

293. *Finland to create a database of black carbon and methane emissions in the Arctic*, THE ARCTIC (June 20, 2017), <http://arctic.ru/climate/20170620/634838.html/>.

294. *Id.*

warming in the Arctic region, are vehicles and companies that use wood and coal, as well as forest fires, power stations and gas flares at oil fields.²⁹⁵

Satellite-based Positioning and Navigation in the Arctic. The Finnish Ministry of Transport and Communications and the Finnish Geospatial Research Institute launched the ARKKI project in October 2017.²⁹⁶ According to the project's website, the goals are to "identify the most significant challenges that are faced in navigation and geospatial information based applications in Arctic areas" and then develop an action plan that will recommend "pan-Arctic solutions" to the identified challenges.²⁹⁷

Iceland

Iceland Acceded to MARPOL Annex VI. On November 22, 2017, the Ambassador of Iceland to the UK met IMO Secretary-General Kitack Lim at IMO headquarters to deposit the instruments of accession.²⁹⁸

Iceland also hosted the fifth annual Arctic Circle conference October 13-15, 2017.²⁹⁹

Japan

The Arctic Council approved Japan's application for Permanent Observer status in May 2013.³⁰⁰ In 2014, Japanese shipping company Mitsui OSK Lines Ltd. announced plans to begin regular transport of liquefied natural gas through the

295. *Id.*

296. *Arctic Navigation Challenges*, ARKKI PROJECT, <https://arkki-project.org> (last visited Jan. 28, 2018).

297. *Id.*

298. *Iceland Accedes to Air Pollution Treaty*, WORLD MARITIME NEWS (Nov. 24, 2017), <https://worldmaritimeneews.com/archives/236032/iceland-accedes-to-air-pollution-treaty/>.

299. *2017 Arctic Circle Assembly*, ARCTIC CIRCLE, <http://www.arcticcircle.org/Media/060917-2017-arctic-circle-assembly-program.pdf> (last visited Feb. 12, 2018).

300. Steven Lee Myers, *Arctic Council Adds Six Nations as Observer States, Including China*, N.Y. TIMES (May 15, 2013), <http://www.nytimes.com/2013/05/16/world/europe/arctic-council-adds-six-members-including-china.html>.

Arctic Ocean in 2018.³⁰¹ The plan envisions construction of three ice-breaking tankers for year-round operations between the Yamal Peninsula and Europe, and summer operations to Northeast Asia.³⁰² Once operational, Mitsui expects to transport roughly 3 million tons of LNG along the route annually.³⁰³

Led by Prime Minister Shinzo Abe, Japan formally announced the release of its first white paper for Arctic development in October 2015 at the Japanese Headquarters for Ocean Policy.³⁰⁴ The policy seeks the country's active participation in the process of creating international rules in the Arctic region, as well as for investment in projects to develop oil, gas and other natural resources, consideration of an international resources management framework, and establishment of a sea route connecting Asia and Europe.³⁰⁵

The provisional English translation of the white paper discusses the rapidly changing environment and increasing interest in the Arctic, as well as Japan's need to address seven Arctic issues: global environment, Indigenous peoples, science and technology, ensuring the rule of law and promoting international cooperation, Arctic Sea route, natural resources development, and national security.³⁰⁶

The white paper goes on to explain Japan's history in the Arctic. Beginning in the 1950s, Japan carried out research in the Arctic, maintaining a high level of scientific interests in the changing environment. In 1991, Japan was the first non-Arctic state to station an observation base in the Arctic, as well as join the International Arctic Science Committee.³⁰⁷

Japan further discusses the importance of cooperating with Arctic Ocean coastal states to ensure the balance between the freedom and safety of navigation, while protecting and

301. *Mitsui O.S.K. to Pioneer Arctic Route for LNG*, JAPAN TIMES (July 9, 2014), <http://www.japantimes.co.jp/news/2014/07/09/business/corporate-business/mitsui-o-s-k-pioneer-arctic-route-lng/#.VTwZJiFViko>.

302. *Id.*

303. *Id.*

304. The Headquarters for Ocean Policy, *Japan's Arctic Policy (Provisional English Translation)*, Arctic Portal Library (Oct. 16, 2015, 10:13 AM), <http://library.arcticportal.org/1883/> [hereinafter *Japan's Arctic Policy*].

305. *Id.*

306. *Id.* at 3–6.

307. *Id.* at 1–2.

preserving the marine environment under the rule of international law in the Arctic. Japan plans to contribute its scientific and technological knowledge to further increase the activities of the Arctic Council, and actively engage in other international forums.³⁰⁸

Additionally, the white paper discusses the importance of national security and the risk of opening new shipping routes that may cause “friction among states.”³⁰⁹ Japan asserts the importance of preventing “moves to strengthen military presence in the [Arctic] region from leading to tension and confrontations.”³¹⁰ Despite this possible friction, Japan emphasizes the importance of promoting cooperation with the Arctic and other states.³¹¹

Norway

Oslo District Court dismisses Challenge to Norway’s Arctic Oil Program. On January 4, 2018, the Oslo District Court approved Norway’s plans for oil exploration in the Arctic, dismissing a lawsuit that claimed it violated the people’s constitutional right to a healthy environment.³¹² The government acted in accordance with the law when awarding new petroleum exploration licenses for the Barents Sea, the court ruling stated.³¹³ The case, brought by Greenpeace and Nature and Youth, argued that a 2015 oil licensing round in the Arctic violated Norway’s constitution.³¹⁴ The government’s lawyers argued that the case was a publicity stunt that would cost jobs if it was successful.³¹⁵ The court ordered the environmental groups to pay the state’s legal costs of around \$71,000.³¹⁶

308. *Id.* at 2.

309. *Id.* at 6.

310. *Id.*

311. *Id.*

312. Alister Doyle & Terje Solsvik, *UPDATE 3-Norway’s government wins Arctic oil lawsuit, greens lose*, REUTERS (Jan. 4, 2018), <https://uk.reuters.com/article/climatechange-norway/update-3-norways-government-wins-arctic-oil-lawsuit-greens-lose-idUKL8N1OZ36Z>.

313. *Id.*

314. *Id.*

315. *Id.*

316. *Id.*

Court Injunction on Arctic Drilling. In May 2017, the Stavanger court issued a temporary injunction prohibiting Statoil from using its Cap-X drilling technology after NeoDrill, a small Norwegian firm, said the technology was based on its patented Conductor Anchor Node (CAN) technology, which the firm has been developing since 2000.³¹⁷ Statoil has been a 30 percent stakeholder in NeoDrill since 2010, but had access to CAN since 2001, when the two companies first partnered together on a project.³¹⁸

Oil Exploration. Norway's Minister of Petroleum and Energy confirmed that the 24th License Round will include 102 new blocks, of which 93 will be in the Barents Sea.³¹⁹ Ten of the new blocks are located north of the 74th parallel, while another 12 blocks are located off the coast of East Finnmark, the Norwegian Arctic mainland.³²⁰ Oil companies will have to submit their bids for the blocks by late November 2017.³²¹

Funding to Research Arctic Rescue Operations. In 2017, Norway pledged \$962,000 to research how to conduct collaborative mass rescue operations in the North Atlantic as shipping continues to increase across the Arctic.³²² The three-year project (2018-2021) will employ fourteen researchers from six different countries, focusing on three main areas: 1) the capabilities of the ship-owners' organization, the vessel crew, and the vessel officer's competence; 2) the management capabilities of officers on Samaritan vessels and their potential role as co-coordinators; and 3) improvement of current government and industry preparedness through education,

317. Zainab Calcuttawala, *Court Injunction Forces Statoil to Stop Arctic Drilling*, OILPRICE.COM (May 29, 2017), <https://oilprice.com/Latest-Energy-News/World-News/Court-Injunction-Forces-Statoil-To-Stop-Arctic-Drilling.html>.

318. *Id.*

319. Atle Staalesen, *Norway offers oil companies 93 new blocks in Arctic waters*, BARENTS OBSERVER (June 21, 2017), <https://thebarentsobserver.com/en/industry-and-energy/2017/06/norway-offers-oil-companies-93-new-blocks-arctic-waters#.WUpkg5Qidd8.twitter>.

320. *Id.*

321. *Id.*

322. Tanya Blake, *Norway to research international Arctic rescue missions*, SAFETY AT SEA (June 15, 2017), <https://www.sasawards.com/single-post/2017/06/16/Norway-to-research-international-Arctic-rescue-missions>.

training, and exercises.³²³

Statoil Developments. In the summer of 2017 the Norwegian oil company Statoil discovered that the Kayak well in the Barents Sea holds between 25 million and 50 million barrels of oil, possibly connected to the development of the nearby Johan Castberg field.³²⁴ Norwegian state-owned carbon capture technology firm Gassnova also assigned Statoil the task of developing an offshore carbon storage facility, which could be the world's first storage site to receive carbon dioxide from several industrial sources.³²⁵

Tax Breaks for Arctic Oilfield Development. In September 2017, Norway's government announced its plan to have taxpayers rather than oil companies pay special U.N. fees for any offshore production from remote Arctic regions.³²⁶ Article 82 of UNCLOS directs developed nations to pay up to seven percent each year of the value of any production from their continental shelves more than 200 nautical miles offshore to a fund to help developing nations.³²⁷ The treaty leaves it up to governments to decide how to raise these special fees, with the option of passing on the costs to companies.³²⁸ The Oil and Energy Ministry flagged the Article 82 issue in the 2016 licensing round for parts of the Barents Sea, stating that the licensees could be required to cover the fees but that any such cost would be deductible in the calculation of the petroleum tax.³²⁹

Norwegian Coast Guard Arrests Greenpeace Ship. On

323. *Id.*

324. Atle Staalesen, *Statoil finds more Arctic oil*, BARENTS OBSERVER (July 3, 2017), <https://thebarentsobserver.com/en/industry-and-energy/2017/07/statoil-finds-more-arctic-oil#.WVpk0WrbrYJ.twitter>.

325. *Statoil to Develop Carbon Capture and Storage System Off Norway*, GCAPTAIN (June 30, 2017), <http://gcaptain.com/statoil-to-develop-carbon-capture-and-storage-system-offshore-norway/>.

326. Alister Doyle & Nerijus Adomaitis, *Exclusive: Norway plans tax breaks for remotest Arctic oilfields – letters*, REUTERS (Sept. 5, 2017), <https://www.reuters.com/article/us-energy-norway-exclusive/exclusive-norway-plans-tax-breaks-for-remotest-arctic-oilfields-letters-idUSKCN1BG2CE>.

327. *Id.*

328. *Id.*

329. *Id.*

August 17, 2017, the Norwegian Coast Guard removed Greenpeace protesters from the safety zone around Statoil's drilling operations in the Korpjell field, the country's northernmost exploration well in the Barents Sea.³³⁰ The protesters had entered the 500-meter exclusion zone around the *Songa Enabler* in kayaks and called on the Norwegian government to stop the drilling operation.³³¹ They also brought a giant globe containing written statements from people all over the world supporting their position.³³²

Norwegian Parliamentary Elections. The Conservatives, along with their coalition partner the Progress Party (FRP) and two other center-right allies, won 89 seats in the 169-seat Norwegian parliament in September 2017, re-electing Prime Minister Erna Solberg. Despite the election results, Arctic oil drilling remains a contentious issue in the Parliament as the Liberals continue to oppose the government's support of drilling in the Barents Sea.³³³ Borge Brende, resigned from his position as Norway's Foreign Minister after the election and moved to Geneva to serve as President of the World Economic Forum.³³⁴ Meanwhile, Aili Keskitalo was re-elected as President of the Sami Parliament.³³⁵

Norway's Oil Fund Reaches \$1 Trillion. In September 2017, the value of Norway's Government Pension Fund hit \$1 trillion for the first time.³³⁶ The Fund is based on revenue raised from the nation's oil industry and the government

330. *Norwegian Coast Guard Arrests Greenpeace Ship*, MARITIME EXECUTIVE (Aug. 17, 2017), <https://www.maritime-executive.com/article/norwegian-coast-guard-arrests-greenpeace-ship#gs.UQjHwZ8>.

331. *Id.*

332. *Id.*

333. Thomas Nilsen, *Solberg's right-wing coalition wins election*, BARENTS OBSERVER (Sept. 12, 2017), https://thebarentsobserver.com/en/life-and-public/2017/09/solbergs-right-wing-coalition-wins-election#.WblCuZ_q2Aw.twitter.

334. Atle Staalesen, *Borge Brende resigns as foreign minister*, BARENTS OBSERVER (Sept. 15, 2017), <https://thebarentsobserver.com/en/life-and-public/2017/09/borge-brende-resigns-foreign-minister#.WbvF5SpWrb8.twitter>.

335. Thomas Nilsen, *Aili Keskitalo new president of Sami Parliament*, BARENTS OBSERVER (Sept. 12, 2017), <https://thebarentsobserver.com/en/life-and-public/2017/09/aali-keskitalo-new-president-sami-parliament#.WblC2Jf8gCM.twitter>.

336. *Norway's Oil Fund Reaches \$1 Trillion*, MARITIME EXECUTIVE (Sept. 22, 2017), <https://maritime-executive.com/article/norways-oil-fund-reaches-1-trillion#gs.rcIymDs>.

intends that the savings will provide support to Norwegian citizens when the oil eventually runs out.³³⁷ Later in the year, Norges Bank recommended the removal of oil stocks from the fund's benchmark index to make the fund less vulnerable.³³⁸ Oil and gas equities currently account for around six percent of the Norwegian Government Pension Fund Global (often named the oil fund) benchmark index, including an investment in the Russian company Gazprom Neft, which operates the Prirazlomnoye field in the eastern Barents Sea.³³⁹ The Prirazlomnoye field is Russia's only offshore oil-field in the European part of the Arctic.³⁴⁰

Russia

Sixty percent of the Arctic falls within Russia's land and maritime borders. Russia continues its efforts to push out those limits. In April 2014 Russia filed an application with the Commission on the Limits of the Continental Shelf (CLCS) to establish its rights to an area in the Sea of Okhotsk, which was unanimously approved.³⁴¹ In October 2014, the Russian navy completed a cartographic survey of a newly discovered island that could add 1,165 square kilometers of territorial waters to Russian territory.³⁴²

Russia also continues its efforts to extend its continental shelf boundary to the North Pole. Noted Canadian Arctic scholar Michael Byer's assessment that "[e]ssentially, Russia's claim will stop at the North Pole, despite the fact that it might have been able to make a scientific case to seabed closer to Canada or to Greenland," was proven correct in August 2015, when Russia submitted its claims for additional territories in the Arctic including the Mendeleev and Lomonosov Ridges.³⁴³

337. *Id.*

338. Thomas Nilsen, *Norway's oil fund wants out of oil and gas investments*, BARENTS OBSERVER (Nov. 17, 2017), <https://thebarentsobserver.com/en/industry-and-energy/2017/11/norways-oil-fund-wants-out-oil-and-gas-investments#.Wg8ftKKp6G0.twitter>.

339. *Id.*

340. *Id.*

341. *Russia Files New Bid with UN for Expansion of Arctic Continental Shelf*, TASS (Aug. 4, 2015, 9:17 AM), <http://tass.ru/en/russia/812402>.

342. Mia Bennett, *Arctic Satellite Image of the Week: Russia Discovers a New Island in its Arctic*, CRYOPOLITICS (Nov. 16, 2014), <https://cryopolitics.com/2014/11/16/arctic-satellite-image-of-the-week-russia-discovers-a-new-island-in-its-arctic/>.

343. Atle Staalesen, *Russia Submits Claim for North Pole*, BARENTS OBSERVER (Aug.

The CLCS will eventually determine if Russia's submission is consistent with the LOS Convention. This submission, if approved, would expand Russia's Arctic territory by 1.2 million square kilometers.³⁴⁴

New Pipeline Connects Bovanenkovo Fields. In January 2017, Russia officially opened the Bovanenkovo-Ukhta 2 pipeline connecting the Bovanenkovo fields with the federal gas grid.³⁴⁵ According to the head of Gazprom, this new pipeline will increase the flow of gas from the Arctic peninsula up to 264 million cubic meters per day and the oil company plans to operate the pipeline through 2087.³⁴⁶

New Icebreaking Standby Vessel Named After Russian Polar Explorer. The naming ceremony for a new multifunctional icebreaking standby vessel (ISBV) took place on June 15, 2017.³⁴⁷ Stepan Makarov, named after a Russian admiral and polar explorer who played a prominent role in establishing the Russian icebreaker fleet, is registered under the Russian flag and will have St. Petersburg as her home port.³⁴⁸ The vessel is the first of three ISBVs commissioned for operations at the Sakhalin-2 project and her main tasks will be to ensure the safety of the personnel on the offshore oil and gas production platforms of Sakhalin Energy in the Sea of Okhotsk, to respond to emergency spills at sea, and to support the company's operations within its technical capabilities.³⁴⁹

Rosneft Finds First Oilfield Offshore in the Eastern Arctic. Rosneft, Russia's largest oil producer, has been working in the Laptev Sea since 2014 and made its first oilfield

4, 2015), <http://barentsobserver.com/en/arctic/2015/08/russia-submits-claim-north-pole-04-08>.

344. *Id.*

345. Atle Staalesen, *More Arctic gas for Europe as Russia opens new pipeline*, BARENTS OBSERVER (Jan. 18, 2017), <https://thebarentsobserver.com/en/industry-and-energy/2017/01/more-arctic-gas-europe-russia-opens-new-pipeline#.WH9pd6MA1kc.twitter>.

346. *Id.*

347. *New standby vessel for Sakhalin-2 named Stepan Makarov*, PORTNEWS (June 15, 2017), <http://portnews.ru/news/240698/>.

348. *Id.*

349. *Id.*

discovery in the area in 2017.³⁵⁰ Currently, there is only one offshore platform in the Russian Arctic, Prirazlomnoye, operated by Gazprom Neft, which expected to produce 2.6 million tons (52,000 barrels per day) in 2017.³⁵¹ Rosneft and its partners plan to invest 480 billion rubles (\$8.4 billion) to develop Russia's offshore energy industry in the next five years and is seeking collaboration with several global oil producers.³⁵² The Arctic offshore area is expected to account for between 20 and 30 percent of Russian production, one of the world's largest, by 2050.³⁵³

Plans to Build Islands for Natural Gas Industry.

Prime Minister Dmitry Medvedev signed an agreement on June 17, 2017 to build artificial islands in Kola Bay of the Barents Sea at an estimated cost of \$420 million by 2020.³⁵⁴ Although meant to serve the natural gas industry, authorities did not explain why the selected site for the islands and LNG facilities is so far away from the feedstock gas deposit.³⁵⁵ The announcement drew concern from environmental groups worried about how this construction will impact the surrounding ecosystem.³⁵⁶

Creation of Northern Sea Route Agency. On June 30, 2017 the Minister for the Development of the Russian Far East announced that Russia will be establishing a specialized organization for the development of the Northern Sea Route, but the Minister did not provide a timeline for when the agency would be created or where it would be located.³⁵⁷ The Minister indicated that one of the main goals will be to increase the number of vessels utilizing the Northern Sea

350. *Russia's Rosneft finds first oilfield offshore eastern Arctic*, HELLENIC SHIPPING NEWS (June 19, 2017), <http://www.hellenicshippingnews.com/russias-rosneft-finds-first-oilfield-offshore-eastern-arctic/>.

351. *Id.*

352. *Id.*

353. *Id.*

354. *Russia to build controversial artificial islands in arctic for gas industry*, ASIA TIMES (June 22, 2017), <http://www.atimes.com/article/russia-build-controversial-artificial-islands-arctic-gas-industry/>.

355. *Id.*

356. *Id.*

357. *Russia to create Northern Sea Route agency*, THE ARCTIC (June 30, 2017), <http://arctic.ru/infrastructure/20170630/642831.html>.

Route, allowing ship owners from China to contribute proposals regarding services and infrastructure along the route.³⁵⁸

Cuts in Arctic Spending. The revised funding scheme for Russia's new Arctic program, which will cover the period up to year 2020, is seventeen times lower than the original sum of 209 billion rubles (\$3.66 billion).³⁵⁹ One major investment in the scaled-back program will be funding to build an ice-class drifting platform for Arctic research.³⁶⁰ The Russian government intends that the platform will be used by the State Hydrometeorology Service for Arctic studies and ice measurements.³⁶¹ The platform itself will cost about seven billion rubles, which will consume more than half of the budget for that program.³⁶² Another billion rubles will reportedly be spent on regional anti-terrorist measures managed by the Russian National Guard.³⁶³

Dismissal of Hague Ruling on Arctic Sunrise Dispute. In July 2017, Russia formally dismissed a ruling from the Permanent Court of Arbitration in The Hague that the country must pay the Netherlands 5.4 million euros (\$6.25 million) for the 2013 seizure of Greenpeace's *Arctic Sunrise* ship.³⁶⁴ Russian security forces seized the ship in September 2013 and detained those on board after a protest at an offshore oil rig owned by Gazprom in the Pechora Sea. Artyom Kozhin, Deputy Director of the Information and Press Department in Russia's Ministry of Foreign Affairs, explained that "Russia did not take part in the proceedings because it took the view and still does that the Arbitration Court does not have

358. *Id.*

359. Atle Staalesen, *Russia makes new big cuts in Arctic spending*, BARENTS OBSERVER (July 5, 2017), <https://thebarentsobserver.com/en/arctic/2017/07/russia-makes-new-big-cuts-arctic-spending#.WVyh4mvdoBc.twitter>.

360. *Id.*

361. *Id.*

362. *Id.*

363. *Id.*

364. *Russia says Greenpeace boat seizure ruling encourages illegal action*, REUTERS (July 20, 2017), <https://www.reuters.com/article/us-netherlands-russia-arbitration-foreig/russia-says-greenpeace-boat-seizure-ruling-encourages-illegal-action-idUSKBN1A525Z>.

jurisdiction in this case.”³⁶⁵ Russia also disagreed with the court’s approach and findings, with Kozhin stating that the verdict “encourages unlawful actions” in the waters of other countries that are “justified as so-called ‘peaceful’ protest.”³⁶⁶

Northern Fleet Practices Maneuvers in Kara Sea. For the sixth year in a row, the Russian Navy flexed its muscles along the Northern Sea Route. A convoy with four warships and three support vessels anchored outside Russia’s Arctic outpost Dikson on August 15, 2017.³⁶⁷ Navy spokesperson, Captain Vadim Serga, explained that the vessels were practicing joint maneuvers in the Kara Sea and would then head up the Yenisey River to the port of Dudinka.³⁶⁸

Russian Nuclear-Powered Icebreaker Sets Arctic Speed Record. The nuclear-powered icebreaker known as *50 Years of Victory* set a speed record along the northern sea route, covering the distance from Murmansk to the North Pole in 79 hours, which was twice as fast as the first surface vessel (*Arktika*) to reach the North Pole in 1977.³⁶⁹

Transitioning Arctic Ships from Diesel to Gas Fuel. In an effort to reduce pollution of the northern seas, Russia’s Natural Resources Ministry made plans to start transitioning ships used in the Arctic region from diesel fuel to gas fuel in 2017.³⁷⁰ Natural Resources Minister Sergey Donskoy emphasized the importance of building a “so-called green fleet” and collaborating on such a project with the Arctic Council.³⁷¹

Launching of 22220-Series Nuclear Icebreaker “Sibir”.

365. *Id.*.

366. *Id.*.

367. Thomas Nilsen, *Warships of Russia’s Northern Fleet sail to Arctic waters*, BARENTS OBSERVER (Aug. 15, 2017), <https://thebarentsobserver.com/en/security/2017/08/warships-russias-northern-fleet-sail-arctic-waters>.

368. *Id.*.

369. *Russian nuclear-powered icebreaker sets Arctic speed record*, TASS (Aug. 17, 2017), <http://tass.com/science/960761>.

370. *Russia plans transition of Arctic ships from diesel to gas fuel*, TASS (Aug. 25, 2017), <http://tass.com/economy/962085>.

371. *Id.*.

On September 22, 2017, a Baltic shipyard in St. Petersburg ceremoniously floated out *Sibir*, the second of Russia's new Project 22220 nuclear powered icebreakers for year-around navigation in Arctic waters.³⁷² The first of the class, *Arktika*, was put on the water in 2016 and will be commissioned in mid-2019. *Sibir* will follow a year later and is expected to make her first port-call to Murmansk in November 2020.³⁷³

Building LNG Transshipment Terminal for Arctic Traffic. Russia's Novatek signed an agreement with the Kamchatka Territorial Government to build an LNG sea terminal facility for reloading LNG from Arctic ice-class tankers to conventional LNG tankers.³⁷⁴ The terminal is anticipated to have a capacity of 20 million tons per annum (MTPA) and will be completed by 2023.³⁷⁵ The company said it would optimize the logistics of LNG supplies from the Arctic region, stimulate use of the Northern Sea Route, and create a new LNG supply hub for Asian-Pacific regional consumers.³⁷⁶

Russian War Games Across the Arctic. On October 26, 2017, Russia shot four ballistic missiles across the Arctic hemisphere in one of the largest nuclear missile drills in post-Soviet history.³⁷⁷ The Defense Ministry released a video of the exercise, showing the launch from Plesetsk, strategic bombers taking off from airfields, and the submarine launched ballistic missiles.³⁷⁸

Draft Law for Development of Russian Arctic Zone. In 2017, the Russian Ministry of Economic Development

372. Thomas Nilsen, *Nuclear icebreaker "Sibir" floated out*, BARENTS OBSERVER (Sept. 22, 2017), <https://thebarentsobserver.com/en/arctic/2017/09/nuclear-icebreaker-sibir-floated-out>.

373. *Id.*

374. *Russia to Build LNG Transshipment Terminal for Arctic Traffic*, MARITIME EXECUTIVE (Oct. 26, 2017), <https://maritime-executive.com/article/russia-to-build-lng-transshipment-terminal-for-arctic-traffic#gs.9H1W1as>.

375. *Id.*

376. *Id.*

377. Thomas Nilsen, *Russia plays massive nuclear war games across the Arctic*, BARENTS OBSERVER (Oct. 26, 2017), <https://thebarentsobserver.com/en/security/2017/10/russia-launched-massive-nuclear-missiles-drill-across-arctic#.WfMPeYaWJ78.twitter>.

378. *Id.*

published a draft law with the purpose “to create conditions for complex socio-economic development of the Russian Arctic zone through establishing core development zones for exploring mineral and raw material resource centers in the Arctic, attracting investments plus developing the Northern Sea Route and making them functional.”³⁷⁹ One of the key provisions reflects the mutual responsibilities of the state and investors.³⁸⁰ The state must create the infrastructure, provide all the necessary benefits and preferences plus special modes of business activities, while investors must invest in state-sponsored projects and implement them.³⁸¹ The draft law also establishes a support fund in the Arctic to finance the investment projects in core development zones specified under the law.³⁸²

Legislation Nationalizes Arctic Petroleum Shipments.

At a meeting on November 16, 2017, President Putin told key ministers and business leaders that he wanted Russian-flagged ships to have the exclusive right to move oil and gas across the Northern Sea Route.³⁸³ Putin reportedly stated, “this step will allow us to boost the volumes of marine shipments, it will strengthen the position of national shipping companies and create additional opportunities for renewal of the fleet.”³⁸⁴

On December 20, 2017, Russian legislators adopted amendments to the federal shipping code implementing these changes, which would go into force on February 1, 2018.³⁸⁵ In addition to oil products and liquefied natural gas, the legislation also includes coal.³⁸⁶ The key Arctic ports of

379. *Ministry of Economic Development drafts Arctic zone development project*, THE ARCTIC (Nov. 10, 2017), <http://arctic.ru/infrastructure/20171110/686564.html>.

380. *Id.*

381. *Id.*

382. *Id.*

383. Atle Staalesen, *Putin nationalizes Arctic petroleum shipments*, BARENTS OBSERVER (Nov. 17, 2017), <https://thebarentsobserver.com/en/industry-and-energy/2017/11/putin-nationalizes-arctic-petroleum-shipments#.Wg8S4ron4d8.twitter>.

384. *Id.*

385. Atle Staalesen, *Russian legislators ban foreign shipments of oil, natural gas and coal along Northern Sea Route*, BARENTS OBSERVER (Dec. 26, 2017), <https://thebarentsobserver.com/en/arctic/2017/12/russian-legislators-ban-foreign-shipments-oil-natural-gas-and-coal-along-northern-sea#.WkLn3uJAwgo.twitter>.

386. *Id.*

Murmansk and Arkhangelsk are outside the geographic scope of the new rules.³⁸⁷ The law also provides an important loophole, stating that companies that entered into contract agreements for use of foreign-flag vessels before February 1, 2018 may continue operations.³⁸⁸ This exception is of critical importance to Novatek, one of the largest stakeholders in the Russian Arctic.³⁸⁹ In 2017, a fleet of fifteen new ice-class LNG carriers were being built for the company's Yamal LNG project, all carrying foreign flags.³⁹⁰

For a report on the Northern Sea Route see Section V.A.

The Russian military posture is examined in Section V.H.

Scotland

Scotland will be developing a new strategy to highlight the country's role in addressing issues that affect the Arctic Circle.³⁹¹ At the Arctic Circle Forum, External Affairs Secretary Fiona Hyslop stated, "Scotland is the closest neighbour to the Arctic States and we have many shared interests and challenges, from renewable energy and climate change targets to social policies and improving connectivity."³⁹² She went on to say that there is "growing global interest in Arctic issues and our new strategy will highlight Scotland's role in both contributing to the flourishing of Arctic regions and benefiting from the exciting opportunities which are opening up now and in the future."³⁹³

South Korea

The Arctic Council admitted The Republic of Korea, along with Japan and Singapore, as a Permanent Observer in May 2013. Two months later, Korea announced the Pan Government Arctic Development Plan, setting up comprehensive plans regarding sea routes, energy, and resource development in the Arctic.³⁹⁴ Korea hopes to become

387. *Id.*

388. *Id.*

389. *Id.*

390. *Id.*

391. *Scotland to have strategy for role in Arctic Circle issue*, ABERDEEN JOURNALS LTD. (Nov. 22, 2017), https://www.eveningexpress.co.uk/news/scotland/scotland-to-have-strategy-for-role-in-arctic-circle-issues/?utm_source=twitter.

392. *Id.*

393. *Id.*

394. Yoon Sojung, *Korea Announces Comprehensive Arctic Policies*, KOREA.NET (July 30, 2013), <http://www.korea.net/NewsFocus/policies/view?articleId=110561>.

Northeast Asia's oil hub as Arctic shipping increases.³⁹⁵

South Korea has a long record of scientific undertakings in the Arctic. The Korean icebreaker Araon generally conducts Arctic scientific research missions each year from July to October.³⁹⁶

South Korea has proposed utilizing the Arctic's Northern Sea Route to strengthen its connections in the Polar region, and the country's Minister of Foreign Affairs, Yun Byung-se, stated in July of 2015 that South Korea is committed "to contributing to the science of climate change, as well as to broader research on the polar regions."³⁹⁷

South Korea's Daewoo Shipbuilding and Marine Engineering is at work building a planned fleet of 15 Arctic-capable LNG carriers to service the Yamal LNG project in the Russian Arctic.³⁹⁸ The 300 meter vessels will reportedly be capable of operating in second year ice up to 2.5 meters thick.³⁹⁹

In an early November 2015 summit in Seoul, South Korea and Iceland agreed to cooperate on developing the Northern Sea Route to connect Asia and Europe. The NSR would allow ships to reach Rotterdam in the Netherlands from South Korea in thirty days, cutting travel time by ten days and travel distance by close to ten thousand miles.⁴⁰⁰

In 2016, a South Korean icebreaker found new gas hydrate reserves in the East Siberian Sea, which could improve the country's self-sufficiency in natural gas.⁴⁰¹

395. *Id.*.

396. *Id.*.

397. Martin Kossa, *South Korea's Positioning in the Arctic*, WORLD POLICY BLOG (Sept. 30, 2015, 9:00 AM), <http://www.worldpolicy.org/blog/2015/09/30/south-korea%E2%80%99s-positioning-arctic>.

398. Eugene Gerden, *Russian Shipping Companies Seek Larger International Share*, PACIFIC MARITIME MAGAZINE (Dec. 1, 2015), <http://www.pacmar.com/story/2015/12/01/features/russian-shipping-companies-seek-larger-international-share/394.html>.

399. Karen Thomas, *Bureau Veritas Will Class DSME-Built Yamal LNG Carriers*, LNG WORLD SHIPPING (Oct. 24, 2015), http://www.lngworldshipping.com/news/view,bureau-veritas-will-class-dsmebuilt-yamal-lng-carriers_40695.htm.

400. Hege Eilertsen, *Iceland and South Korea Join Forces to Develop Northern Sea Route*, HIGH NORTH NEWS (Nov. 11, 2015), <http://www.highnorthnews.com/iceland-and-south-korea-join-forces-to-develop-northern-sea-route/>.

401. *S. Korean icebreaker finds gas hydrates in Arctic sea*, THE KOREA HERALD (Sept. 12, 2016), <http://www.koreaherald.com/view.php?ud=20160912001066>.

Expansion of Economic Cooperation Between South Korea and Russia. In his address to the third Eastern Economic Forum (EEF) in Vladivostok, Russia in September 2017, Korean President Moon Jae-in proposed expanding economic cooperation between South Korea and Russia in a wide range of areas including energy, infrastructure, and agriculture.⁴⁰² The President also proposed building a Northeast Asia super grid to enhance region-wide energy cooperation, which would help meet growing power demands and lay the foundation for an envisioned economic community and multilateral security system.⁴⁰³

South Korea and Russia held their first Arctic Consultation in Seoul on November 29, 2017.⁴⁰⁴ The meeting was headed by South Korean Ambassador for Arctic Affairs Kim Young-jun and his Russian counterpart Ambassador Vladimir Barbin.⁴⁰⁵ The representatives discussed joint efforts in exploring shipping routes across the Arctic and shipbuilding.⁴⁰⁶ The next meeting will be held in Russia in 2018.⁴⁰⁷

South Korea Completes First Northern Sea Route Voyage. Hyundai Glovis, a South Korean shipping liner, completed the country's first voyage between Asia and Europe by the Arctic Sea when it arrived at Sapo Quay of Gwangyang Port in the South Jeolla Province of South Korea on October 21, 2017 after a 35-day journey along the Northern Sea Route. The vessel transported 44,000 tons of naphtha (a flammable oil) from Port Ust Luga in Russia. South Korea's Ministry of Oceans and Fisheries held a ceremony at Gwangyang Port on October 22nd.

Sweden

Sweden, a full member of the Arctic Council, was chair of

402. *Moon proposes expanding economic cooperation with Russia, building Northeast Asian energy links*, The Korea Herald (Sept. 7, 2017), <http://www.koreaherald.com/view.php?ud=20170907000694>.

403. *Id.*

404. *S. Korea, Russia agree to cooperate in exploring Arctic sea routes*, YONHAP NEWS AGENCY (Nov. 29, 2017), http://m.yna.co.kr/mob2/en/contents_en.jsp?cid=AEN20171129012200315&site=0300000000&mobile.

405. *Id.*

406. *Id.*

407. *Id.*

the Council from 2011 to 2013. The nation is home to 20,000 of the 70,000 Sami peoples.⁴⁰⁸

Sweden issued its Strategy for the Arctic Region in 2011.⁴⁰⁹ The strategy is based on the process of far-reaching change in the Arctic region.⁴¹⁰ Climate change is creating new challenges, but also new opportunities. Sweden promotes economically, socially and environmentally sustainable development throughout the Arctic region. Sweden also works to ensure that the Arctic remains a region where security policy tensions are low, and for these objectives sees a need of a strengthened Arctic Council.

NATO Cooperation. In May 2016, Sweden ratified an agreement that will allow NATO to operate more easily on Swedish territory during training activities and in the event of a possible conflict.⁴¹¹ Polls indicate that more Swedes are now in favor of joining NATO than against it, but Russia has strongly warned Sweden not to do so.⁴¹²

The European Union

The European Union's application for Arctic Council permanent observer status remains under consideration. 2014 reports suggested that the Council withheld approval pending resolution of a dispute with Canada over an EU seal products ban (see the section on the World Trade Organization below).⁴¹³ The EU and Canada reached a seal agreement in October 2014, but Leona Aglukkaq (the former Canadian Arctic Council Chair) maintained that the two issues are not

408. *Sweden*, ARCTIC COUNCIL, <http://www.arctic-council.org/index.php/en/about-us/member-states/sweden> (last updated Sept. 10, 2015).

409. GOVERNMENT OFFICES OF SWEDEN, SWEDEN'S STRATEGY FOR THE ARCTIC REGION (2011), <http://www.openaid.se/wp-content/uploads/2014/04/Swedens-Strategy-for-the-Arctic-Region.pdf> (last visited Feb. 12, 2018).

410. *Id.* at 4.

411. Charles Duxbury, *Sweden Ratifies NATO Cooperation Agreement*, WALL STREET JOURNAL (May 25, 2016), <https://www.wsj.com/articles/sweden-ratifies-nato-cooperation-agreement-1464195502>.

412. Radio Sweden, *More Swedes are for joining NATO than against*, BARENTS OBSERVER (May 10, 2016), <https://thebarentsobserver.com/en/security/2016/05/more-swedes-are-joining-nato-against#.Vz2-DH0wDmc.twitter>.

413. *See, e.g.*, Chris Plecash, *Seal Deal Clears Way for EU Observer Status at Arctic Council*, EMBASSY, Oct. 22, 2014, at 4, [http://static.ow.ly/docs/102214_em%20\(2\)_2DrL.pdf](http://static.ow.ly/docs/102214_em%20(2)_2DrL.pdf).

related.⁴¹⁴ In May 2015, the Arctic Council postponed the EU's application for observer status for another two years. The Council explained that it needed to review observer issues before issuing its decision.

On March 16, 2017, the European Parliament issued a resolution on an integrated EU policy for the Arctic.⁴¹⁵ The resolution reiterated the call on the EU and its member-states to actively uphold the principles of freedom of navigation and innocent passage.⁴¹⁶ It calls for the European Commission to support initiatives to ban the use of bottom trawling in Ecologically or Biologically Significant Marine Areas (EBSAs) and on the Arctic high seas.⁴¹⁷ It reiterates its 2014 call for a ban on the carriage or use of heavy fuel oil on vessels in the Arctic region.⁴¹⁸ The Parliament encouraged member-states to discourage exploitation and use of fossil fuels (¶ 13), but, to the disappointment of some, it stopped short of calling for a ban on offshore oil and gas activities in the region, a measure strongly opposed by the government of Norway. The non-binding motion calling for the European Commission and member-states to work with international forums towards “a future total ban on the extraction of Arctic oil and gas” was rejected by a vote of 414-180, but the Commission endorsed a ban on oil drilling in the region’s “icy” waters. . .⁴¹⁹

EU Arctic Policy. In April 2016, the European Commission presented its new, integrated policy on the Arctic that promotes sustainable use of resources in the Arctic and encourages international cooperation and engagement with Indigenous peoples.⁴²⁰ The policy outlines three priority areas:

414. *Id.* .

415. EUROPEAN PARLIAMENT, AN INTEGRATED EUROPEAN UNION POLICY FOR THE ARCTIC (2017), <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P8-TA-2017-0093&language=EN&ring=A8-2017-0032> (last visited Feb. 12, 2018).

416. *Id.* . at ¶ 33.

417. *Id.* . at ¶ 53.

418. *Id.* . at ¶ 58.

419. Waverly Colville, *EU lawmakers reject call for ban on Arctic oil exploration*, REUTERS (Mar. 16, 2017), <https://www.reuters.com/article/us-parliament-arctic-vote/eu-lawmakers-reject-call-for-ban-on-arctic-oil-exploration-idUSKBN16N1WQ>.

420. EUROPEAN COMMISSION, AN INTEGRATED EUROPEAN UNION POLICY FOR THE ARCTIC (2016), http://eeas.europa.eu/archives/docs/arctic_region/docs/160427_joint-communication-an-integrated-european-union-policy-for-the-arctic_en.pdf (last visited

1) Climate Change and Safeguarding the Arctic Environment; 2) Sustainable Development in and Around the Arctic; and 3) International Cooperation on Arctic Issues.⁴²¹ Federica Mogherini, High Representative of the Union for Foreign Affairs and Security Policy/Vice-President of the European Commission, said:

A safe, sustainable and prosperous Arctic not only serves the four million people living there, our European Union and the rest of the world. It is a region of immense environmental, social, and economic importance to us all. The steps taken today underline our commitment to the region, its States and its peoples, and to ensuring that the region remains an example of constructive international cooperation. Because the Arctic is also crucial in terms of regional and global security, and a strategic component of our foreign policy.⁴²²

EU Research Project on Improving Arctic Safety. In June 2017, EU's Horizon 2020 program launched a new three-year research project to address safety and efficiency in Arctic ship operations.⁴²³ The project, SEDNA, ("Safe maritime operations under extreme conditions: the Arctic case") will develop an innovative and integrated risk-based approach to safe Arctic navigation, ship design, and operation.⁴²⁴ The project is led by BMT Group (U.K.) and brings together thirteen partners from six different countries, including China.⁴²⁵

United Kingdom

In a national referendum held on June 23, 2016, UK voters voted to leave the European Union.⁴²⁶ Prime Minister David Cameron tendered his resignation and Theresa May was elected to replace him, and to negotiate the terms of the

Feb. 12, 2018).

421. *Id.* .

422. *E.U. Presents New Arctic Policy*, MARITIME EXECUTIVE (Apr. 27, 2016), <http://www.maritime-executive.com/article/eu-presents-new-arctic-policy>.

423. *New E.U. Research Aims to Improve Arctic Safety*, MARITIME EXECUTIVE (Aug. 14, 2017), <https://www.maritime-executive.com/article/new-eu-research-aims-to-improve-arctic-safety#gs.XWEwk9w>.

424. *Id.*.

425. *Id.* .

426. Alex Hunt & Brian Wheeler, *Brexit: All You Need to Know About the UK Leaving the EU*, BBC NEWS (Mar. 30, 2017), <http://www.bbc.com/news/uk-politics-32810887>.

withdrawal.⁴²⁷ Negotiations on the terms of the exit continued throughout 2017.

The UK government continues to operate under its 2013 Arctic Policy, *Adapting to Change*. The government's icebreaker RRS *Ernest Shackleton* resumed its support of the British Antarctic Survey after having been chartered in the summer of 2016 to escort the cruise ship *Crystal Serenity* through the Northwest Passage. The *Shackleton* (and the RRS *James Clark Ross*) are to be replaced by the RRS *Sir David Attenborough* when the latter is completed in 2019.

IV. INTERNATIONAL ORGANIZATIONS

United Nations

Recognizing the need for an ongoing periodic review of law of the sea issues, in 1999 the U.N. General Assembly established the Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (ICP). The U.N. Division for Ocean Affairs and the Law of the Sea (DOALOS) plays a key facilitation role in the annual ICP process. DOALOS is also responsible for preparing the U.N. Secretary-General's annual report on ocean affairs and the law of the sea.⁴²⁸ The annual Secretary General's reports, the ICP reports, and the U.N. General Assembly resolutions on law of the sea matters document the practice of states and international organizations and collect relevant research and analysis.

On June 19, 2015, the U.N. General Assembly passed Resolution 69/292, calling for development of an international binding instrument under UNCLOS on the conservation and sustainable use of biological diversity in areas beyond national jurisdiction (ABND).⁴²⁹ As with past proposals, it would provide for sharing the benefits of marine genetic resources.⁴³⁰

The fourth Session of the Preparatory Committee Established by the UN General Assembly Resolution 69/292 met at UN Headquarters from July 10-21, 2017. On December 24, 2017, the General Assembly adopted a resolution

427. *Id.* .

428. *See, e.g.*, U.N. Secretary-General, *Annual Report on Oceans and the Law of the Sea*, U.N. Doc. A/69/71/Add.1 (Sept. 1, 2014), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N14/523/40/PDF/N1452340.pdf?OpenElement>.

429. G.A. Res. A/RES/69/292 (June 19, 2015).

430. *...Id.* at ¶ 2.

(A/RES/72/249) to formally convene negotiations for an international treaty to protect the marine environments of the high seas.⁴³¹

COP22. Representatives from almost 200 countries gathered in Marrakesh, Morocco for COP22 in November 2016. Negotiators at the annual climate change conference worked on the implementation plan for the Paris Agreement and published the “Marrakech Action Proclamation for Our Climate and Sustainable Development,” which generally reaffirms commitments and goals from the Paris Agreement.⁴³² The proclamation also calls on non-state actors to mobilize and join in “immediate and ambitious” action, building off the Marrakech Partnership for Global Climate Action. During the meeting, participating countries approved a five-year work plan on “loss and damage,” which launched in 2017.⁴³³ The work plan calls on countries to start formally addressing topics such as slow-onset impacts of climate change, non-economic losses (such as loss of culture or identity), and migration.⁴³⁴ The Government of Fiji served as President for the sessions in 2017.

Arctic Council

In 1996, representatives of Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden, and the U.S. met in Ottawa to form the Arctic Council.⁴³⁵ In addition to the eight circumpolar member-states and six Indigenous community-permanent participants, there are twelve permanent observer states: China, France, Germany, India, Italy, Japan, South Korea, Netherlands, Poland, Singapore, Spain, and the United

431. *The UN Starts a Conservation Treaty for the High Seas*, HIGH SEAS ALLIANCE (Dec. 24, 2017), <http://highseasalliance.org/content/un-starts-conservation-treaty-high-seas>.

432. *Marrakech Action Proclamation for Our Climate and Sustainable Development*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (Nov. 2016), http://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/marrakech_action_proclamation.pdf.

433. U.N. Framework Convention on Climate Change, (Nov. 14, 2016), FCCC/SB/2016/L.8.

434. U.N. Framework Convention on Climate Change, (Oct. 14, 2016), FCCC/SB/2016/3.

435. *See Declaration on the Establishment of the Arctic Council*, Sept. 19, 1996, 35 I.L.M. 1387 [hereinafter Ottawa Declaration].

Kingdom.⁴³⁶ Although not a legally binding treaty, the Ottawa Declaration serves as the council's charter.⁴³⁷ Under the declaration, the council chair rotates among the eight member-states, with each of the eight taking two-year terms. Current and upcoming chairmanships are as follows:

2015-2017: United States

2017-2019: Finland

2019-2021: Iceland

United States Chair Term Concluded and Finland Resumed Chairmanship

At the 10th Arctic Council Ministerial meeting in Fairbanks, Alaska, Ministers of the eight Arctic States and leaders from the six indigenous Permanent Participant organizations of the Arctic Council met to mark the passing of the Chairmanship from the U.S. to Finland. Outgoing U.S. Chair, Rex Tillerson, passed the ceremonial "gavel" to the incoming Finnish chair Timo Soini.

The representatives of the Arctic Council signed the Fairbanks Declaration on May 11, 2017 during the 10th Ministerial.⁴³⁸ The Declaration includes three thematic areas: 1) Arctic Ocean Safety, Security and Stewardship, 2) Improving Economic and Living Conditions, and 3) Addressing the Impacts of Climate Change.⁴³⁹ Some notable decisions contained in the Declaration include the decision to assess the scope of the problem of increasing accumulation of marine debris and to establish a Task Force on Improved Connectivity in the Arctic to compare the needs of those who live, operate, and work in the Arctic with available infrastructure.⁴⁴⁰ The Declaration also announces the Agreement on Enhancing International Arctic Scientific Cooperation discussed below.

The second Senior Arctic Officials meeting of 2017 took place

436. *Observers*, ARCTIC COUNCIL, <http://www.arctic-council.org/index.php/en/about-us/arctic-council/observers> (last updated May 18, 2017).

437. *Frequently Asked Questions*, ARCTIC COUNCIL, <http://www.arctic-council.org/index.php/en/about-us/arctic-council/faq> (last updated Nov. 4, 2016).

438. Arctic Council, Fairbanks Declaration, (May 11, 2017), https://oaarchive.arctic-council.org/bitstream/handle/11374/1910/EDOCS-4339-v1-ACMMUS10_FAIRBANKS_2017_Fairbanks_Declaration_Brochure_Version_w_Layout.PDF?sequence=8&isAllowed=y.

439. *Id.*.

440. *Id.* .

in Oulu, Finland from October 25-26.⁴⁴¹ Nina Buvang Vaaja was announced as the new director of the Arctic Council Secretariat at the beginning of the meeting and the ensuing discussions addressed overarching issues and the Council's strategic focus for Finland's chairmanship over the next two years.⁴⁴² Representatives gave progress reports on a number of projects such as work by ACAP, AMAP, EPPR, PAME, and the Expert Group on Black Carbon and Methane that addresses pollution prevention, education-related work ongoing in SDWG and CAFF, plans for an Arctic Resilience Forum to take place in September 2018 in Rovaniemi, Finland, and the ratification of the 2017 scientific cooperation agreement.⁴⁴³ The next Senior Arctic Officials' meeting was set to take place in Kittilä, Finland in March 2018.⁴⁴⁴

Finland's Chairmanship Program

Finland released a document outlining the country's priorities for its 2017-2019 chairmanship.⁴⁴⁵ The four areas of focus are 1) environmental protection, 2) connectivity, 3) meteorological cooperation, and 4) education.⁴⁴⁶ In terms of environmental protection, Finland hopes that the Arctic Council will further support biodiversity conservation and pollution prevention as well as mitigation and adaptation to climate change.⁴⁴⁷ Finland will seek to intensify the exchange of information on best practices and emerging technologies in order to promote sustainable development.⁴⁴⁸ In order to improve connectivity in the Arctic, Finland would like to introduce communications technologies including satellite connections, mobile communications systems, low-bandwidth

441. *Arctic Council meets in Finland, addresses pollution prevention and education*, ARCTIC COUNCIL (Oct. 26, 2017), <https://www.arctic-council.org/index.php/en/our-work/2/8-news-and-events/475-sao-oulu-2017-02>.

442. *Id.* .

443. *Id.* .

444. *Id.* .

445. *Finland's Chairmanship Program for the Arctic Council 2017-2019*, MINISTRY FOR FOREIGN AFFAIRS OF FINLAND (2017), <http://formin.finland.fi/public/default.aspx?nodeid=50020&contentlan=2&culture=en-US> (last visited Feb. 12, 2018).

446. *Id.* .

447. *Id.* .

448. *Id.* .

transmission, and sea cables.⁴⁴⁹ The incoming chair sees meteorological cooperation as critical to improving public safety, benefiting international shipping and air traffic, and enhancing Arctic climate science, and will work with the World Meteorological Organization (a new observer in the Arctic Council) to deepen meteorological and oceanographic cooperation.⁴⁵⁰ Finally, Finland will push the Arctic Council to work towards the digitalization of education in the Arctic and to strengthen the network of education specialists, in cooperation with the University of the Arctic.⁴⁵¹

New Observers. Seven new observers joined the Arctic Council during the ministerial meeting in Fairbanks.⁴⁵² Switzerland was the only new country to be admitted and touted its track record of working with Arctic nations on environmental issues such as climate change, ozone depletion, and persistent organic pollutants.⁴⁵³ Switzerland's mountains and glaciers also give Swiss scientists experience working in terrain similar to the Arctic.⁴⁵⁴ The other new observers include the World Meteorological Organization (which recently launched its Year of Polar Prediction), the International Council for the Exploration of the Sea, Oceana (an ocean conservation group working with an Inuit organization in Alaska to map sensitive marine areas), the Oslo-Paris Commission, the National Geographic Society, and the West Nordic Council.⁴⁵⁵ The West Nordic Council was founded in 1985 and includes representatives of the parliaments of Iceland, Greenland, and the Faroe Islands that focus their work on a range of areas that includes Arctic affairs specifically.⁴⁵⁶ The main objectives are to promote the common

449. *Id.* .

450. *Id.* .

451. *Id.* .

452. John Thompson, *Introducing the New Arctic Council Observers*, ARCTIC DEEPLY (May 17, 2017), <https://www.newsdeeply.com/arctic/articles/2017/05/17/introducing-the-new-arctic-council-observers>.

453. *Id.* .

454. *Id.* .

455. *Id.* .

456. *New Observer: West Nordic Council*, ARCTIC COUNCIL (Sept. 11, 2017), <http://arctic-council.org/index.php/en/our-work2/8-news-and-events/470-observer-west-nordic-council>.

interests of the West Nordics, preserve the natural resources and culture of the North Atlantic, and strengthen cooperation between the West Nordic governments.⁴⁵⁷

Arctic Council Working Group Activities

ACAP: Arctic Contaminants Action Program. Nothing new to report.

AMAP: The Arctic Council's Arctic Monitoring and Assessment Program (AMAP) published its first assessment dealing with adaptation in the Arctic titled "Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area."⁴⁵⁸ The assessment indicates that adaptation and mitigation processes must proceed in parallel, as adaptation has limits, and mitigation efforts will lead to more successful adaptation by limiting the change to which ecosystems and human systems must adapt.⁴⁵⁹ The report highlights the region's policy commitment to the 17 sustainable development goals and identifies adaptation actions and ways to meet possible Arctic future scenarios in light of climate change.⁴⁶⁰

AMAP also issued a report titled "Snow, Water, Ice and Permafrost in the Arctic (SWIPA) 2017," which presents the findings of the fourth AMAP assessment addressing Arctic climate issues.⁴⁶¹ The report addresses the changing interactions between the cryosphere and the hydrosphere, the Arctic's role in the global climate system, and challenges and opportunities in the Arctic, including risks and hazards to Arctic communities and impacts on wildlife and ecosystems.⁴⁶² The report concludes that the Arctic continues to warm at twice the pace of mid-latitudes and is likely to see warming of up to five degrees Celsius as early as 2040.⁴⁶³ The report recommends limiting future change, adapting to near-term

457. *Id.* .

458. *Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area*, AMAP (2017), <https://www.amap.no/documents/doc/Adaptation-Actions-for-a-Changing-Arctic-Perspectives-from-the-Barents-Area/1604> (last visited Feb. 12, 2018).

459. *Id.* .

460. *Id.* .

461. *Snow, Water, Ice and Permafrost in the Arctic*, AMAP (2017), <https://www.amap.no/documents/doc/Snow-Water-Ice-and-Permafrost-in-the-Arctic-SWIPA-2017/1610> (last visited Feb. 12, 2018).

462. *Id.* .

463. *Id.* .

impacts, supporting the advancement of understanding, and raising public awareness of the implications of changes in the Arctic cryosphere.⁴⁶⁴

EPPR: Chairmanship of the Emergency Prevention, Preparedness and Response (EPPR) Working Group passed to Jens Peter Holst-Andersen of Denmark in 2017. EPPR met in Vologda, Russia June 28-29, 2017.

PAME: The Protection of the Arctic Marine Environment (PAME) working group published a report on the status of implementation of the Arctic Marine Strategic Plan which is in place from 2015-2025.⁴⁶⁵ The report outlines progress made from 2015-2017 in achieving four primary goals: 1) Improve knowledge of the Arctic marine environment and continue to monitor and assess current and future impacts on Arctic marine ecosystems; 2) Conserve and protect ecosystem function and marine biodiversity to enhance resilience and the provision of ecosystem services; 3) Promote safe and sustainable use of the marine environment, taking into account cumulative environmental impacts; and 4) Enhance the economic, social and cultural well-being of Arctic inhabitants, including Arctic indigenous peoples and strengthen their capacity to adapt to changes in the Arctic marine environment.⁴⁶⁶

One significant accomplishment during the U.S. chairmanship of the Arctic Council was the launch of the “Arctic Shipping Best Practices International Forum.”⁴⁶⁷ The Arctic Council’s Protection of the Marine Environment (PAME) Working Group approved the Forum’s Terms of Reference at their February 2017 meeting. The forum’s web portal will reportedly be launched in February 2018.

The Arctic Yearbook 2017 examines “Change and Innovation in the Arctic: Policy, Society, and Environment.”⁴⁶⁸

464. *Id.* .

465. *Arctic Marine Strategic Plan: Status of Implementation 2015-2017*, PAME (2017), https://pame.is/images/02_Document_Library/Reports_to_Ministers/17_AC_meeting/1st_Report_on_progressimplementation_of_the_2015-2025_Arctic_Marine_Strategic_Plan_AMSP.pdf (last visited Feb. 12, 2018).

466. *Id.* .

467. *The Arctic Shipping Best Practice Information Forum*, PAME, <https://pame.is/index.php/projects/arctic-marine-shipping/the-arctic-shipping-best-practices-information-forum> (last visited Jan. 29, 2018).

468. *Arctic Yearbook 2017: “Change & Innovation in the Arctic: Policy, Society &*

For further information, please refer to the Arctic Council web site.⁴⁶⁹

International Maritime Organization (IMO)

In 2015, the IMO Assembly unanimously endorsed the appointment of Mr. Kitack Lim from the Republic of Korea as Secretary-General of the IMO effective January 1, 2016, for a term of four years.

The IMO Assembly met for its 30th session at IMO Headquarters in London from November 27-December 6, 2017.⁴⁷⁰ The Assembly was reportedly the largest gathering at the headquarters in history, with 1,400 participants.⁴⁷¹ The Assembly adopted its strategic plan for 2018-2023, including a revised mission statement, a vision statement, and seven newly-identified strategic directions for the organization.⁴⁷² The identified strategic directions centered around improved implementation of regulations, advancing new technologies, responding to climate change, engaging in ocean governance, enhancing global facilitation and security of international trade, and ensuring regulatory and organizational effectiveness generally.⁴⁷³

The adopted budget for facilitating the achievement of these goals was a \$43,217,143 assessment on Member States for the upcoming year.⁴⁷⁴

IMO and Climate Change. During its 70th session meeting in London, the IMO Marine Environment Protection Committee (MEPC) set January 1, 2020 as the implementation date for a global sulphur cap of 0.50% m/m (mass/mass).⁴⁷⁵

Environment, UARCTIC (2017), <https://www.arcticyearbook.com/toc2017> (last visited Feb. 12, 2018).

469. ARCTIC COUNCIL, <http://www.arctic-council.org/index.php/en/> (last visited Jan. 29, 2018).

470. *IMO Assembly adopts vision and strategic directions*, INTERNATIONAL MARITIME ORGANIZATION (Nov. 12, 2017), <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/37-A30.aspx>.

471. *Id.* .

472. *Id.* .

473. *Id.* .

474. *Id.* .

475. *IMO sets 2020 date for ships to comply with low sulphur fuel oil requirement*, INTERNATIONAL MARITIME ORGANIZATION (Oct. 28, 2016), <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/MEPC-70->

According to IMO Secretary-General Kitack Lim, “The reductions in sulphur oxide emissions resulting from the lower global sulphur cap are expected to have a significant beneficial impact on the environment and on human health, particularly that of people living in port cities and coastal communities, beyond the existing emission control area.”⁴⁷⁶

The Marine Environment Protection Committee (MEPC) had its 71st session July 3-7, 2017.⁴⁷⁷ The MEPC clarified the ballast water management schedule, discussed GHG and air pollution issues, adopted new NOx emission control areas, designated an additional Particularly Sensitive Sea Area, and agreed to work on implementation of the 0.50 percent global sulphur limit.⁴⁷⁸ The Committee agreed on an implementation schedule for ships to comply with the IMO Ballast Water Management (BWM) Convention, which aims to stem the transfer of potentially invasive species in ships’ ballast water.⁴⁷⁹ The treaty entered into force on September 8, 2017.⁴⁸⁰

The BWM Convention has been ratified by 67 countries, representing 74.91 percent of world merchant shipping tonnage and requires that all “new” vessels built after September 8, 2017 must meet strict “D2” discharge standards, presumably by installing a compliant ballast water management system.⁴⁸¹ Until September 8, 2024, existing vessels generally have the option of either meeting the new D2 standards, or engage in the D1 standard by exchanging their ballast water at sea. Compliance with the BWM Convention will now be included in Port State Control (PSC). PSC Inspectors will check that the vessel has a valid International

2020sulphur.aspx?platform=hootsuite.

476. *Id.* .

477. *International Maritime Organization moves ahead with oceans and climate change agenda*, INTERNATIONAL MARITIME ORGANIZATION (Nov. 7, 2017), <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/17-MEPC-71.aspx>.

478. *Id.* .

479. *International Convention for the Control and Management of Ships’ Ballast and Water and Sediments (BWM)*, INTERNATIONAL MARITIME ORGANIZATION, [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships’-Ballast-Water-and-Sediments-\(BWM\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships’-Ballast-Water-and-Sediments-(BWM).aspx) (last visited Jan. 29, 2018).

480. *Id.* .

481. Aleksandr Pipchenko, *Ballast water management convention—what’s new?*, BONMARINE (Nov. 8, 2017), <http://bonmarine.net/blog/Ballast-water-management-convention—what’s-new?>.

BWM compliance certificate from its flag state and that the vessel is maintaining the required Ballast Water Record Book.

Moving Toward a Global Climate Agreement. In 2017, the IMO took another step toward drafting a global climate agreement for shipping as member states participated in a week of negotiations.⁴⁸² Final negotiations were set to take place in April 2018, at which time an initial strategy should be adopted. Director General Andreas Nordseth from the Danish Maritime Authority reportedly said:

It is decisive that we achieve global solutions to the climate challenge. That will require debate on a wide range of issues some of which are quite challenging, but which the 172 IMO member States must reach an agreement on. As expected, this week's negotiations have indeed been difficult, and will continue to be so during the final phase in April next year. On the other hand, it is very positive to see many member States as well as both industry and NGO's pushing for a high level of ambition. Now, we need to keep the intense efforts up in order to achieve an ambitious strategy which will demonstrate the continued determination of the IMO to reducing greenhouse gas emissions.⁴⁸³

The IMO has also stepped up its efforts on reducing Air Pollution and Greenhouse Gas Emissions from vessels and increasing their Energy Efficiency.⁴⁸⁴ Vessel air emissions are regulated under MARPOL Annex VI, which aims for a progressive reduction globally in emissions of SO_x, NO_x and particulate matter and the introduction of emission control areas (ECAs) to reduce emissions of those air pollutants further in designated sea areas.⁴⁸⁵ Under revised MARPOL Annex VI, the global sulphur cap will be reduced from the current level of 3.50 percent to 0.50 percent, effective from January 1, 2020(the limits applicable in ECAs for SO_x and

482. Aiswarya Laskhimi, *IMO Moving Towards Global Climate Agreement*, MARINELINK (Oct. 27, 2017), <https://www.marinelink.com/news/agreement-towards-climate430740>.

483. *Id.* .

484. *Air Pollution, Energy Efficiency and Greenhouse Gas Emissions*, INTERNATIONAL MARITIME ORGANIZATION, <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Default.aspx> (last visited Jan. 29, 2018).

485. *Id.* .

particulate matter were reduced to 0.10 percent, from January 1, 2015).⁴⁸⁶

Polar Code Update. In May 2017 the IMO released an eleven-minute film explaining the significance of the Polar Code and its impact on shipping.⁴⁸⁷ In order to make the film, an IMO team took a voyage to Antarctica on the cruise ship *Ocean Diamond* to get a sense of what the code means for ships in practice. The Polar Code went into effect on January 1, 2017. For a detailed analysis of the Code, see the ALPI Year in Review for 2014.

In 2014, the International Maritime Organization's Maritime Safety Committee (MSC) adopted the SOLAS "Safety" measures forming Part I of the mandatory International Code for Ships Operating in Polar Waters (the "Polar Code").⁴⁸⁸ In May 2015, the IMO's Marine Environment Protection Committee (MEPC) adopted the pollution prevention measures forming Part II of the Polar Code.⁴⁸⁹ At its June 2015 meeting, the MSC approved, for later adoption, amendments to the STCW Convention and Code that will implement training requirements for vessel officers and crew members to obtain a certificate of proficiency for service in waters covered by the Polar Code.⁴⁹⁰

According to the IMO, this collection of safety and environmental rules covers "the full range of shipping-related matters relevant to navigation in waters surrounding the two poles—ship design, construction and equipment; operational and training concerns; search and rescue; and, equally important, the protection of the unique environment and ecosystems of the polar regions."⁴⁹¹

486. *Id.* .

487. *IMO Film: The Polar Code Explained*, GCAPTAIN (May 16, 2017), <http://gcaptain.com/imo-film-polar-code-explained/#.WRtBvVjbQE.twitter>.

488. International Maritime Organization Res. MSC.385(94) (Nov. 21, 2014).

489. *Draft Polar Code Approved by IMO's Marine Environment Protection Committee*, MAR. CYPRUS (Oct. 23, 2014), <https://maritimecyprus.com/2014/10/23/draft-polar-code-approved-by-imos-marine-environment-protection-committee/>.

490. *Maritime Safety Committee (MSC), 95th Session, 3–12 June 2015*, INT'L MAR. ORG. (June 12, 2015), <http://www.imo.org/en/mediacentre/meetingsummaries/msc/pages/msc-95th-session.aspx>.

491. *Adoption of an International Code of Safety for Ships Operating in Polar Waters (Polar Code)*, INT'L MAR. ORG.,

In 2016, DNV GL issued guidance on how to comply with the Code and noted that the safety part of the Polar Code applies to ships certified under SOLAS, i.e. cargo ships of 500 GT or more and to all passenger ships.⁴⁹² Clean Ship Scandinavia prepared advice on the pollution prevention requirements of the Polar Code and Lloyd's Register offered compliance support and an interactive guidance tool.⁴⁹³

Autonomous Ships on Agenda at IMO. According to the Norwegian Maritime Authority, it came as a surprise to many that the proposal to put the autonomous ships initiative on the IMO's agenda in 2016 did not face any opposition.⁴⁹⁴ Norway has already started trials of autonomous ships through its approval of a test area in the Trondheim fjord and the establishment of the Norwegian Forum for Autonomous Ships (NFAS).

2017 witnessed several new developments in unmanned vessels. At its 98th meeting, the IMO's Maritime Safety Committee agreed to a proposal put forward by Denmark, Estonia, Finland, Norway, The Netherlands, South Korea, the UK, and the US to conduct a regulatory scoping exercise for the advent of "maritime autonomous surface ships." In another development, in September, 2017, Finland's Wärtsilä Corporation demonstrated the feasibility of remote control of a vessel when it "operated" the *Highland Chieftan*, an 80-meter offshore vessel located off the coast of Scotland, from the Wärtsilä office in San Diego, California, some 8000 kilometers away.⁴⁹⁵ Elsewhere, Norway dedicated the 128 kilometer long Trondheimsfjord to serve as a testbed for autonomous ship

<http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx> (last visited Mar. 26, 2017).

492. *The IMO Polar Code in force, beginning 1 January 2017: How to comply*, DNV GL (Dec. 21, 2016), <https://www.dnvgl.com/news/the-imo-polar-code-in-force-beginning-1-january-2017-how-to-comply-83230>.

493. *Polar Code*, LLOYD'S REGISTER, <http://www.lr.org/en/marine/operation/standards-schemes-codes-and-directives/polar-code/> (last visited Feb. 4, 2017).

494. *IMO puts autonomous ships on MSC 99 agenda*, SAFETY4SEA (June 15, 2017), <https://www.safety4sea.com/imo-puts-autonomous-ships-on-msc-99-agenda/>.

495. *Wärtsilä Successfully Tests Remote Control Ship Operating Ability*, GLOBE NEWSWIRE (Sept. 1, 2017), <http://inpublic.globenewswire.com/2017/09/01/W%C3%A4rtsil%C3%A4+successfully+tests+remote+control+ship+operating+capability+HUG2130882.html>.

testing.⁴⁹⁶ Norway's Kongsberg Group and Yara International have also partnered to build and equip the *Yara Birkeland*, a fully electric and autonomous, 120 meter, 3,200 ton container ship, scheduled for delivery in 2018.⁴⁹⁷

Arctic Oil Spill Response Guide. The IMO and the Arctic Council working group for Emergency Prevention, Preparedness and Response (EPPR) commissioned the Arctic Oil Spill Response Guide and the IMO will issue a supplement that includes the Antarctic and other subarctic areas affected by ice.⁴⁹⁸ The objective of the Arctic version of the guide is to identify and describe those aspects of planning and operations that are directly associated with a response to an Arctic oil spill in ice and snow conditions.⁴⁹⁹

Mandatory Data Collection System. In October 2016, the IMO's Marine Environment Protection Committee (MEPC) adopted a requirement that ships of 5,000 gross tonnage and above will have to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for transport work.⁵⁰⁰ These ships account for approximately 85% of CO₂ emissions from international shipping. The data collected will provide a critical foundation for the IMO to develop additional measures in this area.⁵⁰¹ The MEPC also approved a roadmap (2017 through 2023) for

496. *World's First Official Test Bed for Autonomous Shipping Opens in Norway*, KONGSBERG MARITIME (Oct. 4, 2016), <https://www.km.kongsberg.com/ks/web/nokbg0238.nsf/AllWeb/166309633F206651C125804200250951?OpenDocument>.

497. *Autonomous ship project, key facts about YARA Birkeland*, KONGSBERG MARITIME, <https://www.km.kongsberg.com/ks/web/nokbg0240.nsf/AllWeb/4B8113B707A50A4FC125811D00407045?OpenDocument> (last visited Jan. 30, 2018).

498. *IMO Publishes Guide to Spill Response in Ice*, OFFSHORE SUPPORT J. (June 7, 2016), http://www.osjonline.com/news/view,imo-publishes-guide-to-spill-response-in-ice_43225.htm; ARCTIC COUNCIL, *GUIDE TO OIL SPILL RESPONSE IN SNOW AND ICE CONDITIONS IN THE ARCTIC* (2015), https://oaarchive.arctic-council.org/bitstream/handle/11374/403/ACMMCA09_Iqaluit_2015_EPPR_Guide_to_Oil_Spill_Response_Report.pdf?sequence=1&isAllowed=y.

499. *Id.* .

500. *New requirements for international shipping as UN body continues to address greenhouse gas emissions*, INTERNATIONAL MARITIME ORGANIZATION (Oct. 10, 2016), <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/28-MEPC-data-collection-.aspx#.WBiSe5GVRwg.twitter>.

501. *Id.*

developing a “Comprehensive IMO strategy on reduction of GHG emissions from ships.”⁵⁰² The roadmap indicates that an initial greenhouse gas strategy will be adopted in 2018.⁵⁰³

Food & Agriculture Organization Committee on Fisheries

The Food and Agriculture Organization and its Committee on Fisheries (COFI) “is the only global inter-governmental forum where major international fisheries and aquaculture problems and issues are examined,” and where recommendations are developed for governments, regional fishery bodies, NGOs, and fish workers.⁵⁰⁴ COFI’s 31st Session (a biennial event) in June 2014 did not directly address the Arctic, nor did the 32nd Session held in 2016 in Rome.⁵⁰⁵

Although it was not negotiated under the auspices of the FAO, the five states bordering the Arctic Ocean (Canada, Denmark/Greenland, Norway, Russia and the United States) signed a declaration in Oslo on July 16, 2015, agreeing to ban commercial fishing by their vessels in the high seas waters of the Central Arctic Ocean until more scientific research can be done on how warming seas and melting ice are affecting fish stocks.⁵⁰⁶ The declaration is examined in Part II above.

International Whaling Commission (IWC)

The International Whaling Commission (IWC) was established by the 1946 International Convention for the Regulation of Whaling (ICRW).⁵⁰⁷ The convention’s purpose is to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry.⁵⁰⁸ The IWC headquarters is in Impington, near

502. *Id.*.

503. *Id.*.

504. INT’L COLLECTIVE IN SUPPORT OF FISHWORKERS, SAMUDRA REPORT, NO. 53 52 (2009), http://www.icsf.net/images/samudra/pdf/english/issue_53/3346_art_roundup.pdf (last visited Feb. 12, 2018).

505. See *FAO Fisheries and Aquaculture Report*, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (2016), <http://www.fao.org/3/a-i6882e.pdf> (last visited Feb. 12, 2018).

506. *Arctic Fisheries*, U.S. DEP’T OF STATE, <https://www.state.gov/e/oes/ocns/fish/regionalorganizations/arctic/index.htm> (last visited Mar. 26, 2017).

507. International Convention for the Regulation of Whaling, (Dec. 2, 1946), 62 Stat. 1716, 161 U.N.T.S. 72.

508. *Id.* at 3.

Cambridge, England.⁵⁰⁹

The Commission member-states met for IWC66 in Portoroz, Slovenia from October 20-28, 2016, where it adopted seven resolutions, including one on Cetaceans and Ecosystem Services.⁵¹⁰

In 1982 the IWC member-states adopted a moratorium on commercial whaling, which entered into force in 1986.⁵¹¹ Japan, Norway, Peru, and the Soviet Union lodged formal objections (and were therefore not bound by the moratorium under the ICRW). Japan and Peru later withdrew their objections.⁵¹² In 1994, the IWC established the Southern Ocean Whale Sanctuary in the Antarctic.⁵¹³

Iceland, which did not lodge an objection to the 1982 moratorium, withdrew from the IWC in 1992; however, it then re-adhered to the 1946 ICRW in 2002.⁵¹⁴ Its 2002 instrument of adherence included a reservation to the commercial whaling moratorium.⁵¹⁵ The reservation was not acceptable to all IWC member governments.⁵¹⁶ However, in 2002, a majority of the ICRW parties voted to accept Iceland back as an IWC member.⁵¹⁷ In 2013, taking advantage of its reservation to the moratorium, Iceland resumed whaling.⁵¹⁸

509. *Contacting the IWC Secretariat*, INT'L WHALING COMM'N, <https://iwc.int/contact> (last visited May 3, 2017).

510. INT'L WHALING COMM'N, SUMMARY OF MAIN OUTCOMES, DECISIONS AND REQUIRED ACTIONS FROM THE 66TH ANNUAL MEETING 1 (2016), https://iwc.int/private/downloads/StI1_9iNdpWlnmS7jUUtXg/RS6360_66_Main_OutcomesV2.pdf (last visited Feb. 12, 2018).

511. *Commercial Whaling*, INT'L WHALING COMM'N, <https://iwc.int/commercial> (last visited Mar. 24, 2017).

512. INT'L WHALING COMM'N, INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING, 1946: SCHEDULE 5 (2014), <https://archive.iwc.int/pages/download.php?ref=3606&size=&ext=pdf&k=&alternative=2187&usage=-1&usagecomment=> (last visited Feb. 12, 2018) [hereinafter INT'L WHALING COMM'N, CONVENTION SCHEDULE].

513. Lokal Profil, *Southern Ocean Whale Sanctuary*, ANTARCTIC & S. OCEAN COAL., <http://www.asoc.org/advocacy/antarctic-wildlife-conservation/southern-ocean-whale-sanctuary> (last visited Mar. 24, 2017).

514. *Iceland*, INT'L WHALING COMM'N, <https://iwc.int/iceland> (last visited Mar. 24, 2017).

515. *Id.*

516. *Id.*

517. *Id.*

518. See John Vidal, *Iceland Resumes Fin Whale Hunting After Two-year Break*, GUARDIAN (June 19, 2013), <http://www.theguardian.com/environment/2013/jun/19/iceland-fin-whale-hunting->

The IWC allows non-zero whaling quotas for aboriginal subsistence.⁵¹⁹ In 2012, the commission voted 48-10 to uphold new catch limits for Arctic subsistence whaling communities, which were set to expire in 2012.⁵²⁰ The vote came on a joint request from the U.S. and Russia to set catch limits for aboriginal subsistence whaling on bowhead whales. The commission adopted catch limits for 2013 through 2018 that allow Alaskan and Chukotka native whalers to land up to 336 whales to meet their subsistence needs.⁵²¹ The U.S. and Russia allocate the available strikes between Alaska Eskimos and Chukotka natives under a bilateral agreement.⁵²²

Under the ICRW, member states may issue “scientific permits” to their citizens.⁵²³ Japan has issued such “scientific whaling” permits since 1986.⁵²⁴ In a challenge by Australia and New Zealand, the International Court of Justice held on March 31, 2014, that Japan’s whaling activities in the Southern Ocean did not fall within the ICRW’s article on scientific whaling and were therefore not exempt from the global moratorium on commercial whaling. Whaling in the Antarctic (*Australia v. Japan*).⁵²⁵ However, after modifying its program, Japan resumed “scientific whaling” in the Southern Ocean in 2015.

Japan harvested 177 whales (43 minke whales and 134 sei whales) as part of its “research” whaling in offshore waters in the northwest Pacific in fiscal 2017.⁵²⁶ Between November

greenpeace.

519. *Catch Limits & Catches Taken*, INT’L WHALING COMM’N, <https://iwc.int/catches#aborig> (last visited Mar. 24, 2017).

520. Press Release, Alaska Eskimo Whaling Comm. & N. Slope Borough Office of the Mayor, Int’l Whaling Comm’n 64th Annual Meeting (July 3, 2012), <http://www.north-slope.org/assets/images/uploads/Press%20Release%20-%20AEWC%20%20NSB%20-%20IWC64.pdf>.

521. *Id.*

522. *Id.*

523. *See Special Permit Whaling*, INT’L WHALING COMM’N, <https://iwc.int/permits> (last visited Mar. 24, 2017).

524. *See Catches Taken: Special Permit*, INT’L WHALING COMM’N, https://iwc.int/table_permit (last visited Mar. 24, 2017).

525. *Whaling in the Antarctic (Austl. v. Japan: N. Z. intervening)*, Judgment, 2014 I.C.J. 148, (Mar. 31, 2014), <http://www.icj-cij.org/docket/files/148/18136.pdf>.

526. *Japan’s fiscal 2017 ‘research whaling’ nets 177 whales in northwest Pacific*, JAPAN TIMES (Sept. 26, 2017), <https://www.japantimes.co.jp/news/2017/09/26/national/japans-fiscal-2017-research-whaling-nets-177-whales-northwest-pacific/#.WnFlpq2ZMfF>.

2016 and March 2017, Japan whaling vessels also harvested 333 minke whales in the Southern Ocean (matching their 2015-2016 harvest).⁵²⁷ After a long campaign to thwart Japanese whaling activities in the Southern Ocean by direct action, the Sea Shepherd Society announced in August 2017 that they were abandoning the effort.⁵²⁸

North Atlantic Marine Mammal Commission (NAMMCO)

The North Atlantic Marine Mammal Commission is self-described as an international body for cooperation on the conservation, management, and study of marine mammals in the North Atlantic.⁵²⁹ The NAMMCO Agreement was signed on April 9, 1992 by Norway, Iceland, Greenland and the Faroe Islands, and entered into force on July 8, 1992.⁵³⁰ Its headquarters is in Tromsø, Norway. Norway has been whaling commercially since 1994, consistent with its “objection” to the IWC moratorium.⁵³¹

The 25th meeting of the NAMMCO Council took place in Nuuk, Greenland from April 5-6, 2017 under the chairmanship of Iceland.⁵³² The Parties confirmed their commitment to enhance their cooperation regarding marine mammal research, conservation, and management and the improvement of hunting methods.⁵³³ They agreed on a common declaration reaffirming their will in ensuring the sustainable and

527. *Japan kills more than 300 whales in annual Antarctic hunt*, THE GUARDIAN (Mar. 31, 2017), <https://www.theguardian.com/environment/2017/mar/31/japan-kills-whales-annual-antarctic-hunt>.

528. James Griffiths, *Sea Shepherd to suspend pursuit of Japanese whalers*, CNN (Aug. 29, 2017), <http://www.cnn.com/2017/08/29/asia/japan-whaling-sea-shepherd/index.html>.

529. N. ATLANTIC MARINE MAMMAL COMM'N, <http://www.nammco.no/> (last visited Mar. 26, 2017).

530. David D. Caron, *The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures*, 89 AM. J. INT'L L. 154, 163 (1995).

531. *Whaling in Norway*, WHALE & DOLPHIN CONSERVATION, <http://us.whales.org/issues/whaling-in-norway> (last visited Mar. 26, 2017)..

532. *Annotated Agenda: Twenty Fifth Meeting of the Council*, NORTH ATLANTIC MARINE MAMMAL COMMISSION (2017), http://nammco.wpengine.com/wp-content/uploads/2017/03/02-nammco-25_annotated-agenda.pdf (last visited Feb. 12, 2018).

533. David D. Caron, *The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures*, 89 AM. J. INT'L L. 154 (1995)..

responsible use of marine mammals.⁵³⁴ The NAMMCO Scientific Committee meeting was held in Reykjavik, Iceland from November 14-17, 2017.

Commission on Limits of the Continental Shelf (CLCS)

On September 29, 2017, the chairman of the Commission on the Limits of the Continental Shelf issued a comprehensive statement (CLCS/100) on the work of the Commission and its subcommissions during the forty-fourth session.⁵³⁵

No Arctic state submitted an ECS claim to the CLCS in 2017. Of the three ECS recommendations adopted by the CLCS in 2017 none involved an Arctic claim. The above referenced chairman's statement does, however, provide an overview of the progress made in the examination of the submissions made by the Russian Federation in respect of the Arctic Ocean (partial revised submission).

Background and Legal Basis. A widely-circulated Foreign Policy article titled *Frozen Assets* by James Bamford provides a very readable introduction to the extended continental shelf claims process.⁵³⁶

Under the 1982 U.N. Convention on the Law of the Sea (UNCLOS), all coastal states have sovereign rights in the natural resources of their continental shelf.⁵³⁷ A coastal state's continental shelf extends at least 200 nm seaward from the baseline.⁵³⁸ A complex formula in Article 76 of UNCLOS provides a basis for some "geographically advantaged" states to assert claims to an "extended" continental shelf beyond 200 nautical miles, if, among other things, certain geologic features

534. Nuuk Declaration, North Atlantic Marine Mammal Commission (2017), https://nammco.no/wp-content/uploads/2017/08/nuuk-declaration_nammco-25_april-2017.pdf (last visited Feb. 12, 2018).

535. Press Release, Commission on Limits of Continental Shelf Concludes Forty-Fourth Session at Headquarters, 24 July-8 September, United Nations (Sept. 11, 2017), <https://www.un.org/press/en/2017/sea20106.doc.htm>.

536. James Bamford, *Frozen Assets*, FOREIGN POL'Y (May 11, 2015), <http://foreignpolicy.com/2015/05/11/frozen-assets-arctic-espionage-spying-new-cold-war-russia-canada/>.

537. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397

538. *Id.* at art. 76.

are proven continental extensions.⁵³⁹

Article 76 and Annex II of UNCLOS call for a Commission on the Limits of the Continental Shelf (CLCS).⁵⁴⁰ Its function is to make recommendations to coastal states on matters related to the establishment of the outer limits of their continental shelf.⁵⁴¹ CLCS recommendations are not binding on states.⁵⁴² However, outer limits on the shelf established by a coastal state on the basis of CLCS recommendations are final and binding.⁵⁴³ According to Michael Byers, author of *International Law and the Arctic*, “The commission does not adjudicate overlapping claims. These must be resolved through negotiation or recourse to an international court.”⁵⁴⁴

Canadian Claims. On December 6, 2013, after 10 years of surveys and research at a cost of some \$200 million, Canada submitted to the CLCS information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured in the Atlantic Ocean.⁵⁴⁵ Canada notified the Commission that this was a partial submission, and that it intended to submit information on the limits of the continental shelf beyond 200 nautical miles in the Arctic Ocean at a later date.⁵⁴⁶

In August 2014, Canada launched the first of its additional surveys to complete its Arctic submission. A second was conducted in 2015. The Harper administration had earlier hinted at a North Pole claim, based on a connection between the Lomonosov Ridge and Ellesmere Island.⁵⁴⁷ It is not clear

539. *Id.*

540. *Id.* at art. 76(8), Annex II.

541. *Id.*

542. *Id.*

543. *Id.*

544. Michael Byers, *The North Pole is a Distraction*, GLOBE & MAIL (Aug. 20, 2014), <http://www.theglobeandmail.com/opinion/the-north-pole-is-a-distraction/article20126915/>.

545. U.N. Convention on the Law of the Sea, Receipt of the Submission Made by Can. to the Comm'n on the Limits of the Cont'l Shelf, U.N. Doc. CLCS.70.2013.LOS (Dec. 9, 2013), http://www.un.org/depts/los/clcs_new/submissions_files/can70_13/clcs70_2013.pdf.

546. *Second Formative Evaluation*, GLOBAL AFFAIRS CAN., http://www.international.gc.ca/departement-ministere/evaluation/2011/ccesp_ppcec11.aspx?lang=eng (last updated July 22, 2014).

547. News Release, Global Affairs Canada, Harper Government Launches First of

whether the Trudeau government will pursue such a claim.

Denmark Claims. On November 26, 2013, Denmark submitted to the CLCS information on the limits of the continental shelf in respect to the North-Eastern Continental Shelf of Greenland.⁵⁴⁸ On December 15, 2014, Denmark submitted to the CLCS information on the limits of the continental shelf beyond 200 nautical miles in respect of the Northern Continental Shelf of Greenland.⁵⁴⁹

Denmark claims the Lomonosov Ridge is an extension of Greenland.⁵⁵⁰ Its submission encompasses the North Pole, extends to the outer boundary of Russia's EEZ (200 nm from the baseline), overlaps the claimed continental shelf of Norway and Russia, and is expected to overlap with Canada's continental shelf.⁵⁵¹

Russian Claims. In response to an August 2015 re-submitted extended continental shelf (ECS) claim by Russia and a similar claim in December 2014 by Denmark (and an expected submission by Canada), the Commission on the Limits of the Continental Shelf will play the key role in determining whether any state's continental shelf claims extend to the seabed under the North Pole.⁵⁵² At issue is the geologic origin of an undersea mountain range, the Lomonosov Ridge.

Two Scientific Surveys to Complete Canada's Arctic Continental Shelf Submission (Aug. 8, 2014), <http://news.gc.ca/web/article-en.do?nid=874469>.

548. U.N. Convention on the Law of the Sea, Receipt of the Submission Made by the Kingdom of Den. to the Comm'n on the Limits of the Cont'l Shelf, U.N. Doc. CLCS.68.2013.LOS (Dec. 6, 2013), http://www.un.org/depts/los/clcs_new/submissions_files/dnk68_13/clcs68_2013.pdf.

549. U.N. Convention on the Law of the Sea, Receipt of the Submission Made by the Kingdom of Den. to the Comm'n on the Limits of the Cont'l Shelf, U.N. Doc. CLCS.76.2014.LOS (Dec. 15, 2014), http://www.un.org/depts/los/clcs_new/submissions_files/dnk76_14/dnk4_clcs76_2014_e_n_fr.pdf.

550. *Denmark Challenges Russia and Canada Over North Pole*, BBC NEWS (Dec. 15, 2014), <http://www.bbc.com/news/world-europe-30481309>.

551. *Id.*

552. U.N. Deputy Spokesman for the Secretary-General, Daily Press Briefing by the Office of the Spokesperson for the Secretary General (Aug. 4, 2015), <http://www.un.org/press/en/2015/db150804.doc.htm>. See also Asaf Shalev, *Russia Just Claimed a Broad Swath of the Arctic Shelf; Why Isn't the U.S. Doing the Same?*, ARCTIC NEWSWIRE (Aug. 8, 2015), <https://www.adn.com/arctic/article/russia-just-claimed-broad-swath-arctic-shelf-why-isnt-us-doing-same/2015/08/09/>.

The CLCS issued recommendations for Russia's original December 20, 2001 submission on June 27, 2002.⁵⁵³ Those recommendations included a suggestion that Russia make a partial Sea of Okhotsk claim that "shall not prejudice questions relating to the delimitation of boundaries between States in the south for which a submission may be made later. . . ."⁵⁵⁴ Pursuant to that recommendation, Russia submitted a partial revised claim for the Sea of Okhotsk on February 28, 2013.⁵⁵⁵ After several amendments, the Commission adopted Russia's revision on March 11, 2014.⁵⁵⁶

On August 3, 2015, Russia delivered its 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.⁵⁵⁷ Reportedly, the 2015 Russian resubmission is among the most detailed ECS claims submitted to the CLCS. It includes a tectonic history of the evolution of the Arctic Ocean seabed and subsoil over the past 130 million years.⁵⁵⁸ Russia acknowledges that its claim overlaps with the ECS claim by Denmark and the expected ECS claim by Canada.⁵⁵⁹ In a prior diplomatic note, Canada, Denmark and Russia agreed not to object to ECS submissions by the other two states, subject to the understanding that delimitation of any overlapping continental shelves of the three states will be determined

553. Barbara Kwiakowska, *Submissions to the UN Commission on the Limits of the Continental Shelf*, 28 INT'L J. MARINE & COASTAL L. 219 (2013).

554. *Id.*

555. COMM. 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, U.N. DOC. CLCS/83 (adopted with amendments Mar. 11, 2014),

http://www.un.org/Depts/los/clcs_new/submissions_files/rus01_rev13/2014_03_13_COM_REC_RUS_Summary.pdf.

556. *Id.*

557. COMM. 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, U.N. DOC. CLCS/83 (adopted with amendments Mar. 11, 2014),

http://www.un.org/Depts/los/clcs_new/submissions_files/rus01_rev13/2014_03_13_COM_REC_RUS_Summary.pdf.

558. *Id.* at 13, 18, 22.

559. *Id.* at 9.

subsequently. The CLCS began its consideration of Russia's submission at its 41st Meeting in the summer of 2016.

Russia's Minister of Natural Resources and Environment told RIA Novosti that the country would re-apply for its Arctic continental expansion in the summer of 2017.⁵⁶⁰ Newly elected members of the UN Commission on the Limits of the Continental Shelf (CLCS) commenced their work on June 16, 2017 and Russia met with the new experts to discuss the country's revised bid to extend the limits of the Arctic continental shelf by including the Lomonosov Ridge stretching toward the North Pole and other formations.⁵⁶¹ In 2018, experts from Canada, Denmark, Norway, and the United States will reportedly meet to discuss issues of the adherence of underwater tectonic structures in the Arctic Ocean to various sections of the Arctic shelf.⁵⁶²

United States Claims. The President's National Strategy for the Arctic Region Implementation Report estimates that the continental shelf off Alaska probably extends more than 600 nautical miles.⁵⁶³ However, the situation of the United States is complicated by the fact that it has not yet acceded to UNCLOS.⁵⁶⁴

In the summer of 2016, the U.S. Coast Guard icebreaker Healy conducted ECS surveys in the Arctic.⁵⁶⁵ The research team was headed by Dr. Larry Mayer, of the University of New Hampshire's Center for Coastal and Ocean Mapping/Joint

560. *Donskoi: Russia to re-apply to new UN commission to expand its Arctic shelf this summer*, THE ARCTIC (Mar. 30, 2017), <http://arctic.ru/geographics/20170330/587883.html>.

561. *Russia to present shelf expansion bid to new UN commission in September*, THE ARCTIC (Aug. 17, 2017), <http://arctic.ru/geographics/20170817/656137.html>.

562. *Scientists from Russia, Canada, Denmark, the US and Sweden will discuss Arctic shelf issues in 2018*, THE ARCTIC (Nov. 13, 2017), <http://arctic.ru/international/20171113/686727.html>.

563. John P. Holdren, Amy Pope, & Mark Brzezinski, *Advancing Implementation of the National Strategy for the Arctic Region*, WHITE HOUSE: BLOG (Mar. 9, 2016, 1:56 PM), <https://obamawhitehouse.archives.gov/blog/2016/03/09/advancing-implementation-national-strategy-arctic-region>.

564. *Charting the Arctic: Security, Economic, and Resource Opportunities: Joint Hearing Before the Subcomm.'s on Europe, Eurasia, and Emerging Threats, and Western Hemisphere of the H. Comm. on Foreign Affairs*, 114th Cong. 9 (2015) (statement of Admiral Robert J. Papp, Jr.).

565. *Extended Continental Shelf*, OFF. OCEAN EXPLORATION, <http://explore.noaa.gov/Exploration/ExtendedContinentalShelf.aspx> (last visited Apr. 17, 2017).

Hydrographic Center.⁵⁶⁶

The U.S. Extended Continental Shelf Project is a multi-agency collaboration whose mission is to determine and define the extent of the U.S. continental shelf beyond 200 nautical miles consistent with international law.⁵⁶⁷ In congressional testimony, Admiral Robert Papp, the U.S. Special Representative for the Arctic, explained the current U.S. position on continental shelf claims in the Arctic and the importance of the U.S. acceding to the 1982 UNCLOS. Admiral Papp explained:

The United States, like the other Arctic States, has made significant progress in determining its ECS. All of the necessary data collection to delineate the U.S. ECS in the Arctic Ocean has been completed through tremendous efforts by the U.S. Coast Guard, the National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey (USGS), and the Department of State. Nine successful cruises were completed in the Arctic Ocean over 12 years, and four of those missions were jointly conducted with Canada.

In 2014, the Office of Ocean and Polar Affairs at the Department of State established the ECS Project Office at a NOAA facility in Boulder, Colorado. This office is dedicated to completing the data analysis and documentation necessary to establish the limits of the U.S. ECS in the Arctic and for other U.S. ECS areas, such as the Bering Sea, Atlantic Ocean, and the Gulf of Mexico.

While the United States has a significant amount of ECS in the Arctic, as a non-party to the Law of the Sea Convention, the U.S. is at a disadvantage relative to the other Arctic Ocean coastal States. Those States are parties to the Convention, and are well along the path to obtaining legal certainty and international recognition of their Arctic ECS.

Becoming a Party to the Law of the Sea Convention would help the United States maximize international recognition and legal certainty regarding the outer limits of the U.S. continental shelf, including off the coast of Alaska, where our

⁵⁶⁶ Lauren Steenson, *Mapping the Extended Continental Shelf in the Arctic*, COAST GUARD: COMPASS (Nov. 28, 2016), <http://coastguard.dodlive.mil/2016/11/mapping-the-extended-continental-shelf-in-the-arctic/>.

⁵⁶⁷ *About*, U.S. EXTENDED CONTINENTAL SHELF PROJECT, <http://www.continentalshelf.gov/about/index.htm> (last visited Feb. 4, 2017).

ECS is likely to extend out to more than 600 nautical miles. U.S. accession is a matter of geostrategic importance in the Arctic (where all other Arctic nations, including Russia, are Parties). The Administration remains committed to acceding to the LOS Convention.

Overlapping continental shelves are inevitable in the Arctic Ocean, as elsewhere.

Where boundaries have not yet been concluded, we expect that neighboring States will continue to work together on a bilateral basis to reach agreement on what are often complex and time-consuming processes. It is important to keep in mind this is not a question of first-come, first-served.

We have two maritime boundaries in the Arctic, one with Russia and one with Canada. The United States and the Soviet Union signed a maritime boundary agreement in 1990. Although only provisionally in force, Russia has respected this maritime boundary, and has not defined an ECS on the U.S. side of the boundary. The United States is taking the same approach.

Canada and the United States have yet to agree to a maritime boundary that would divide our overlapping ECS. We have made this a key objective for implementation of our National Strategy for the Arctic Region, and this will be an important future effort. Nonetheless, we have managed to work together to collect mutually beneficial data necessary to define our respective ECS areas.⁵⁶⁸

For more detailed and up-to-date information on the United States' ECS, see U.S. Extended Continental Shelf Project.⁵⁶⁹

UNESCO / IOC / ICES / PICES

The United Nations Educational, Scientific and Cultural Organization (UNESCO) describes its mission as building solidarity among nations by fostering information exchange across a number of disciplines.⁵⁷⁰ In 2011, after UNESCO's

568. *Statement of Admiral Robert J. Papp, Jr. Before the Committee on Foreign Affairs, Subcommittees on Europe, Eurasia, and Emerging Threats, and Western Hemisphere* (Nov. 17, 2015), <http://docs.house.gov/meetings/FA/FA14/20151117/104201/HHRG-114-FA14-Wstate-PappR-20151117.pdf>.

569. *Welcome to the Extended Continental Shelf*, U.S. Extended Continental Shelf Project, <https://www.continentalshef.gov> (last visited Feb. 4, 2017).

570. UNESCO, *Universal Declaration on Cultural Diversity*, Adopted by the 31st Session of the General Conference of UNESCO (Nov. 2, 2001), <http://portal.unesco.org/en/ev.php->

governing board voted to recognize Palestine as a state and admit it to the organization, President Obama announced that the United States was immediately cutting off funding for the organization.⁵⁷¹ At the time, the United States payments constituted 22 percent of UNESCO's budget.⁵⁷²

The Intergovernmental Oceanographic Commission (IOC) is part of UNESCO.⁵⁷³ It is recognized through the United Nations Convention on the Law of the Sea as the competent organization in the fields of Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV).⁵⁷⁴

The International Council for Exploration of the Sea (ICES) is an organization of twenty member states that develops science and advice to support the sustainable use of the oceans, with particular emphasis on the North Atlantic.⁵⁷⁵ Its purpose is to promote an integrated ecosystem understanding of marine environments by coordinating research and advising international commissions and governments on marine policy and management.⁵⁷⁶ ICES calls the Arctic a "research priority," with projects on subarctic fisheries, Barents Sea Ecosystem Assessment, hydrography and warming of the Arctic Ocean, marine spatial planning, and risk evaluations for Arctic shipping, oil and gas development, and non-native species invasion.⁵⁷⁷ ICES publishes an annual Report on Ocean Climate for the North Atlantic each December.⁵⁷⁸

The North Pacific Marine Science Organization (PICES) is

URL_ID=13179&URL_DO=DO_TOPIC&URL_SECTION=201.html.

571. Steven Erlanger & Scott Savare, *UNESCO Accepts Palestinians as Full Members*, N.Y. TIMES (Oct. 31, 2011), http://www.nytimes.com/2011/11/01/world/middleeast/unesco-approves-full-membership-for-palestinians.html?_r=0.

572. *Id.*

573. See *Intergovernmental Oceanographic Commission*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/> (last visited Mar. 26, 2017).

574. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397

575. *Who We Are*, INT'L COUNCIL FOR THE EXPLORATION OF THE SEA, <http://www.ices.dk/explore-us/who-we-are/Pages/Who-we-are.aspx> (last visited Mar. 26, 2017).

576. *Id.*

577. *Action Areas*, INT'L COUNCIL FOR THE EXPLORATION OF THE SEA, <http://www.ices.dk/explore-us/Action%20Areas/Pages/Arctic.aspx> (last visited Mar. 26, 2017).

578. *ICES Report on Ocean Climate (IROC)*, INT'L COUNCIL FOR THE EXPLORATION OF THE SEA, <http://ocean.ices.dk/iroc/> (last visited Feb. 4, 2017).

an intergovernmental science organization that promotes and coordinates marine research in the northern North Pacific.⁵⁷⁹ Members are Canada, Japan, China, Korea, Russia, and the United States.⁵⁸⁰ Whereas ICES extends work into the Arctic, PICES 2014 report indicates that “PICES will not initiate projects related to the Arctic, as the Convention covers only the temperate subarctic and adjacent seas, but this does not preclude the exchange of scientific knowledge between North Pacific and Arctic waters.”⁵⁸¹

WORLD TRADE ORGANIZATION

The World Trade Organization is, among other things, a forum for governments to negotiate trade agreements and settle trade disputes.⁵⁸² For example, on November 25, 2013, a World Trade Organization panel upheld the European Union’s 2010 ban on trade in seal products (Regulation (EC) No 1007/2009).⁵⁸³ The WTO, while finding that the EU’s so-called Seal Regime had violated international trade agreements, determined that the ban was valid under the public morals clause.⁵⁸⁴ The EU ban, which principally targets Canadian sealing practices, is reportedly a principal reason the EU’s request to be granted Permanent Observer status at the Arctic Council was “deferred” in 2013.⁵⁸⁵

579. *About PICES*, NORTH PACIFIC MARINE SCI. ORG., <https://www.pices.int/about/default.aspx> (last visited Apr. 17, 2017).

580. *Id.*

581. North Pacific Marine Sci. Org., Report of the 2014 Inter-Sessional Science Board Meeting (2014), https://www.pices.int/publications/annual_reports/Ann_Rpt_14/2014-15B.pdf (last visited Feb. 12, 2018).

582. *What We Do*, WORLD TRADE ORGANIZATION, https://www.wto.org/english/thewto_e/whatis_e/what_we_do_e.htm (last visited Apr. 17, 2017).

583. Panel Report, *EC-Seal Products*, WT/DS400/R, WT/DS401/R (Nov. 25, 2013) [hereinafter *Panel Report*]. The EU’s seal regulatory regime was composed of two primary regulations: A Basic Regulation and an Implementing Regulation. *Panel Report* ¶¶ 2.2, 2.4.

584. *Seal Product Ban Upheld on ‘Ethical’ Grounds*, CBC NEWS (Nov. 25, 2013), <http://www.cbc.ca/news/canada/newfoundland-labrador/seal-product-ban-upheld-oneethical-grounds-1.2438904>; Andreas Østhagen, *In or Out? Symbolism of the EU’s Arctic Council Bid*, The Arctic Institute, <http://www.thearcticinstitute.org/in-or-out-symbolism-of-eus-arctic/> (last visited Mar. 26, 2017).

585. Sebastian Knecht, *New Observers Queuing Up: Why the Arctic Council Should Expand – and Expel*, ARCTIC INSTITUTE (Apr. 20, 2015), <http://www.thearcticinstitute.org/new-observers-queuing-up/>. Under the Ottawa

Article XX of the General Agreement on Tariffs and Trade (GATT) exempts specific kinds of regulations from certain GATT rules, including measures “necessary to protect public morals,” “necessary to protect human, animal or plant life and health,” and those “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.”⁵⁸⁶ Such exceptions must comply with the Article XX chapeau (introduction): they must not arbitrarily or unjustifiably discriminate.⁵⁸⁷

The WTO Appellate Body upheld the EU ban in a May 2014 decision, but also found the EU embargo “constitutes a means of arbitrary or unjustifiable discrimination.”⁵⁸⁸ The Seal Regime bans products from commercial hunts, but exempts products from certified traditional Inuit hunts.⁵⁸⁹ Canada argued that it is arbitrary to exempt products based only on the identity of the hunter, when Inuit hunts may share every other characteristic with Canadian commercial hunts.⁵⁹⁰

The Appellate Body found the ban allowable under Article XX, but unfairly favorable to Greenlandic seal products in violation of the chapeau.⁵⁹¹

Canada and the EU agreed in September 2014 that the EU would bring its regulation into conformity with GATT obligations by October 2015.⁵⁹² The measures ultimately adopted by the European Parliament and Council, and implemented by Commission regulation deleted an exception to the ban for hunts to protect fish stocks; however, it preserved an amended exception for hunts by Inuit and other Indigenous communities.⁵⁹³ The exception requires that the

Declaration, council decisions are made by consensus, creating a one-state veto.

586. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 State. A-11, 55 U.N.T.S. 194.

587. *Id.*

588. Appellate Body Report, *EC-Seal Products*, WT/DS400/AB/R, WT/DS401/AB/R (May 22, 2014).

589. *Id.*

590. *Id.*

591. *Id.*

592. *European Communities – Measures Prohibiting the Importation and Marketing of Seal Products*, WORLD TRADE ORGANIZATION, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds400_e.htm (last visited Mar. 26 2017).

593. Panel Report, *EC-Seal Products*, WT/DS400/R, WT/DS401/R (Nov. 25, 2013).

hunting methods used must have due regard for animal welfare, be part of their hunters' tradition, and contribute to their subsistence.

International Tribunals

On June 14, 2017, the States Parties to UNCLOS elected seven new Members of the International Tribunal for the Law of the Sea (ITLOS).⁵⁹⁴ The judges will serve a term of nine years starting October 1, 2017.⁵⁹⁵ Judge Boualem Bouguetaia (Algeria) and Judge José Luís Jesus (Cabo Verde) were re-elected, and Mr. Oscar Cabello Sarubbi (Paraguay), Ms. Neeru Chadha (India), Mr. Kriangsak Kittichaisaree (Thailand), Mr. Roman Kolodkin (Russian Federation), and Ms. Liesbeth Lijnzaad (The Netherlands) will join them at the bench. An Indian newspaper reported that Ms. Chadha's election as the first female Indian member of ITLOS was a "significant victory for Indian at the UN."⁵⁹⁶ She is the second woman to become a judge of ITLOS in its two decades of existence.⁵⁹⁷

The International Tribunal for the Law of the Sea (ITLOS) issued an advisory opinion regarding illegal, unreported, and unregulated (IUU) fishing on April 2, 2015.⁵⁹⁸ While the opinion has no direct application in the Arctic, it articulated principles based on treaties or customary international law that will apply to vessels fishing in any state's exclusive economic zone (EEZ).

The Sub-Regional Fisheries Commission (SRFC), comprised of seven West African nations facing serious IUU fishing problems, ask the ITLOS to address four questions. First, what obligations apply to flag States of vessels engaged in IUU fishing? Second, what is the extent flag State liability for these activities? Third, what party is liable for violations when IUU

594. Press Release, Election of Seven Members of the International Tribunal for the Law of the Sea, International Tribunal for the Law of the Sea (June 14, 2017), https://www.itlos.org/fileadmin/itlos/documents/press_releases_english/PR_260_EN.pdf.

595. *Id.*

596. *Neeru Chadha becomes 1st Indian woman as member of ITLOS*, THE HINDU (June 15, 2017), <http://www.thehindu.com/news/international/neeru-chadha-becomes-1st-indian-woman-as-member-of-itlos/article19053500.ece>.

597. *Id.*

598. Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission, Case No. 21, Advisory Opinion, (Apr. 2, 2015), https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.21/advisory_opinion/C21_AdvOp_02.04.pdf.

fishing is conducted by a vessel licensed under an international agreement between the flag State or an international agency? Fourth, what are the rights and obligations of coastal States to ensure sustainable management of shared or common-interest fish stocks?⁵⁹⁹

After unanimously finding jurisdiction to issue such an opinion (contested by the United States, among others), the tribunal carefully circumscribed its opinions on the substantive issues.⁶⁰⁰ With regard to flag State obligations, it found “the primary responsibility for taking the necessary measures to prevent, deter and eliminate IUU fishing rests with the coastal State.”⁶⁰¹ However, flag States must exercise due diligence to ensure their vessels do not engage in IUU fishing.⁶⁰² This includes an obligation to investigate and take action following reported violations. In answering the second question, the tribunal explained that flag State liability follows only from a breach of this due diligence duty, and does not attach to actual vessel conduct. The flag State is not liable if “it has taken all necessary and appropriate measures to meet its “due diligence” obligations.⁶⁰³ If vessels flagged by member States of an international organization, such the EU, engage in IUU fishing where the organization has negotiated access, liability generally attaches to the organization unless by contrary agreement.

With regard to the fourth question, the ITLOS observed that a number of UNCLOS provisions establish coastal State rights and obligations related to the sustainable management of fish stocks shared between multiple exclusive economic zones. Noting UNCLOS’s unfortunate lack of related precise definitions, the tribunal highlighted article 61, paragraphs 2, 3, and 4 as creating a coastal State obligation to “conserve and develop [shared and common fish stocks] as a viable and

599. Tim Stephens, *ITLOS Advisory Opinion: Coastal and Flag State Duties to Ensure Sustainable Fisheries Management*, AM. SOCIETY OF INT’L LAW (Apr. 16, 2015), <https://www.asil.org/insights/volume/19/issue/8/itlos-advisory-opinion-coastal-and-flag-state-duties-ensure>.

600. *Id.*

601. *Id.*

602. *Id.*

603. Press Release, ITLOS, Tribunal Delivers its Advisory Opinion Regarding Illegal, Unreported and Unregulated Fishing Activities (Apr. 2, 2015), <http://www.haguejusticeportal.net/index.php?id=13247>.

sustainable resource.” The tribunal is of the view that this may include “more effective fisheries management schemes to ensure the long-term sustainability of exploited stocks” and stock restoration, as well as an obligation to cooperate toward these ends.

In a non-Arctic development on October 29, 2015, but one that might well be relevant to excessive maritime claims and regulations by some Arctic states, arbitrators hearing a dispute brought by the Republic of the Philippines against the People’s Republic of China over competing claims and activities in the South China Sea determined that the arbitration tribunal has jurisdiction over at least some of the claims.⁶⁰⁴ China refused to officially appear in the arbitration, claiming that the arbitration panel has no jurisdiction in the matter.⁶⁰⁵ In July 2016, the tribunal announced that China’s claim to sovereignty over the waters had no legal basis and China violated the Philippines’ sovereign rights to exploit resources in its waters.⁶⁰⁶ The award examined a number of recurring issues, including historic waters claims, distinguishing low tide elevations, rocks, and islands, the legal effect of artificial island “nourishment” on extensions, and the obligation to protect and preserve the marine environment.⁶⁰⁷

UNITED NATIONS ENVIRONMENT PROGRAM (UNEP)

UNEP facilitates and sometimes acts as secretariat for thirteen Regional Seas Programs among 143 nations.⁶⁰⁸ Five other programs—including the program for the Arctic, which is administered by the Arctic Council states—are independently

604. Press Release, Permanent Court of Arbitration, The Hague, Arbitration Between the Republic of the Philippines and the People’s Republic of China (July 13, 2015), http://archive.pca-cpa.org/shownews454.html?nws_id=518&pag_id=1261&ac=view.

605. See Lowell Bautista, *The Arbitration Case Between Philippines and China Over Their Dispute in the South China Sea*, 19 J. SOUTHEAST ASIAN STUD. 3, 4 (2014).

606. PCA Case No. 2013-19 (Republic of the Philippines and People’s Republic of China) Award of 12 July 2016, <https://pca-cpa.org/wp-content/uploads/sites/175/2016/07/PH-CN-20160712-Award.pdf>.

607. *Id.*

608. *Regional Seas Programmes and Other UNEP Activities Relevant to Marine Biodiversity in Areas Beyond National Jurisdiction*, United Nations Environment Programme, (Aug. 26, 2016), http://www.un.org/depts/los/biodiversity/prepcom_files/UNEP_and_BBNJ_PrepCom2.pdf.

administered.⁶⁰⁹ Some within the U.S. State Department have suggested a more formal UNEP-administered Regional Seas Program for the Arctic Ocean (arguably, a semi-enclosed sea under Article 122 of UNCLOS). Such a program would build upon the Council member-states' existing 1991 Arctic Environmental Protection Strategy (AEPS) and could be coupled with provisions for a Regional Fishery Management Organization (RFMO), similar to the Commission for the Conservation of Antarctic Marine Living Resources.

V. SELECTED ARCTIC THEMES

Arctic Marine Shipping

Nearly all the perceived dangers and opportunities of a rapidly warming Arctic relate to shipping.

Prognosis for Arctic Shipping

A link to the 10-year shipping forecast conducted for the U.S. Committee on the Marine Transportation System (CMTS), is available in this footnote.⁶¹⁰

A scientific study of sea ice thickness in the Northwest Passage and its implication for shipping published in September 2015 concluded that “even in today’s climate, ice conditions must still be considered severe.”⁶¹¹ In evaluating shipping conditions, the researchers highlighted the importance of considering both sea ice extent and thickness.

The 11th Arctic Shipping Summit was held in London from November 29-30, 2017, with the theme of “Developing profitable, safe and sustainable shipping operations in a changing Arctic environment.”⁶¹² Featured speakers included Michael Emerson, Director of the Marine Transportation Systems for the U.S. Coast Guard, and Julie Gascon, Assistant

609. *Id.*

610. THE INT’L COUNCIL ON CLEAN TRANSP., A 10-YEAR PROJECTION OF MARITIME ACTIVITY IN THE U.S. ARCTIC REGION (2015), http://www.cmts.gov/downloads/CMTS_10-Year_Arctic_Vessel_Projection_Report_1.1.15.pdf (last visited Feb. 12, 2018).

611. Christian Haas & Stephen E. L. Howell, *Ice Thickness in the Northwest Passage*, 42 GEOPHYSICAL RESEARCH LETTERS 7673 (2015), <http://onlinelibrary.wiley.com/doi/10.1002/2015GL065704/full> (last visited Feb. 12, 2018).

612. *11th Arctic Shipping Summit*, ACTIVE COMMUNICATIONS INTERNATIONAL (Nov. 29, 2017), <http://www.wplgroup.com/aci/event/arctic-shipping-summit-europe/>.

Commissioner for the Canadian Coast Guard.⁶¹³

2017 Update on Arctic Sea Ice. According to the National Snow and Ice Data Center, Arctic sea ice extent for April 2017 averaged 5.34 million square miles and tied with April 2016 for the lowest April extent in the 38-year satellite record.⁶¹⁴ The April 2017 extent is 394,000 square miles below the April 1981 to 2010 long-term average.⁶¹⁵ The largest reductions in ice extent through the month occurred on the Pacific side of the Arctic, within the Bering Sea and the Sea of Okhotsk.⁶¹⁶ There was minimal change in extent in the Atlantic sector of the Arctic.⁶¹⁷

Arctic sea ice extent likely reached its minimum extent for the year on September 13, 2017 at 1.79 million square miles.⁶¹⁸ The 2017 minimum is the eighth lowest in the 38-year satellite record.⁶¹⁹

In July 2017, scientists announced that that a much anticipated break at the Larsen C ice shelf in Antarctica occurred, unleashing an iceberg that is one of the largest in the world at more than 2,200 square miles in area and weighing a trillion tons.⁶²⁰ Scientists fear that loss could speed up the outward ice flow of the remainder of the Larsen C ice shelf, which would increase sea level, but glaciers in this region only have the potential to raise seas by about a centimeter.⁶²¹ The loss of icebergs further south, however, could cause sea level rise that would begin to be measured in feet.⁶²²

Special Regulations for Navigation in the Bering

613. *Id.*

614. *Baked Alaska and 2017 in review*, NATIONAL SNOW & ICE DATA CENTER (Jan. 3, 2018), <http://nsidc.org/arcticseaicenews/>.

615. *Id.*

616. *Id.*

617. *Id.*

618. *Arctic sea ice at minimum extent*, NATIONAL SNOW & ICE DATA CENTER (Sept. 19, 2017), <https://nsidc.org/news/newsroom/arctic-sea-ice-minimum-extent>.

619. *Id.*

620. Chris Mooney, *One of the biggest icebergs in recorded history just broke loose from Antarctic*, ANCHORAGE DAILY NEWS (July 12, 2017), <https://www.adn.com/nation-world/2017/07/12/one-of-the-biggest-icebergs-in-recorded-history-just-broke-loose-from-antarctica/>.

621. *Id.*

622. *Id.*

Strait. In 2017, the United States and Russia issued a proposal to establish six two-way routes and six precautionary areas in the Bering Sea and Bering Strait off the coast of Chukotskiy Peninsula and Alaska.⁶²³ The proposed routes would be voluntary for all ships of 400 gross tonnage and above and are intended to help preserve nature and the animals in the area.⁶²⁴

Arctic Marine Shipping Assessment

In 2009, an Arctic Council Protection of the Marine Environment (PAME) working group led by experts from Canada, Finland and the United States completed a comprehensive report on Arctic marine shipping. It has been described as the most comprehensive analysis ever undertaken of trends relating to shipping into, out of, and through the region. PAME has produced annual progress reports on its implementation.

The original report included recommendations for enhancing marine safety, protecting people and the environment, and building infrastructure. AMSA's marine safety and environmental protection goal has been a driving force behind the IMO's mandatory Polar Code.

Arctic Marine Shipping Assessment Progress Report for 2017. In May 2017, the Arctic Council's PAME Working Group published its 2017 progress report on implementing the recommendations in the 2009 Arctic Marine Shipping Assessment (AMSA) Report.⁶²⁵ The next assessment should be published in 2019.

The Arctic Council's Emergency Prevention, Preparedness and Response (EPPR) working group discussed the intelligence gained from two search and rescue exercises hosted by Denmark and the Russian Federation.⁶²⁶ Additionally, EPPR

623. *Russia, US agree on special regulations for navigation in Bering Strait*, TASS (Nov. 10, 2017), <http://tass.com/politics/974910>.

624. *Id.*

625. ARCTIC COUNCIL, STATUS ON IMPLEMENTATION OF THE AMSA 2009 REPORT RECOMMENDATIONS (2017), https://pame.is/images/02_Document_Library/Reports_to_Ministers/17_AC_meeting/4th_AMSA_Implementation_Progress_Report_for_the_period_2015-2017.pdf (last visited Feb. 12, 2018).

626. *EPPR (Emergency Prevention, Preparedness and Response) Meets in Reykjavik*, ARCTIC COUNCIL, (Dec. 16, 2015), <http://www.arctic-council.org/index.php/en/our-work/2/8-news-and-events/371-eppr-ii-2015>.

finalized a pilot project “Automated Mutual Assistance Vessel Rescue Network,” which has a regional ship reporting system and uses automatic and long range identification and tracking data for search and rescue efforts.⁶²⁷ This data will be available in emergencies and is an additional tool for managing search and rescue in the Arctic.⁶²⁸

The marine insurance industry and the International Association of Classification Societies (IACS) offer a risk assessment tool to supplement the Polar Code. As IACS explained to the IMO’s Maritime Safety Committee, the Polar Operational Limit Assessment Risk Indexing System (POLARIS): “provides a standard approach for the evaluation of risks to the ship and the ice conditions encountered/expected (ice regime). POLARIS can be used for voyage planning purposes or in real time to aid in the decision making in support of shipboard operations. POLARIS may be used by Administrations as a means to set operational limitations with respect to ships operating in ice.”⁶²⁹

The International Chamber of Shipping (ICS) released its 2017 Annual Review, which addresses five key issues of the year: reducing vessel CO2 emissions, the global cap on vessel fuel Sulphur content, alternative low Sulphur fuel options, implementing the Ballast Convention (which entered into force in 2017), and responding to constant changes and the continuing crises.⁶³⁰

Arctic Shipping Routes

Secure access to, and the capacity limits of, the Panama and Suez Canals will affect the demand for Arctic shipping routes in the coming decades. The Panama Canal Authority completed an expansion project in 2016 that began commercial

627. EPPR, EPPR WORKING GROUP MEETING FINAL REPORT 8 (2013), http://arctic-council.org/eppr/wp-content/uploads/2013/09/EPPR-Oulu_Final_report.pdf (last visited Feb. 12, 2018).

628. *Id.*

629. Int’l Maritime Org. [IMO], MSC 94/3/7, *Consideration and Adoption of Amendments to Mandatory Instruments: POLARIS* (Sept. 12, 2014), http://www.iacs.org.uk/document/public/Publications/Submissions_to_IMO/PDF/CONSIDERATION_AND_ADOPTION_OF_AMENDMENTS_TO_MANDATORY_INSTRUMENTS_pdf2416.pdf.

630. *International Chamber of Shipping 2017 Annual Review*, INTERNATIONAL CHAMBER OF SHIPPING (2017), <http://www.ics-shipping.org/docs/default-source/ICS-Annual-Review-2017/ics-annual-review-2017.pdf?sfvrsn=10> (last visited Feb. 12, 2018).

operation on June 26th, opening a new lane of traffic by adding a third lock to the system.⁶³¹ Now, the canal can accommodate container ships of up to 13,000 TEUs (before, it was limited to 5,000 TEU ships). The New Panamax and Suezmax limits are depicted in the following table:

	LENGTH	BEAM	DRAFT
New Panamax (third lock)	366 meters	49 meters	15 meters
Suezmax	Unlimited	50 meters	20 meters

For comparison, the commonly cited limiting figures for vessels transiting the Northern Sea Route are 30-meter beam (vessels cannot be wider than the escorting ice-breaker it must sometimes follow), and 12.5-meter draft (due to the shallow and often unavoidable straits between the New Siberian Islands).⁶³² Limiting drafts in some Northwest Passage deep draft routes are as little as ten meters.⁶³³

Northeast Passage (and the Northern Sea Route). The Northeast Passage, which includes what Russia has designated the Northern Sea Route (NSR), traverses the Arctic Ocean north of Russia from the Barents Sea to the Bering Strait, thus serving as a possible northern route between the Atlantic and Pacific Oceans.⁶³⁴ UNCLOS provides for freedom of navigation (subject to certain limitations) on the high seas, but Russia regulates vessel traffic in the NSR through a system of mandatory navigation permits and transit fees.⁶³⁵

631. Joseph Bonney, *Panama Canal Locks to Officially Open June 26*, JOC.COM (Mar. 24, 2016, 10:20 AM), http://www.joc.com/port-news/panama-canal-news/panama-canal-locks-officially-open-june-26_20160324.html.

632. Claes Lykke Ragner, *Northern Sea Route Cargo Flows and Infrastructure – Present State and Future Potential*, THE FRIDTJOF NANSEN INSTITUTE, <https://www.fni.no/getfile.php/132017/Filer/Publikasjoner/FNI-R1300.pdf> (last visited Apr. 26, 2017).

633. Karl Magnus Eger, *Comparison of Operational Conditions Along the Arctic Routes*, ARCTIS KNOWLEDGE HUB, <http://www.arctis-search.com/tiki-index.php?page=Comparison%20of%20Operational%20Conditions%20along%20the%20Arctic%20Routes> (last visited Apr. 30, 2017).

634. See William V. Dunlap, *Transit Passage in the Russian Arctic Straits*, 1 MARITIME BRIEFING 2-3 (1996).

635. Albert Buixadé Farré et al., *Commercial Arctic Shipping Through the Northeast*

UNCLOS Article 234, which Russia has at times invoked, allows coastal States to adopt and enforce non-discriminatory regulations related to pollution in ice-covered areas within their Exclusive Economic Zones (up to 200 nm from the baseline).⁶³⁶ Russia also controversially interpreted UNCLOS to allow it to enclose groups of islands in a system of baselines, encompassing their straits as internal waters subject to unrestricted Russian sovereignty.⁶³⁷ Whether the NSR eventually provides a viable shipping alternative depends largely on the future of Arctic ice: the Intergovernmental Panel on Climate Change expects 125 days of NSR navigability by 2050.⁶³⁸

Russia set up the Northern Sea Route Administration (NSRA)⁶³⁹ and published new Rules of Navigation on the Water Area of the Northern Sea Route (unofficial English translation).⁶⁴⁰ The Russian International Affairs Council (RIAC) provided a reader on the Northern Sea Route with Arctic experts' in-depth coverage on maritime law, transit in the Bering Strait, ecology, icebreakers, and security.⁶⁴¹

In 2015, the Russian government released an Integrated Development Plan for the NSR 2015-2030.⁶⁴² The plan stressed the importance of providing safer and more reliable navigation for maritime export of Russian natural resources along the NSR but also the strategic importance of the NSR for Russian national security.⁶⁴³ The Russian government is attempting to increase international transit cargo transportation on NSR in

Passage, 37 POLAR GEOGRAPHY 298, 310 (2014).

636. *Id.*

637. *Id.*

638. Thomas Nilsen, *125 Days of Navigable Conditions by 2050*, BARENTS OBSERVER (Apr. 1, 2014), <http://barentsobserver.com/en/business/2014/04/125-days-navigable-conditions-2050-01-04>.

639. *Northern Sea Route Administration*, NORTHERN SEA ROUTE INFORMATION OFFICE, http://www.arctic-lio.com/nsr_nsra (last visited Feb. 5, 2017).

640. *Rules of Navigation on the Water Area of the Northern Sea Route*, NORTHERN SEA ROUTE INFORMATION OFFICE (Jan. 17, 2003), http://www.arctic-lio.com/docs/nsr/legislation/20130425185806en-Rules_unof.pdf.

641. *Northern Sea Route*, RUSSIAN INTERNATIONAL AFFAIRS COUNCIL, <http://russiancouncil.ru/en/northernsearoute> (last visited Feb. 5, 2017).

642. *Future development of the Northern Sea Route*, PORTNEWS (Feb. 19, 2016), <http://en.portnews.ru/digest/16895/>.

643. *Id.*

partnership with China and other Asian countries.⁶⁴⁴

In October 2016, the NSR Administration noted that 688 permits had been issued to pass through the NSR so far in the year, including 136 for foreign ships.⁶⁴⁵ This number was up from 672 at the same time in 2015.⁶⁴⁶ In December 2016, the Russian Ministry of Economic Development announced that shipments to ports along the route in the first eleven months of the year increased to 6.9 million tons, a new post-Soviet high.⁶⁴⁷ China's biggest shipping company announced that its operations along the Russian Arctic coast were reaching a record high in 2016.⁶⁴⁸ Meanwhile, transit shipments remained on a low level in general, reaching only about 210,000 tons of goods transiting from the Bering Strait in the east to the Barents Sea in the west by mid-September.⁶⁴⁹

As of November 1, 2017, a total of 289 ships (214 flying the Russian flag) were registered on the route and had taken a total of 1,782 voyages.⁶⁵⁰ Transit shipments were low during the year, with twenty-four transit shipments registered by mid-November.⁶⁵¹ Over the course of the year, 9,737 million tons of goods were shipped on the route, an increase of almost 35 percent from 2016.⁶⁵²

A 984-foot vessel called the *Christophe de Margerie* became the first ice-class LNG tanker to travel the northern route

644. *Id.*.

645. *Northern Sea Route Traffic to Reach 6 Mln T in 2016—NSR Administration*, PORTNEWS (Oct. 21, 2016, 11:57 AM), <http://en.portnews.ru/news/228305/>.

646. *Id.*; see also Av Malte Humpert, *Frozen Waters: Northern Sea Route Traffic Boosted by Internal Traffic, While Transits Fall Sharply*, HIGH NORTH NEWS (Dec. 15, 2015), <http://www.highnorthnews.com/frozen-waters-northern-sea-route-traffic-boosted-by-internal-traffic-while-transits-fall-sharply/>.

647. Atle Staalesen, *Record High for Northern Sea Route*, BARENTS OBSERVER (Dec. 20, 2016), <https://thebarentsobserver.com/en/2016/12/record-high-northern-sea-route>.

648. Atle Staalesen, *COSCO Sends Five Vessels Through Northern Sea Route*, BARENTS OBSERVER (Oct. 10, 2016), https://thebarentsobserver.com/en/arctic-industry-and-energy/2016/10/cosco-sends-five-vessels-through-northern-sea-route#.V_z19gStZJc.twitter.

649. *Id.*

650. Atle Staalesen, *New era starts on Northern Sea Route*, BARENTS OBSERVER (Dec. 8, 2017), <https://thebarentsobserver.com/en/arctic/2017/12/new-era-starts-northern-sea-route#.Wi68wlHKOnM.twitter>.

651. *Id.*.

652. Atle Staalesen, *As ice layers get thinner, ship sets another Arctic speed record*, BARENTS OBSERVER (Jan. 16, 2018), <https://thebarentsobserver.com/en/arctic/2018/01/ice-layers-get-thinner-ship-sets-another-arctic-speed-record>.

without escorting icebreakers in 2017.⁶⁵³ The tanker carried liquefied natural gas through the Arctic passage from Europe to Asia.

Northwest Passage. Northwest Passage (NWP) transits through Canada's Arctic Archipelago are much more limited than those through the NSR.⁶⁵⁴ Neither Transport Canada, NORDREG nor Canadian Coast Guard has yet to provide data on 2016 traffic through the NWP, as did their Russian counterparts.⁶⁵⁵

Canada has declared the NWP internal waters, and has enacted an assortment of laws to address maritime risks in the waters.⁶⁵⁶

A recent Ocean Yearbook article explores the application of UNCLOS Article 234 in those waters (Peter Luttmann, *Ice-Covered Areas under the Law of the Sea Convention: How Extensive are Canada's Coastal State Powers in the Arctic?*)⁶⁵⁷ Another, by James Kraska, examines the Northern Canada Vessel Traffic Services Zone Regulations (NORDREG) and the Law of the Sea.⁶⁵⁸

As the Canadian Department of Fisheries and Oceans' Arctic Voyage Planning Guide warns, the NWP presents more shipping challenges than the NSR because of more hazardous ice conditions and a relative lack of infrastructure.⁶⁵⁹

An October 2014 Report of the Commissioner of the Environment and Sustainable Development on Marine

653. *LNG tanker makes Arctic passage unaided*, THE CITIZEN (Aug. 18, 2017), <https://citizen.co.za/news/news-world/1617068/france-energy-transport-climate/>.

654. See R. K. Headland, *Transits of the Northwest Passage to End of the 2015 Navigation Season*, NORTHWEST PASSAGE 2015, <http://cil.nus.edu.sg/wp-content/uploads/2015/11/Arctic-Guide-November-2015-KDK-JAR-KDK-edits-12152015.pdf>, (last visited Apr. 14, 2016).

655. *Id.*

656. ROBERT DUFRESNE, LIBRARY OF PARLIAMENT, *CONTROVERSIAL CANADIAN CLAIMS OVER ARCTIC WATERS & MARITIME ZONES* (Jan. 10, 2008) <http://www.lop.parl.gc.ca/content/lop/researchpublications/prb0747-e.htm>.

657. Peter Luttmann, *Ice-Covered Areas Under the Law of the Sea Convention: How Extensive are Canada's Coastal State Powers in the Arctic?*, 29 OCEAN YEARBOOK 85 (Aldo Chircop, ed., 2015).

658. James Kraska, *The Northern Canada Vessel Traffic Services Zone Regulations (NORDREG) and the Law of the Sea*, 30 INT. J. MARINE & COASTAL L. 225 (2015).

659. *Arctic Voyage Planning Guide*, FISHERIES & OCEANS CAN., <http://geoportal.gc.ca/eng/Gallery/MapProfile/5> (last visited Feb. 5, 2017).

Navigation in the Canadian Arctic concluded that existing infrastructure adequately supports current traffic levels, but gaps must be addressed to handle the emerging risks of increased traffic.⁶⁶⁰

One unofficial source reported that, between the first NWP transit in 1853 and the end of the 2012 navigation season, 185 complete transits of the Northwest Passage had been made by 135 different vessels.⁶⁶¹ The figure includes transits through all seven of the recognized NWP routes. In 2012, a record number (30) of vessels transited through the Northwest Passage, bringing the total to 215.⁶⁶²

In 2013, for the first time, a large bulk carrier, the 75,000 deadweight-ton Nordic Orion, transited from Vancouver, BC to Pori, Finland via the Northwest Passage.⁶⁶³ In 2014, the Fednav cargo ship MV Nunavik, carrying nickel ore (and equipped with some ice protection) completed the transit without icebreaker accompaniment.⁶⁶⁴

Crystal Serenity. In September 2016, after more than two years of planning, the 13-deck cruise ship Crystal Serenity embarked on its sold-out voyage through the Northwest Passage. The ship safely docked in New York City 32 days later. Passengers paid between \$22,000 and \$120,000 for the trip, which included stops in secluded Inuit villages for a glimpse of life in the North.

660. Office of the Auditor General of Canada, *Marine Navigation in the Canadian Arctic*, in 2014 FALL REPORT OF THE COMMISSIONER OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT 3.77 (2014), http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201410_03_e_39850.html (last visited Feb. 12, 2018).

661. R. K. Headland, *Transits of the Northwest Passage to End of the 2015 Navigation Season*, Northwest Passage 2015, <http://cil.nus.edu.sg/wp/wp-content/uploads/2015/11/Arctic-Guide-November-2015-KDK-JAR-KDK-edits-12152015.pdf>, (last visited Apr. 14, 2016).

662. Canada Department of Environment and Natural Resources, *Trends in Shipping in the Northwest Passage and the Beaufort Sea*, in ONLINE NORTHWEST TERRITORIES STATE OF THE ENVIRONMENT REPORT 7.3 (May 29, 2015), <http://www.enr.gov.nt.ca/state-environment/73-trends-shipping-northwest-passage-and-beaufort-sea>.

663. John McGarrity & Henning Gloystein, *Big Freighter Traverses Northwest Passage for 1st Time*, REUTERS (Sept. 27, 2013, 11:36 AM), <http://www.reuters.com/article/us-shipping-coal-arctic-idUSBRE98Q0K720130927>.

664. Becky Oskin, *Cargo Ship is First to Solo the Northwest Passage*, DISCOVERY NEWS (Oct. 2, 2014), <http://news.discovery.com/earth/oceans/cargo-ship-is-first-to-solo-the-northwest-passage-141002.htm>.

Crystal Serenity added a team of Arctic experts from Arctic Kingdom, a Canada-based travel organization, to join tourists on its second cruise through the Northwest Passage in 2017.⁶⁶⁵ The experts, based in Iqaluit, consist of local Inuit guides, marine biologists, archaeologists, expert divers, conservationists, photographers, and wildlife experts, and they provided information about Arctic culture, wildlife, and geography throughout the course of the 32-day cruise.⁶⁶⁶ Some of the “boutique adventures” included were Arctic scuba diving, a chartered flight to the Hamlet of Gjoa Haven, and fly fishing for Arctic char.⁶⁶⁷

A Coast Guard Air Station Sitka MH-60 Jayhawk helicopter crew medevaced a 57-year-old man with a leg injury from Crystal Serenity approximately 12 miles southwest of Yakutat en route to Sitka on the cruise ship’s second journey through the Arctic.⁶⁶⁸ The Jayhawk crew safely hoisted the man and transported him to Sitka.⁶⁶⁹

Although the Northwest Passage cruise sold out in 2016, it did not reach capacity in 2017. Crystal Cruises will not be sending *Crystal Serenity* along the Northwest Passage in 2018, and in the future, the route will be taken by a smaller polar-class vessel called *Crystal Endeavor*.⁶⁷⁰ The new vessel will be able to carry about 200 passengers, significantly less than *Crystal Serenity*’s 1,000, but the small size will reportedly provide more itinerary flexibility as the vessel will be able to maneuver through smaller passages.⁶⁷¹ Delivery is expected in

665. *Crystal Partners With Canadian Expedition Experts for Second Northwest Passage*, PR NEWSWIRE (Feb. 2, 2017), <https://www.prnewswire.com/news-releases/crystal-partners-with-canadian-expedition-experts-for-second-northwest-passage-300400117.html>.

666. *New Crystal Adventures Heighten Arctic Exploration During Northwest Passage Voyage*, PR NEWSWIRE (May 23, 2017), <https://www.prnewswire.com/news-releases/new-crystal-adventures-heighten-arctic-exploration-during-northwest-passage-voyage-300462489.html>.

667. *Id.*

668. *Coast Guard medevacs man from cruise ship Crystal Serenity 12 miles southwest of Yakutat, Alaska*, COAST GUARD NEWS (June 28, 2017), <http://coastguardnews.com/coast-guard-medevacs-man-from-cruise-ship-crystal-serenity-12-miles-southwest-of-yakutat-alaska/2017/06/28/#.WVUtd89hqLk.twitter>.

669. *Id.*

670. *New Crystal Ship for Northwest Passage*, MARITIME EXECUTIVE (Oct. 1, 2017), <https://maritime-executive.com/article/new-crystal-ship-for-northwest-passage#gs.gzGkYxU>.

671. *Id.*

August 2018.⁶⁷²

International Agreements on Shipping Safety

Polar Code. Most sections of the IMO's mandatory Polar Code entered into force on January 1, 2017. The Polar Code amendments to the STCW Convention were adopted by the IMO's Maritime Safety Committee in November 2016, and will not enter into force until July 1, 2018. See Section IV.C.

Arctic Search and Rescue. In 2011, the Arctic Council states signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. The agreement, which assigns the areas of SAR responsibility for each state-party, entered into force on January 19, 2013.

In view of the conflicting territorial claims in the Arctic, the treaty provides that "the delimitation of search and rescue regions is not related to and shall not prejudice the delimitation of any boundary between States or their sovereignty, sovereign rights or jurisdiction." Russia embraced the agreement, opening three of ten planned SAR centers by the end of 2014. Future cooperation on search and rescue activities will be facilitated by the Arctic Coast Guard Forum.

The U.S. Coast Guard, Alaskan Command and other state, federal, local and international partners conducted the exercise Arctic Chinook 2016 in Kotzebue, Alaska, from August 22-25, 2016.⁶⁷³ According to Coast Guard reports, Arctic Chinook was a joint Coast Guard and U.S. Northern Command-sponsored exercise on the U.S. Department of State-approved list of Arctic Council Chairmanship events. The exercise scenario consisted of an adventure-class cruise ship with approximately 250 passengers and crew that experiences an incident which degrades to become a catastrophic event.⁶⁷⁴ The exercise simulated a decision to abandon ship resulting in passengers and crew with a mix of critical, serious and minor injuries, as well as the deployment of life rafts.⁶⁷⁵

Marine Casualties. On July 14, 2017, the 872 foot Danish

672. *Id.*

673. Bill Colclough, *Arctic Chinook 2016*, COAST GUARD ALASKA (Sept. 2, 2016), <http://alaska.coastguard.dodlive.mil/2016/09/arctic-chinook-2016/>.

674. *Id.*

675. *Id.*

flag container ship *Laura Maersk* lost propulsion in the Bering Sea twelve miles north of Unimak Pass, while on the great circle route from Vancouver, BC to Busan, South Korea.⁶⁷⁶ The ship drifted for seven hours before tugs from Dutch Harbor brought it under control.⁶⁷⁷ By then the ship was just six miles from Akutan Island.⁶⁷⁸ The ship had over 50,000 gallons of marine diesel fuel oil on board.⁶⁷⁹

A series of marine casualties involving U.S. flag vessels and the follow-on investigations provide new insight into the risks posed by vessel traffic in the Arctic. Two collisions involving well-equipped and amply-manned U.S. Navy warships (USS *Fitzgerald* and USS *John S. McCain*) operating in the western Pacific resulted in the loss of seventeen lives. Equipment, training, crew fatigue, and inadequate oversight all contributed to the casualties. Investigations by the U.S. Coast Guard and the National Transportation Safety Board into the 2015 loss of the forty-year-old, 241 meter U.S. flag and U.S.-crewed roll-on/roll-off ship *El Faro* off the east coast of the Bahamas during Hurricane Joaquin, resulting in the loss of all thirty-three crewmembers, revealed serious operational and oversight errors, an inadequate safety management system, and inadequate weather reporting.

Arctic Shipping Safety Measures

Launch of Ice Navigator Training and Certification Scheme. On July 1, 2017, the Nautical Institute launched the Ice Navigator Training and Certification Scheme, which is designed to complement the Polar Code but is not restricted to polar regions.⁶⁸⁰ The course focuses on actual shiphandling and operation of vessels in ice-covered waters.⁶⁸¹

Polar Code Certification. In 2017, the 155-passenger expedition cruise ship *MS Bremen*, owned by Hapag-Lloyd Cruises, became one of the first passenger ships in the world to

676. Mike Schuler, *Tugs Save Disabled Maersk Containership About to Run Aground in Alaska*, GCAPTAIN (July 17, 2017), <http://gcaptain.com/tugs-save-disabled-maersk-containership-threatening-run-aground-alaska/>.

677. *Id.*

678. *Id.*

679. *Id.*

680. *Accreditation*, NAUTICAL INSTITUTE, <https://www.nautinst.org/en/accreditation/index.cfm> (last visited Feb. 1, 2018).

681. *Id.*

receive the Polar Ship Certificate that will be mandatory for ships operating in the polar regions starting in January 2018.⁶⁸² The classification society DNV GL awarded the MS Bremen the Polar Code certification after the ship went through a two-year long phase of preparation.⁶⁸³

Central Bering Sea Place of Refuge. The Coast Guard and Marine Transportation Act of 2012 called for two Arctic marine studies. Section 717 required the Commandant of the Coast Guard to consult with appropriate federal agencies and with state and local interests to determine what improvements, if any, are necessary to designate existing ice-free facilities or infrastructure in the Central Bering Sea as a fully functional, year-round Potential Place of Refuge. The Coast Guard delivered the report in 2014.

Arctic Deep Water Port. Section 721 of the 2012 bill required the Commandant, in consultation with the Commanding General of the Army Corps of Engineers, the Maritime Administrator, and the Chief of Naval Operations, to conduct a study on the feasibility of establishing a deep water seaport (with a depth of not less than 34 feet) in the Arctic to protect and advance strategic United States interests within the Arctic region. The Coast Guard delivered the Report on February 11, 2014.⁶⁸⁴ See Section III.A.7 for a description of the Corps of Engineers' activity.

Committee on the Marine Transportation System. See Section II.A.13.

Bering Strait PARS. On November 8, 2010, the Coast Guard published a notice in the Federal Register of its intent to conduct a Port Access Routing Study (PARS) for the Bering Strait, the 50-mile-wide strait between Russia and Alaska, partly blocked by Little and Big Diomedes Islands.⁶⁸⁵ The study was initiated to evaluate the continued applicability of

682. Eric Haun, *Cruise Ship MS Bremen Certified to Polar Code*, MARINELINK (Aug. 16, 2017), <https://www.marinelink.com/news/certified-bremen-cruise428415#.WZSp5B3W1ud.twitter>.

683. *Id.*

684. U.S. COAST GUARD, FEASIBILITY OF ESTABLISHING AN ARCTIC DEEP-DRAFT SEAPORT (Feb. 11, 2014), <http://origin.library.constantcontact.com/download/get/file/1103854201241-742/2014-1.02.11.Feasibility+of+Establishing+an+Arctic+Deep-draft+Seaport.pdf>.

685. Port Access Route Study: In the Bering Strait, 75 Fed. Reg. 68,568 (Nov. 8, 2010).

and the need for modifications to current vessel routing measures, and the need for the creation of new vessel routing measures in the Bering Strait.⁶⁸⁶ The goal is to help reduce the risk of marine casualties and increase the efficiency of vessel traffic in the study area.⁶⁸⁷

The Coast Guard announced on February 19, 2015 a proposal to establish four-mile wide traffic lanes running from Unimak Pass in the Aleutian Islands through the U.S. side of the Bering Strait and into the Arctic Ocean.⁶⁸⁸ As presently proposed, the traffic lanes will be voluntary. The measures are expected to enter force in 2017.⁶⁸⁹

In his December 9, 2016 executive order, President Obama directed the Coast Guard to give careful consideration to community recommendations regarding environmentally sensitive Areas to Be Avoided (ATBAs) in the area and to publish its initial findings by the end of 2016 and move its conclusions to the International Maritime Organization for action by 2018.⁶⁹⁰

In response to the Obama executive order (which was later revoked by President Trump), the Coast Guard completed its *Preliminary Findings of the Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea* on Dec. 23, 2016 [Docket Number USCG-2014-0941 and USCG 2010-0833]. Instructions for viewing the document were posted in the Federal Register on February 27, 2017.⁶⁹¹ As with the 2015 proposal, the Preliminary Findings call for establishment of Two-Way Route designations from the Bering Sea north of the Aleutian Islands through the Bering Strait, Precautionary Areas at each terminus of the Route, and designation of Areas

686. *Id.* at 68,569.

687. *Id.* at 68,570.

688. Craig H. Allen, Sr., *The Coast Guard Advances its Arctic Readiness in 2015, but Challenges Remain*, PACIFIC MARITIME MAGAZINE (Feb. 1, 2016), <http://www.pacmar.com/story/2016/02/01/features/the-coast-guard-advances-its-arctic-readiness-in-2015-but-challenges-remain/409.html>.

689. *Id.*

690. Press Release, The White House, Office of the Press Secretary, FACTSHEET: White House Announces Actions to Protect Natural and Cultural Resources in Alaskan Arctic Ocean (Dec. 9, 2016), <https://obamawhitehouse.archives.gov/the-press-office/2016/12/09/fact-sheet-white-house-announces-actions-protect-natural-and-cultural>.

691. Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea, 82 Fed. Reg. 11,935 (Feb. 27, 2017).

to be Avoided around several islands.⁶⁹² The deadline for submitting comments on the proposal closed on May 30, 2017 (ALPI submitted extensive comments on the proposal).⁶⁹³ The United States and Russia later filed a joint proposal to the International Maritime Organization to adopt the Bering Sea/Strait vessel routing measures (See Section V.A “Arctic Marine Shipping” above).

Arctic Waterways Safety Committee. In 2014 the U.S. Coast Guard 17th District facilitated an initial meeting of stakeholders to organize a new Arctic Waterways Safety Committee.⁶⁹⁴ The committee held its first formal meeting in Juneau in March 2015, and a public meeting in Anchorage on June 8. The new committee is meant to provide a forum to solve differences in the Arctic waterways without involving regulatory intervention. It focuses on creating best practices to ensure a safe, efficient, and predictable environment for all users of Arctic waterways. Members include representatives from Arctic municipalities, regional subsistence hunting groups, and the marine industries.⁶⁹⁵

POLAR ICEBREAKERS

The most widely cited compilation of icebreakers of the world is produced by the U.S. Coast Guard. What follows is a brief survey of recent icebreaker acquisition, construction and operational developments.⁶⁹⁶

Australia. Australia revealed details of its new icebreaker in October 2015.⁶⁹⁷ The new icebreaker will be used primarily to supply Australia’s three permanent Antarctic research stations with cargo, equipment and personnel as well as

692. *Id.*

693. *Id.*

694. ARCTIC WATERWAYS SAFETY COMMITTEE, <http://www.arcticwaterways.org/> (last visited Feb. 5, 2017).

695. *Our Work*, ARCTIC WATERWAYS SAFETY COMMITTEE, <http://www.arcticwaterways.org/attorneys-1.html> (last visited Feb. 5, 2017).

696. OFFICE OF WATERWAYS AND OCEAN POLICY, U.S. COAST GUARD, MAJOR ICEBREAKERS OF THE WORLD (2015), <http://www.uscg.mil/hq/cg5/cg552/docs/20150521%20Major%20Icebreaker%20Chart.pdf> (last visited Feb. 12, 2018).

697. Press Release, Hon. Malcolm Turnbull, Prime Minister, Australia’s New State-of-the-Art Icebreaker Unveiled (Oct. 29, 2015), <http://www.environment.gov.au/minister/hunt/2015/pubs/mr20151029.pdf>.

operating as a research ship with laboratory facilities.⁶⁹⁸ The icebreaker, set to replace the *Aurora Australis*, is projected for completion in 2019.⁶⁹⁹

Canada. The 492 foot, Polar Class 2, diesel electric powered Canadian Coast Guard icebreaker *CCGS John G. Diefenbaker* was expected to join the Canadian Coast Guard fleet in 2021-2022; however, that date has slipped, as there are reportedly several research vessels and two navy ships scheduled for construction ahead of her.⁷⁰⁰

China. Shanghai-based Jiangnan Shipyard Co., Ltd announced in July 2016 that China intends to start building its first domestically produced icebreaker by the end of 2016.⁷⁰¹ China's largest icebreaker *Xuelong* (Snow Dragon) was purchased from a Ukrainian company in 1993.⁷⁰² China refitted it into a polar research vessel at a cost of thirty million yuan, about \$4.6 million, and put it into service in place of the Research Vessel *Jidi* in 1994.⁷⁰³ *Xuelong* has completed thirty-two expeditions in Antarctica and is now on its seventh Arctic expedition.⁷⁰⁴ The new vessel will be smaller than the *Xuelong* but with more icebreaking power.⁷⁰⁵

Finland. Finland continues to be a leading nation in the design and construction of icebreakers. The Finnish icebreaking fleet includes nine state-owned, Finnish Navy and commercially owned vessels. *Polaris*, Finland's newest icebreaker, was completed on September 28, 2016.⁷⁰⁶ She is

698. AUSTRAL. GOV'T, DEP'T OF THE ENV'T, AUSTRAL. ANTARCTIC DIV., AUSTRALIA'S NEW ANTARCTIC ICEBREAKER (2014), <https://www.environment.gov.au/minister/hunt/2014/pubs/mr20140731-factsheet.pdf> (last visited Feb. 12, 2018).

699. Sam Ikin, Rosemary Bolger & Emilie Gamenz, *New \$500 million Icebreaker Australia's Biggest Investment the Antarctic Program*, ABC (Oct. 29, 2015, 2:39 AM), <http://www.abc.net.au/news/2015-10-29/pm-turnbull-releases-details-of-new-500-million-icebreaker/6893848>.

700. *Section 3 – Strategic and Management Priorities*, CANADIAN COAST GUARD, <http://www.ccg-gcc.gc.ca/Publication/2014-2017-IBHRP/Section3-Strategic-and-Management-Priorities> (last updated Dec. 20, 2014).

701. *China Starts Building Its First Polar Icebreaker*, CRIENGLISH.COM (July 30, 2016, 4:44 PM), <http://english.cri.cn/12394/2016/07/30/2743s936063.htm>.

702. *Id.*

703. *Id.*

704. *Id.*

705. *Id.*

706. *The world's first LNG-powered icebreaker Polaris delivered*, ARCTECH (Sept. 28, 2016), <http://arctech.fi/the-worlds-first-lng-powered-icebreaker-polaris-delivered/>.

the world's first to feature dual fuel liquefied natural gas (LNG) and diesel propulsion, which makes the vessel Finland's most powerful icebreaker and the world's greenest.⁷⁰⁷ In late 2016 the icebreaker was undergoing final outfitting at Arctech Helsinki Shipyard and the vessel was delivered to Arctia Icebreaking Oy in mid-2017. Arctia Icebreaking Oy is a subsidiary of state-owned Arctia Shipping, which manages all icebreaking operations in Finland.

Germany. On July 18, 2016, the German research icebreaker *Polarstern* departed from Tromsø (Norway) to start its 100th expedition.⁷⁰⁸ On board there are scientists from 13 nations who cover the range from physical oceanography, geochemistry, geodesy, geology, geophysics, seismology, marine biology, biochemistry and mechanical engineering.⁷⁰⁹ Later that year, she departed for Antarctica.⁷¹⁰

Norway. In 2017, the oceanographic icebreaker RV *Kronprins Haakon* was delivered to Norwegian Polar Institute (NPI).⁷¹¹ The new NPI research vessel will reportedly be operated by the Institute of Marine Research with the University of Tromsø as the main user.⁷¹² The 100-meter long, 9,000-ton Polar Class (PC) 3 vessel has space for two helicopters, a remotely operated vehicle (ROV), and an autonomous underwater vehicle (AUV).⁷¹³ It is capable of breaking ice up to one meter, while meeting the applicable silencing requirements for minimizing the impact of marine mammals.⁷¹⁴

Russia. On June 16, 2016, Russia launched the *Arktika*, the

707. *Id.*

708. Vera Schlindwein, Henning Kirk & Torsten Kanzow, *The 100th Expedition*, ALFRED-WEGENER INSTITUTE: POLARSTERN WEEKLY REPORTS (July 28, 2016), <http://www.awi.de/nc/en/expedition/ships/polarstern/weekly-reports/single-view/presse/polarstern-expedition-klappe-die-hundertste.html>.

709. *Id.*

710. Olaf Boebel, *We Are Leaving Cape Town*, ALFRED-WEGENER INSTITUTE: POLARSTERN WEEKLY REPORTS (Dec. 21, 2016), <http://www.awi.de/nc/en/expedition/ships/polarstern/weekly-reports/single-view/presse/wir-lassen-kapstadt-hinter-uns.html>.

711. *Research Vessels: The Fleet is In*, MARINE TECHNOLOGY REPORTER (Oct. 10, 2017), <https://www.marinetechologynews.com/news/research-vessels-fleet-553253>.

712. *Id.*

713. *Id.*

714. *Id.*

world's biggest, most powerful icebreaker in St. Petersburg.⁷¹⁵ The LK-60 class vessel is 170 meters (568 feet) long and thirty-four meters wide, and powered by two nuclear reactors.⁷¹⁶ Reportedly, it will be able to break through ice thirteen feet deep.⁷¹⁷ Projected for completion in 2019, the *Arktika* will be based in Murmansk, and the Russian Federation plans to add two additional LK-60 class vessels for 2019 and 2020.⁷¹⁸

One week earlier, Russia launched the 6,000-ton diesel-electric icebreaker *Ilya Muromets* during a ceremony in St. Petersburg.⁷¹⁹ The vessel is expected to be inducted into the Russian Navy in 2017.⁷²⁰ The *Ilya Muromets* could be the lead ship of a new class of icebreakers, depending on how well the vessel will do perform in service. The 6,000-ton ship is eighty-five-meter (280-feet) long and can reportedly break through a meter of ice.⁷²¹ With a crew of thirty-five it can traverse the entire 5,600 kilometer (3,500 mile) length of the Northern Passage and can operate autonomously for up to sixty days.⁷²²

According to a statement by Russian Deputy Prime Minister Dmitry Rogozin in October 2016, Russia plans to develop a super-powerful icebreaker that will be able to operate in any ice situation and clear a passage through five-meter ice.⁷²³ Although still only in the project development stage, Russia will be testing projects in coming years to develop new materials and fuel fit for their use in extremely low temperatures.⁷²⁴

The 300 meter *Christophe de Margerie* — the world's first

715. Camila Domonoske, *Russia Launches World's Biggest, Most Powerful Icebreaker*, NPR: THE TWO-WAY (June 16, 2016, 7:48 AM), <http://www.npr.org/sections/thetwo-way/2016/06/16/482288188/russia-launches-worlds-biggest-most-powerful-icebreaker>.

716. *Id.*

717. *Id.*

718. Atle Staalesen, *These Are Russia's New Icebreakers*, BARENTS OBSERVER (Dec. 1, 2015), <http://thebarentsobserver.com/2015/12/these-are-russias-new-icebreakers>.

719. Franz-Stefan Gady, *Russia Launches First New Military Icebreaker in 45 Years*, THE DIPLOMAT (June 14, 2016), <http://thediplomat.com/2016/06/russia-launches-first-new-military-icebreaker-in-45-years/>.

720. *Id.*

721. *Id.*

722. *Id.*

723. *Russia to Develop Icebreaker Able to Clear Passage Through 5-meter Ice*, RUSS. BEYOND HEADLINES (Oct. 13, 2016), http://rbth.com/news/2016/10/13/russia-to-develop-icebreaker-able-to-clear-passage-through-5-meter-ice_638465.

724. *Id.*

icebreaking LNG carrier — entered service in 2017.⁷²⁵ The vessel is the first of fifteen in the class designed and built in South Korea for Russia's Socomflot to transport LNG from Russia's Yamal gas field on a year-round basis.⁷²⁶ In late August, the vessel, which is reportedly capable of breaking ice up to 2.1 meters, made the North East Passage/Northern Sea Route passage from Hammerfest, Norway, to South Korea in nineteen days (compared to a thirty-day transit via the Suez Canal).⁷²⁷

Sweden. On August 8, 2016, the Swedish icebreaker *Oden* departed Svalbard to join the Canadian icebreaker *Louis S. St-Laurent* for “Arctic Ocean 2016,” in support of Canada's continental shelf claim.⁷²⁸ For six weeks, the two vessels operated in the Amundsen Basin and the Lomonosov and Alpha Ridges.⁷²⁹

Sweden recognizes that efficient ice-breaking operations are required to promote maritime safety and improve accessibility in ice-infested waters.⁷³⁰ Swedish ice-breakers are able to support increasing commercial shipping in the Arctic as well as help with both the monitoring of the vulnerable marine environment and Arctic research.⁷³¹ The Swedish Maritime Administration's five ice-breaking vessels are well suited to Arctic and sub-Arctic waters.⁷³² In addition, the private operator, Trans Viking Icebreaking and Offshore, operates three ice-capable vessels.⁷³³

725. *Christophe de Margerie Class Icebreaking LNG Carriers*, SHIP TECHNOLOGY, <https://www.ship-technology.com/projects/christophe-de-margerie-class-icebreaking-lng-carriers/> (last visited Feb. 1, 2018).

726. *Id.*

727. Patrick Barkham, *Russian tanker sails through Arctic without icebreaker for first time*, THE GUARDIAN (Aug. 24, 2017), <https://www.theguardian.com/environment/2017/aug/24/russian-tanker-sails-arctic-without-icebreaker-first-time>.

728. *Arctic Expedition Onboard Swedish Icebreaker to Depart from Spitsbergen (Svalbard) on Tuesday*, ARCTIC (Aug. 8, 2016), <http://arctic.ru/international/20160808/403134.html>.

729. Gov't Can., *2016 Arctic Survey*, BACKGROUND, <http://news.gc.ca/web/article-en.do?mthd=tp&ctr.page=1&nid=1102489> (last updated July 21, 2016).

730. *Sweden*, ARCTIC COUNCIL, <http://www.arctic-council.org/index.php/en/about-us/member-states/sweden> (last updated Sept. 10, 2015).

731. *Id.*

732. *Id.*

733. *What We Do*, VIKING SUPPLY SHIPS, <http://www.vikingsupply.com/whatwedo> (last visited Mar. 26, 2017).

United States. Icebreaker acquisition attracts much attention among Arctic observers. The High Latitude Region Mission Analysis prepared for the Coast Guard by ABS Consulting in 2011 concluded that the Coast Guard needs three heavy and three medium icebreakers to fulfill its statutory missions (Vol. II of the study analyzes Arctic Mission Area Needs).⁷³⁴ To fulfill its statutory missions and maintain the continuous presence requirements of the Naval Operations Concept (2010) would require six heavy and four medium icebreakers.

The Coast Guard presently has two active polar icebreakers: USCGC *Healy* (WAGB 20), medium icebreaker with a projected service life of 2030, and USCGC *Polar Star* (WAGB 10), a heavy icebreaker whose original 30-year service life ended in 2006, but then completed a service life extension program in 2013.⁷³⁵ A third polar icebreaker, the *Polar Sea* (WAGB 11), was prepared for “preservation drydocking” in 2015.⁷³⁶

The Coast Guard has not yet decided whether it will be feasible to return the *Polar Sea* to active service. Meanwhile, her sister ship *Polar Star*, which is en route to Antarctica at this writing, is expected to reach the end of her extended service life not later than 2023, potentially leaving the nation without a heavy icebreaker to support its Antarctic activities.⁷³⁷

The Congressional Research Service published a detailed analysis of icebreaker capabilities and modernization needs on November 10, 2016.⁷³⁸ The U.S. has at least five options, individually or in combination, for acquiring a new heavy icebreaker: (1) acquire a new icebreaker from a U.S. shipbuilding company; (2) acquire a new icebreaker from a foreign shipbuilding company (perhaps at a lower cost); (3)

734. ABS Consulting, *United States Coast Guard High Latitude Region Mission Analysis Capstone Summary* (July 2010), <http://assets.fiercemarkets.net/public/sites/govit/hlssummarycapstone.pdf>.

735. *Id.*

736. *Id.*

737. See Hector Martin, Icebreakers: ‘*Polar Sea*’ Revisited, THE ARCTIC JOURNAL (Oct. 16, 2014, 6:48 PM), <http://arcticjournal.com/politics/1082/polar-sea-revisited>.

738. Ronald O’Rourke, *Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress*, CONGRESSIONAL RESEARCH SERVICE (Nov. 10, 2016), <https://www.hsdl.org/?view&did=796906>.

enter into a short- or long-term lease; (4) enter into a hybrid public-private partnership for staffing an icebreaker owned privately or by the government; and (5) overhaul and reactivate the *USCGC Polar Sea*.⁷³⁹

On March 22, 2017, Admiral Zukunft testified before the Senate Committee on Commerce, Science and Transportation, Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard.⁷⁴⁰ Referring to the joint Navy-Coast Guard Integrated Program Office he reported that the joint USCG-USN approach will leverage the expertise of both services and is already delivering results.⁷⁴¹

Draft RFP for USCG Heavy Polar Icebreaker. The U.S. Navy, in collaboration with the U.S. Coast Guard, released a draft request for proposals (RFP) on October 19, 2017 for the detail design and construction of one heavy polar icebreaker with the option of up to two more to support the country's economic, commercial, maritime, and national security needs.⁷⁴² The draft RFP solicited comments, questions, and planning purposes and is provided as “an advance notice to ease proposal lead time and assist teaming arrangements.”⁷⁴³

Continued Fight for U.S. Polar Icebreakers. The Senate Armed Service Committee unanimously passed a provision authored by Alaska Senator Dan Sullivan to procure the six polar-class icebreakers as part of the FY 18 National Defense Authorization Act, with hopes that the provision would be considered by the full Senate quickly in order to continue moving the process forward.⁷⁴⁴

739. *Id.* at 1-2.

740. *Written testimony of USCG Commandant Admiral Paul Zukunft for a Senate Committee on Commerce, Science and Transportation, Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard hearing titled “State of the Coast Guard: Ensuring Military, National Security, and Enforcement Capability and Readiness”*, (Mar. 22, 2017), <https://www.dhs.gov/news/2017/03/22/written-testimony-uscg-commandant-senate-commerce-science-transportation>.

741. *Id.*

742. Michael Fabey, *Draft RFP for USCG Heavy Polar Icebreaker released*, JANE'S 360 (Oct. 19, 2017), <http://www.janes.com/article/75053/draft-rfp-for-uscg-heavy-polar-icebreaker-released#WeoDrqtiXiQ.twitter>.

743. *Id.*

744. *U.S. Coast Guard moves one step closer to procuring six new polar-class*

Other than the icebreakers operated by the U.S. Coast Guard described above, four ice-capable ships fly the U.S. flag. One, *Sikuliaq* (261 feet long and launched in 2014), is owned by the National Science Foundation and operated by the University of Alaska Fairbanks.⁷⁴⁵ Two are owned by Edison Chouest Offshore and chartered to the National Science Foundation: Nathaniel B. Palmer (308 feet long and launched in 1992) and Laurence M. Gould (230 feet long and launched in 1997).⁷⁴⁶ The fourth, the 360 foot *Aiviq* (launched in 2012), owned and operated by Edison Chouest Offshore, is an ice-capable anchor handling tug supply (AHTS) vessel built to support Royal Dutch Shell in the Arctic.⁷⁴⁷ On November 9, 2015, Edison Chouest Offshore canceled plans to build two more AHTS vessels.⁷⁴⁸

Foss Maritime launched the *Michele Foss*, the first of four planned Arctic tugs in March 2015.⁷⁴⁹ In June 2016, Foss launched the second vessel in the class, the *Denise Foss*.⁷⁵⁰ The ice-strengthened tugs are 132 feet long.⁷⁵¹

ARCTIC LIVING MARINE RESOURCES

Reduction in Cod Quotas in the Barents Sea. In 2017, the International Council for the Exploration of the Sea recommended that the *cod quota* in the Barents Sea for the following year be reduced by more than 170,000 tons.⁷⁵²

icebreakers, KTUU (June 29, 2017), <http://www.ktuu.com/content/news/US-Coast-Guard-one-step-closer--431608123.html>.

745. *R/V Sikuliaq: Global Class Ice-Capable Research Vessel*, UNIV. ALASKA FAIRBANKS, <https://www.sfos.uaf.edu/sikuliaq/launch/> (last visited Apr. 29, 2016).

746. *U.S. Antarctic Program Images*, NAT'L SCI. FOUND., <https://www.nsf.gov/geo/plr/antarct/imageset/start.jsp> (last visited Apr. 29, 2016).

747. Jill Burke, *Builder of Tug that Failed Shell's Kulluk Has Moneyed Alaska Ties*, ALASKA DISPATCH NEWS (Jan. 4, 2013), <http://www.adn.com/article/builder-tug-failed-shells-kulluk-has-moneyed-alaska-ties>.

748. *Chouest Said to Have Canceled Arctic AHTS Duo*, MARINE LOG (Nov. 9, 2015), http://www.marinelog.com/index.php?option=com_k2&view=item&id=10031:chouest-said-to-have-canceled-arctic-ahts-duo&Itemid=223.

749. Peter Marsh, *Michele Foss: Foss Maritime's First Arctic Class Tug*, PAC. MAR. MAG. (June 1, 2015), <http://www.pacmar.com/story/2015/06/01/features/michele-foss-foss-maritimes-first-arctic-class-tug/347.html>.

750. *Id.*

751. *Id.*

752. Atle Staalesen, *Less cod in Barents Sea must be followed by reduced quotas, researchers say*, ARCTIC NOW (June 14, 2017), <https://www.arcticnow.com/arctic->

Norwegian and Russian fisheries in the region have enjoyed high quota levels in recent years, with an all-time high of 1,021 million tons in 2013.⁷⁵³ According to the Norwegian Institute of Marine Research, the high quotas were largely due to good cod year classes in 2004 and 2005, but now there is a natural decline in Atlantic cod stocks that could force fishermen to reduce their catch by twenty percent in the next year.⁷⁵⁴

U.S. Arctic Fisheries. In 2009, the U.S. secretary of commerce approved the North Pacific Fisheries Management Council's Fishery Management Plan for the Fish Resources of the Arctic Management Area (Arctic FMP).⁷⁵⁵ The Arctic FMP imposes a moratorium on commercial fishing in the "Arctic Management Area," which includes the waters of the U.S. exclusive economic zone north of the Bering Strait, including the Chukchi and Beaufort Seas eastward to the limits of U.S. jurisdiction.⁷⁵⁶ The moratorium on fisheries is to remain in place until scientists can determine what fish stocks exist (e.g., Arctic cod, saffron cod, snow crab, and Pollock) and how crucial they are to maintaining a fragile Arctic ecosystem.⁷⁵⁷ The plan was implemented by the National Marine Fisheries Service in 2009.⁷⁵⁸ Canadians protested the eastern reach of the U.S. Arctic Management Area, claiming that it extended into waters claimed by Canada (the Beaufort Sea boundary between the U.S. and Canada is disputed).⁷⁵⁹

An initial study on the Arctic ecosystem was published by a researcher at NOAA's Alaska Fisheries Science Center in Seattle.⁷⁶⁰

news/2017/06/14/less-cod-in-barents-sea-must-be-followed-by-reduced-quotas-researchers-say/.

753. *Id.*

754. *Id.*

755. N. PAC. FISHERY MGMT. COUNCIL, FISHERY MANAGEMENT PLAN FOR FISH RESOURCES OF THE ARCTIC MANAGEMENT AREA (Aug. 2009), <https://www.npfmc.org/wp-content/PDFdocuments/fmp/Arctic/ArcticFMP.pdf>.

756. *Id.* at 1-2.

757. *Id.* at 4-5.

758. Fisheries of the Exclusive Economic Zone off Alaska; Central Gulf of Alaska Rockfish Program; Amendment 85, 74 Fed. Reg. 56,728 (Nov. 3, 2009).

759. Elizabeth Bluemink, *US, Canada do Battle Over Beaufort Boundary*, ALASKA DISPATCH NEWS (Mar. 6, 2010), <http://www.adn.com/article/20100306/us-canada-do-battle-over-beaufort-boundary>.

760. G.A. Whitehouse, NOAA Technical Memorandum NMFS-AFSC-262,

Any decision on fishing activity in the harsh and distant waters of the 200,000 square mile Arctic Management Area must consider National Standard 10 of the Magnuson-Stevens Act, which dictates that conservation and management measures must, to the extent practicable, promote the safety of human life at sea.⁷⁶¹

Commercial Fisheries in the Arctic Ocean. From March 15-18, 2017, delegations from Canada, China, Denmark, the European Union, Iceland, Japan, Korea, Norway, Russia and the United States met in Reykjavik, Iceland, in their ongoing efforts to prevent illegal, unreported and unregulated (IUU) fishing High Seas Fisheries in Central Arctic Ocean.⁷⁶² Importantly, the States represented included not just the five States that border the Arctic Ocean (Canada, Denmark/Greenland & Faroe Islands, Norway, Russia and the U.S.), but also four States whose vessels engage in distant water fishing operations (China, Iceland, Japan and South Korea) and the European Union, on behalf of its member States.⁷⁶³ The meeting followed previous talks that took place in Washington, D.C. from December 1-3, 2015 and April 19-21, 2016, in Iqaluit, Canada from July 6-8, 2016, and in Tórshavn, The Faroe Islands, from November 29 to December 1, 2016. The Chairman's Statement issued at the conclusion of the conference reported that the delegations "resolved language in the draft Agreement concerning the use of terms, its objective, many of the measures that would apply under the draft agreement, all provisions relating to a Joint Program of Scientific Research and Monitoring, the value of incorporating indigenous peoples' knowledge, all provisions relating to exploratory fishing, dispute settlement and most provisions concerning signature, accession, entry into force, withdrawal, and relation to other agreements."⁷⁶⁴

Preliminary Mass-Balance Food Web Model of the Eastern Chukchi Sea, U.S. Dep't of Commerce (2013), <https://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-262.pdf> (last visited Feb. 12, 2018).

761. 16 U.S.C. §§ 1801–1883 (2012).

762. *Chairman's Statement: Meeting on High Seas Fisheries in the Central Arctic Ocean*, OCEAN CONSERVANCY (2017), <https://oceanconservancy.org/wp-content/uploads/2017/11/Chairmans-Statement-from-Washington-Meeting-2017.pdf> (last visited Feb. 12, 2018).

763. *Id.*

764. *Id.*

Representatives met again in Washington, DC from November 28-30, 2017 to continue negotiating the terms of the agreement. The Chairman's Statement issued at the conclusion of the November meeting explained that the draft Agreement applies to the high seas waters of the Central Arctic Ocean beyond any nation's exclusive economic zone; an area of some 2.8 million square kilometers.⁷⁶⁵ While conceding that no commercial fisheries are likely to occur in those waters in the near future, the participating States noted that changing conditions in the Arctic require a Precautionary Approach to the area's resources.⁷⁶⁶ Such an approach is called for by article 5 of the 1995 Straddling Fish Stocks Agreement.

When formally adopted, the Agreement will establish and operate a Joint Program of Scientific Research and Monitoring, with the aim of improving the understanding of the ecosystems of the area and to determine whether fish stocks might exist in the area that could be harvested on a sustainable basis.⁷⁶⁷ The Agreement also recognizes that one or more regional fisheries management organizations (RFMOs).⁷⁶⁸

The Chairman noted that "[b]efore the Agreement will be open for signature, the delegations must first undertake a legal and technical review of its provisions, which will occur in the near future, and prepare the texts in the other languages in which it will be signed."⁷⁶⁹

Norway and Russia agreed in October 2015 to increase the codfish quota in the Barents Sea.⁷⁷⁰ The agreement is part of the annual fishing negotiations between both countries, which share stocks of cod, haddock, and capelin in the Barents Sea. In the late 1970s, the Russia and Norway institutionalized management cooperation through the Joint Norwegian-Russian Fisheries Commission under the Agreement of 11

765. *Chairman's Statement: Meeting on High Seas Fisheries in the Central Arctic Ocean*, U.S. DEPARTMENT OF STATE (Mar. 27, 2017), <https://www.state.gov/e/oes/ocns/opa/rls/269126.htm>.

766. *Id.*

767. *Id.*

768. *Id.*

769. *Id.*

770. Trude Pettersen, *Norway and Russia Agree on Barents Sea Quotas for 2015*, BARENTS OBSERVER (Oct. 10, 2014), <http://barentsobserver.com/en/nature/2014/10/norway-and-russia-agree-barents-sea-quotas-2015-10-10>.

April 1975.⁷⁷¹ The 2015 agreement contains technical regulations for fisheries operations and research collaboration.⁷⁷²

Walrus. The massive 2014 Pacific Walrus “haul out” was repeated in 2016, when thousands of the animals congregated on a barrier island just north of Point Lay, Alaska.⁷⁷³ The haul outs were first observed in 2007, coinciding with a record sea ice melt in the Arctic.⁷⁷⁴ Female walruses and their young generally spend their summers on the sea ice, foraging in shallower areas for food. But as summer sea ice retreats, walrus are forced to spend summers on shore.⁷⁷⁵

Polar Bears. Scientists estimate the global polar bear population numbers 20,000 to 25,000, but they caution that data on populations in Russia and East Greenland are lacking.⁷⁷⁶ About 60 percent live within or are shared by Canada.⁷⁷⁷ Polar bears are also found in the U.S. (Alaska), Russia, Greenland, and Norway (Svalbard).⁷⁷⁸

The IUCN lists the polar bear as a vulnerable species, citing sea ice losses from climate change as the single biggest threat to polar bear survival. At their 2014 meeting, the IUCN Polar Bear Specialist Group reported that of the 19 populations of

771. *Fisheries Collaboration with Russia*, NORWEGIAN MINISTRY OF TRADE, INDUSTRY, AND FISHERIES, (Oct. 18, 2011), http://www.fisheries.no/resource_management/International_cooperation/Fisheries_collaboration_with_Russia/.

772. *Bilateral Catch Agreement*, ARCTIC JOURNAL (Oct. 9, 2015), <http://arcticjournal.com/business/1880/bilateral-catch-agreement>.

773. Suzanne Goldenberg, *Extreme Arctic Sea Ice Melt Forces Thousands of Walruses Ashore in Alaska*, GUARDIAN (Aug. 27, 2015), <http://www.theguardian.com/environment/2015/aug/27/walruses-alaska-arctic-seaice-melt>.

774. Suzanne Goldenberg, *U.S. Reroutes Flights Around Alaska Beach in Attempt to Avoid Walrus Stampede*, GUARDIAN (Oct. 2, 2014), <https://www.theguardian.com/environment/2014/oct/01/walrus-alaska-beach-trampled-death>.

775. Emily Russell, *In Unnerving Trend, 35,000 Walrus Haul Out at Point Lay*, ALASKA PUB. MEDIA (Sept. 11, 2015), <http://www.alaskapublic.org/2015/09/11/innerving-trend-35000-walrus-haul-out-at-point-lay/>.

776. See *Polar Bear Status Report*, POLAR BEARS INTERNATIONAL, <http://www.polarbearsinternational.org/status-and-threats/polar-bear-status-report> (last visited Apr. 29, 2016).

777. *Id.* .

778. *Id.* .

polar bears 3 populations are declining; 6 are stable; 1 is increasing; and there is insufficient data on the other 9.

The Southern Beaufort Sea population along the northern coast of Alaska and western Canada plunged by about 40 percent over the 10-year study period from 2001-2010, dropping from about 1500 bears to 900 bears before stabilizing. However, Norway's Barents Sea polar bear population has increased by 30 percent over the past 11 years.

Polar bears rely on the sea ice to hunt, travel, breed, and sometimes to den. Scientists report that, confronted by dramatically diminished sea ice, polar bears are increasingly being forced to swim much longer distances between haul outs, increasingly their activity level at the same time food sources are less accessible.⁷⁷⁹

The five nations with polar bear populations signed a non-binding conservation agreement on September 2, 2015.⁷⁸⁰ Canada, Denmark, Norway, Russia, and the United States agreed on a circumpolar action plan to protect and manage polar bears and their habitats.⁷⁸¹ Signatories to the agreement plan to draft an implementation plan and publish progress reports and action tables.⁷⁸²

The Inuit Circumpolar Council noted that the five-nation agreement recognizes the right of Inuit to harvest polar bears under Canadian land claims agreements and Greenland's legislation.⁷⁸³

Russia-Norway Plan for Polar Bear Conservation. In November 2016, Norway hosted the first meeting of the working subgroup for the conservation of the polar bear population and of the working group for cooperation in biodiversity under the Joint Russian-Norwegian Commission on Environmental Protection.⁷⁸⁴ The parties completed a draft

779. Jonathan Amos, *Polar bears travel further as Arctic sea-ice drifts*, BBC NEWS (Dec. 16, 2015), <http://www.bbc.com/news/science-environment-35065411>.

780. *Five Circumpolar States Strike New Deal to Protect Polar Bears*, NUNATSIQA NEWS (Sept. 4, 2015), http://www.nunatsiaqonline.ca/stories/article/65674circumpolar_nations_strike_new_plan_to_protect_polar_bears/.

781. *Id.* .

782. *Id.* .

783. *Id.* .

784. *Russia and Norway work out a draft plan for polar bear conservation*, THEARCTIC (Nov. 9, 2016), <http://arctic.ru/environmental/20161109/488230.html>.

plan of joint work for polar bear protection that will be implemented from 2017-2018.⁷⁸⁵ The group gave special attention to cooperation in the Pasvik-Inari cross-border specially protected natural area.⁷⁸⁶

New Marine Protected Area in the Arctic. In November 2016, the Government of Canada and Northern partners announced the establishment of a new marine protected area in the Arctic.⁷⁸⁷ Located in the Beaufort Sea near the community of Paulatuk, Northwest Territories, the Anguniaqvia niqiqyuam Marine Protected Area was created in collaboration with the Inuvialuit, as well as partners from industry, non-governmental organizations, and other stakeholders.⁷⁸⁸ For the first time, the Government of Canada utilized conservation objectives that were specifically based on Indigenous traditional knowledge.⁷⁸⁹

On December 21, 2017, the Canadian federal government announced the creation of seven new marine refuges off the coasts of Nunavut, Newfoundland, and Labrador that will cover a 145,598-square-kilometerswath of ocean and add more than two percent to Canada's marine protected areas.⁷⁹⁰

Biodiversity and Invasive Species. Reports continue to come in on non-Indigenous species in Arctic waters. In September 2014, a research vessel examining mackerel stocks caught three large Bluefin tuna in the Denmark Strait, much farther north than these fish usually range.⁷⁹¹

In a December 8, 2015 article titled Arctic Invasion in Hakai magazine, Geoffrey Giller reported that scientists sampling

785. *Id.* .

786. *Id.* .

787. News Release, Government of Canada, Government of Canada and Northern partners announce new Marine Protected Area in the Arctic (Nov. 16, 2016), <http://news.gc.ca/web/article-en.do?nid=1154979&tp=1>.

788. *Id.* .

789. *Id.* .

790. Levon Sevunts, *Canada sets up 7 new marine refuges off Arctic and Atlantic coasts*, RADIO CANADA INTERNATIONAL (Dec. 21, 2017), <http://www.rcinet.ca/en/2017/12/21/canada-sets-up-7-new-marine-refuges-off-arctic-and-atlantic-coasts/>.

791. Alex Kirby, *Bluefin Tuna Follow Prey to Warming High Arctic*, CLIMATE NEWS NETWORK (Sept. 8, 2014), <http://climatenewsnetwork.net/bluefin-tuna-follow-prey-to-warming-high-arctic/>.

arriving ships' ballast water in Svalbard identified 23 non-native species, including crabs, barnacles, and copepods, in the ballast water.⁷⁹² So far, it appears that the surrounding waters are too cold for the species to survive.

Arctic High Seas Fisheries. Much of the Arctic Ocean lies beyond the U.S. or any other nation's 200 mile exclusive economic zone. Within that high seas Arctic "doughnut hole" (not to be confused with a similar high seas doughnut hole in the Bering Sea between the U.S. and Russian EEZs, which is governed by a 1994 international agreement) all nations enjoy the freedom to fish consistent with the U.N. Convention on the Law of the Sea and other applicable international law, such as the Straddling Fish Stocks Agreement.⁷⁹³

On June 3, 2008, President George W. Bush signed a congressional joint resolution relating to Arctic Fisheries (Pub. L. No. 110-243).⁷⁹⁴ That resolution emphasizes the need for the United States to work with other nations to prepare for conserving and managing future Arctic fisheries.⁷⁹⁵ It further declares that the U.S. should support international efforts to halt the expansion of commercial fishing activities in the high seas of the Arctic Ocean until such international conservation measures are in place.⁷⁹⁶

For over five years, the U.S. encouraged the other states bordering the Arctic Ocean to negotiate an agreement to regulate Arctic fisheries. Russia balked for several years, but in 2012 it signaled its willingness to support an agreement.⁷⁹⁷ Talks among the Arctic states began in the spring of 2013. At a February 2014 meeting in Nuuk, Greenland, officials from Canada, Denmark, Norway, Russia, and the United States agreed on tentative terms.

In July 2015, the five nations with Arctic Ocean coastlines

792. Geoffrey Giller, *Arctic Invasion*, HAKAI MAG. (Dec. 8, 2015), <http://www.hakaimagazine.com/article-short/arctic-invasion>.

793. See *Maritime Zones and Boundaries*, NOAA OFFICE OF GEN. COUNSEL, http://www.gc.noaa.gov/gcil_maritime.html (last visited Apr. 29, 2016).

794. Act of June 3, 2008, Pub. L. No. 110-243, 122 Stat. 1569.

795. *Id.* .

796. *Id.* .

797. Andrew E. Kramer, *Accord Would Regulate Fishing in Arctic Waters*, N.Y. TIMES (Apr. 16, 2013), <http://www.nytimes.com/2013/04/17/world/agreement-would-regulate-fishing-in-arctic-waters.html>.

signed an agreement to keep their fleets out of the ocean's so-called "donut hole."⁷⁹⁸

From July 6-8, 2016, delegations from Canada, Denmark in respect of the Faroe Islands and Greenland, the European Union, Iceland, Japan, South Korea, Norway, Russia, and the United States met in Iqaluit, Canada to continue discussions concerning the prevention of unregulated commercial fishing in the high seas area of the central Arctic Ocean.⁷⁹⁹

Fishing Agreement to Protect Arctic Waters. In May 2016, leaders in the catching industry reached an agreement "that from the 2016 season the catching sector will not expand their Cod fishing activities with trawl gear into those areas where regular fishing has not taken place before."⁸⁰⁰ The agreement was precipitated by an investigation by Greenpeace in March that revealed suppliers of cod to major British seafood brands were taking advantage of melting Arctic ice to push further north with fleets of destructive giant bottom trawlers.⁸⁰¹ The agreement, which spans the whole supply chain and covers an area twice the size of France, represents the first time the seafood sector has voluntarily imposed limitations to industrial fishing in the Arctic.⁸⁰² Any fishing companies operating in these Arctic waters will not be able to sell their cod to the brands supporting this deal, including McDonald's, Tesco, Birds Eye, Espersen, Russian group Karat, and Fiskebåt, which represents the entire Norwegian

798. Yereth Rosen, *5 Nations Sign Declaration to Protect Arctic 'Donut Hole' From Unregulated Fishing*, ARCTIC NEWSWIRE (July 16, 2015), <http://www.adn.com/article/20150716/5-nations-sign-declaration-protect-arctic-donut-hole-unregulated-fishing> (last visited Feb. 5, 2017).

799. *Chairman's Statement: Meeting on High Seas Fisheries in the Central Arctic Ocean*, FISHERIES AND OCEANS CANADA, <http://www.dfo-mpo.gc.ca/international/media/statement-declaration-eng.htm> (last modified July 15, 2016).

800. *McDonald's and global seafood providers in landmark move for Arctic protection*, GREENPEACE (May 25, 2016), <http://www.greenpeace.org/international/en/press/releases/2016/McDonalds-seafood-Arctic-protection-overfishing/>.

801. Rebecca Smithers, *Major British seafood brands linked to fishing in fragile Arctic area*, GUARDIAN (Mar. 3, 2016), <https://www.theguardian.com/environment/2016/mar/03/major-british-seafood-brands-linked-to-fishing-in-fragile-arctic-area>.

802. *Id.* .

oceangoing fishing fleet.⁸⁰³

Arctic Non-Living Marine Resources

International policy leaders almost universally agree that the world should strive to keep global average temperature rise related to greenhouse gas emissions below 2° C above pre-industrial levels.⁸⁰⁴ Several studies indicate that meeting that goal throughout the twenty-first century requires a specific cap on global carbon emissions.⁸⁰⁵ Other studies estimate that emissions from using all the fossil fuels still left in the ground would exceed that cap by three times.⁸⁰⁶

A study published in the science journal *Nature* in January 2015 compared the relative environmental costs of extractive activities in reserve locations around the world.⁸⁰⁷ The purpose was to arrive at a scientifically supportable conclusion about exactly which reserves should remain untapped.⁸⁰⁸ The results indicate “that all Arctic resources should be classified as unburnable” if the temperature rise is to remain below 2° C.⁸⁰⁹

Major energy companies such as BP, Eni, ExxonMobil, Repco, Shell, and others committed in 2017 to cutting methane emissions from the natural gas assets they operate around the world.⁸¹⁰ The Guiding Principles are to continually reduce methane emissions, advance strong performance across gas value chains, improve accuracy of methane emissions data, advocate sound policies and regulations on methane emissions,

803. *Id.* .

804. See, e.g., Camil Domonoske, *2 Degrees, \$100 Billion: The World Climate Agreement, By the Numbers*, NPR: THE TWO-WAY (Dec. 12, 2015, 5:33 PM), <http://www.npr.org/sections/thetwo-way/2015/12/12/459502597/2-degrees-100-billion-the-world-climate-agreement-by-the-numbers>.

805. See, e.g., Johan Rockstrom et al., *A Roadmap for Rapid Decarbonization*, 355 *SCIENCE* 1269 (2017).

806. See, e.g., Malte Meinshausen et al., *Greenhouse-Gas Emission Targets for Limiting Global Warming to 2°C*, 458 *NATURE* 1158 (2009), <https://www.nature.com/nature/journal/v458/n7242/full/nature08017.html>.

807. Christophe McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C*, 517 *NATURE* 187 (2015), <http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html> (last visited Feb. 5, 2017).

808. *Id.* .

809. *Id.* . at 190.

810. *Energy Companies Commit to Methane Emissions Cuts*, MARITIME EXECUTIVE (Nov. 11, 2017), <https://maritime-executive.com/article/energy-companies-commit-to-methane-emissions-cuts#gs.b2a1eBg>.

and increase transparency.⁸¹¹ The Principles were developed in collaboration with the Environmental Defense Fund, the International Energy Agency (IEA), the International Gas Union, the Oil and Gas Climate Initiative Climate Investments, the Rocky Mountain Institute, the Sustainable Gas Institute, The Energy and Resources Institute, and United Nations Environment Programme.

The Arctic Oil and Gas Potential. A widely-cited 2008 report by the U.S. Geological Survey estimates that the Arctic holds 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, of which approximately 84 percent is expected to occur in offshore areas, where exploration and development risks and costs greatly exceed onshore counterparts.⁸¹²

The International Energy Agency released its World Energy Outlook 2016 on November 16, 2016.⁸¹³ The report notes that major transformations in the global energy system will take place over the next decades and renewables and natural gas will be the big winners in the race to meet energy demand growth until 2040. However, a detailed analysis of the Paris Agreement finds that the era of fossil fuels is not over and will complicate the process of reaching ambitious climate goals. Implementing current international pledges under the Agreement will only slow down the projected rise in energy-related carbon emissions from an average of 650 million tons per year since 2000 to around 150 million tons per year in 2040. The authors argue that this achievement will not be enough to avoid the worst impact of climate change as it would only limit the rise in average global temperatures to 2.7°C by 2100, but a decrease to 2°C could be possible if policies to accelerate further low carbon technologies and energy

811. *Reducing methane emissions across the natural gas value chain: Guiding Principles*, CLIMATE AND CLEAN AIR COALITION (Nov. 2017), <http://ccacoalition.org/en/resources/reducing-methane-emissions-across-natural-gas-value-chain-guiding-principles>.

812. U.S. GEOLOGICAL SOCIETY, CIRCUM-ARCTIC RESOURCE APPRAISAL: ESTIMATES OF UNDISCOVERED OIL AND GAS NORTH OF THE ARCTIC CIRCLE (2008), <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf> (last visited Feb. 5, 2017).

813. INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 2016 (2016), <http://www.iea.org/newsroom/news/2016/november/world-energy-outlook-2016.html> (last visited Feb. 5, 2017).

efficiency are put in place across all sectors.⁸¹⁴

United States. The federal Outer Continental Shelf Lands Act (OCSLA) defines the OCS as all submerged lands lying seaward of state coastal waters which are under U.S. jurisdiction.⁸¹⁵ Under the federal Submerged Lands Act, most states (including Alaska) have title to the adjacent submerged lands out to 3 miles offshore.⁸¹⁶ Under the OCSLA, the secretary of the interior is responsible for the administration of mineral exploration and development of the OCS.⁸¹⁷ The Act empowers the secretary to grant leases to the highest qualified responsible bidder on the basis of sealed competitive bids, and to formulate regulations as necessary to carry out the provisions of the Act.⁸¹⁸ The Act also provides guidelines for implementing an OCS oil and gas exploration and development program.⁸¹⁹

OCSLA leasing responsibility is delegated to the DOI's Bureau of Ocean Energy Management (BOEM).⁸²⁰ The statutorily authorized OCSLA leasing program begins with preparation of five-year leasing plans. On March 15, 2016, Secretary Jewell announced the second proposal, the Proposed Program for 2017-2022.⁸²¹ There were 13 potential lease sales in four program areas in all or parts of the six proposed outer continental shelf planning areas.⁸²² This included 10 sales in the combined Gulf of Mexico Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska.⁸²³ President Obama subsequently issued a memorandum to remove the Chukchi and Beaufort

814. *Id.* .

815. 42 U.S.C. §§ 1301 *et seq.* (2012); *see also OCS Land Act History*, BUREAU OCEAN ENERGY MGMT., <http://www.boem.gov/OCS-Lands-Act-History/> (last visited Apr. 29, 2016).

816. 42 U.S.C. § 1337(g).

817. *Id.* . § 1334(a).

818. *Id.* . § 1337(g).

819. *Id.* . § 1351.

820. *Frequently Asked Questions*, BUREAU OCEAN ENERGY MGMT., <http://www.boem.gov/FAQ/> (last visited Apr. 29, 2016).

821. *2017-2022 Outer Continental Shelf Oil and Gas Leasing Proposed Program*, BUREAU OF OCEAN ENERGY MANAGEMENT, <https://www.boem.gov/2017-2022-Proposed-Program-Decision/> (last visited Feb. 5, 2017).

822. *Id.* .

823. *Id.* .

seas from the program.⁸²⁴

BOEM estimates that the Chukchi Sea contains between 2 and 40 million barrels of unproved technically recoverable crude oil and up and 10 to 210 trillion cubic feet of unproved technically recoverable natural gas.⁸²⁵

Royal Dutch Shell and Lease Sale 193. Royal Dutch Shell, the main purchaser of Arctic offshore Alaska drilling leases, had a disappointing 2012 Arctic season, and spent 2013 in negotiations with BOEM on conditions for a resumption of drilling.⁸²⁶ It returned to Arctic waters in the summer of 2015.⁸²⁷

BOEM conditionally approved Shell's 2015 exploration plan on May 11, 2015, and followed up with final approval on July 22, after the supporting resources (two drill rigs and thirty support vessels) were all on scene (a Shell-chartered icebreaker MSV Fennica struck a submerged hazard near Dutch Harbor in July and had to undergo emergency repairs in Portland before joining the Shell fleet in the Chukchi Sea).⁸²⁸

Shell successfully drilled the Burger J exploration well to a depth of 6,800 feet; however, the indications of oil and gas were reportedly not sufficient to warrant further exploration in the prospect.⁸²⁹

In late September 2015, Shell announced that it was

824. Memorandum on Withdrawal of Certain Areas of the United States Outer Continental Shelf Offshore Alaska from Leasing Disposition, 2015 DAILY COMP. PRES. DOC. 59 (Jan. 27, 2015), <https://www.gpo.gov/fdsys/pkg/DCPD-201500059/pdf/DCPD-201500059.pdf>.

825. Terry Yen & Laura Singer, *Oil Exploration in the U.S. Arctic Continues Despite Current Price Environment*, U.S. ENERGY INFO. ADMIN. (June 12, 2015), <https://www.eia.gov/todayinenergy/detail.cfm?id=21632>.

826. Yereth Rosen, *U.S. Government Gauges Interest in New Chukchi Sea Offshore Oil Leasing*, REUTERS (Sept. 26, 2013, 8:07 PM), <http://www.reuters.com/article/alaska-offshore-idUSL2N0HM2KY20130927>.

827. Rupert Neate, *Shell to Resume Arctic Drilling Off Alaska as Green Groups Warn of Disaster*, GUARDIAN (May 11, 2015), <https://www.theguardian.com/environment/2015/may/11/shell-arctic-drilling-alaska-oil-gas>.

828. See generally Paul Barrett & Benjamin Elgin, *Inside Shell's Extreme Plan to Drill for Oil in the Arctic*, BLOOMBERG (Aug. 5, 2015), <http://www.bloomberg.com/news/features/2015-08-05/inside-shell-s-extreme-plan-to-drill-for-oil-in-the-arctic>.

829. *Shell: Burger J Well to Be Sealed and Abandoned*, RTTNEWS (Sept. 28, 2015, 1:36 AM), <http://www.rttnews.com/2557348/shell-burger-j-well-to-be-sealed-and-abandoned.aspx>.

suspending its Arctic offshore oil exploration program for the foreseeable future, citing disappointing results from exploratory well after having spent over \$7 billion for exploration and leases in the Chukchi Sea.⁸³⁰

On October 16, 2015, BSEE denied “suspension of operations” requests by Shell and Statoil to extend their exploration leases in the Chukchi and Beaufort Sea outer continental shelf areas.⁸³¹ As a result, the Beaufort Sea leases are scheduled to expire starting in 2017, and the Chukchi leases are scheduled to expire in 2020.⁸³² On December 15, Shell filed its notice of appeal, seeking to reverse BOEM’s decision and preserve its rights under the lease.⁸³³

Obama Withdraws Most of Chukchi and Beaufort Seas from Leasing. On December 20, 2016, President Obama issued a memorandum for the secretary of the interior invoking Section 12(a) of the Outer Continental Shelf Lands Act to indefinitely withdraw from future OCS oil and gas leasing nearly all of the Chukchi and Beaufort Seas Planning Areas.⁸³⁴ He added that “The withdrawal directed by this memorandum prevents consideration of withdrawn areas for any mineral leasing for purposes of exploration, development, or production.”⁸³⁵ The Trump administration plans to reopen these areas for leasing, however.⁸³⁶

830. Juliet Eilperin & Steven Mufson, *Royal Dutch Shell Suspends Arctic Drilling Indefinitely*, WASHINGTON POST (Sept. 28, 2015), https://www.washingtonpost.com/news/energy-environment/wp/2015/09/28/royal-dutch-shell-suspends-arctic-drilling-indefinitely/?utm_term=.7edbc32d6da5.

831. Yereth Rosen, *Environmental Groups Want a Say in Shell’s Arctic Lease-Extension Appeal*, ALASKA DISPATCH NEWS (Jan. 14, 2016), <http://www.adn.com/article/20160114/environmental-groups-want-say-shells-arctic-lease-extension-appeal>.

832. *Id.*

833. *Id.*

834. White House Office of the Press Secretary, *Presidential Memorandum—Withdrawal of Certain Portions of the United States Arctic Outer Continental Shelf from Mineral Leasing* (Dec. 20, 2016), <https://obamawhitehouse.archives.gov/the-press-office/2016/12/20/presidential-memorandum-withdrawal-certain-portions-united-states-arctic>.

835. *Id.*

836. Yereth Rosen, *Trump administration plans to reopen closed Arctic waters off Alaska to oil and gas drilling*, ARCTIC NOW (Jan. 4, 2018), <https://www.arcticnow.com/business/energy/2018/01/04/trump-administration-plans-to-reopen-closed-arctic-waters-to-oil-and-gas-drilling/>.

Liberty Island Project. BOEM is deciding how to assess the environmental effect of a production plan for the Liberty Project by Hilcorp Alaska LLC.⁸³⁷ The project entails construction of a twenty-three-acre gravel island in Foggy Island Bay, fifteen miles east of Prudhoe Bay. The island would serve as a platform for five or more extraction wells that could tap oil six miles from shore in the Beaufort Sea. A successful well would be the first petroleum production in federal Arctic waters.⁸³⁸

National Petroleum Council Report. The National Petroleum Council is a federally chartered, but privately funded, advisory group established to represent the oil and gas industry's view to the federal government.⁸³⁹ At the request of Secretary of Energy Moniz, it produced a thorough report in March 2015: *Arctic Potential, Realizing the Promise of U.S. Arctic Oil and Gas Resources*.⁸⁴⁰ The report notably concludes that existing technology allows the safe development of Arctic oil and gas, but U.S. regulatory practices discourage exploration activity.⁸⁴¹

Canada. In June of 2015, Exxon and BP suspended a joint venture in Canadian Arctic exploration due to lack of time for test drilling before its lease expires in 2020.⁸⁴²

Canada's National Energy Board confirmed on December 17, 2014 that Chevron withdrew from a hearing on Arctic drilling rules after deciding to indefinitely shelve plans to drill in the

837. *Hilcorp Alaska LLC*, BUREAU OF OCEAN ENERGY MGMT., <http://www.boem.gov/Hilcorp-Liberty/> (last visited Apr. 29, 2016).

838. Alan Bailey, *New Liberty Plan: Hilcorp Proposes a Gravel Production Island for Beaufort Sea Oil Field*, PETROLEUM NEWS (Jan. 11, 2015), <http://www.petroleumnews.com/pntruncate/13322022.shtml>.

839. *About NPC*, NAT'L PETROLEUM COUNCIL, <http://www.npc.org/background.html> (last update Mar. 31, 2015).

840. NAT'L PETROLEUM COUNCIL, *ARCTIC POTENTIAL: REALIZING THE PROMISE OF U.S. ARCTIC OIL AND GAS RESOURCES* (2015), http://npcarcticpotentialreport.org/pdf/ExSummary_vol-41715.pdf (last visited Feb. 12, 2018).

841. *Id.* at 51.

842. Chester Dawson, *Exxon Mobil, BP Suspend Canadian Arctic Exploratory Drilling Program in Beaufort Sea*, WALL ST. J. (June 26, 2015), <http://www.wsj.com/articles/exxon-mobil-bp-suspend-canadian-arctic-exploratory-drilling-program-in-beaufort-sea-1435348381>.

EL 481 block of Canada's Beaufort Sea. Chevron reportedly cited economic uncertainty, though not directly related to the 48 percent decline in oil prices since June 2014. Chevron was unlikely to drill until 2025, so its decision probably reflects a more long-term assessment of the costs and benefits of its Arctic operations.⁸⁴³

Norway. Norway's Statoil finished 2014 amid reports of escalating costs, declining prices, and disappointing failures. Statoil came up dry in all three Arctic wells drilled during its 2014 Barents Sea exploration season.⁸⁴⁴

Italian oil company ENI reportedly plans to move ahead with its plans to drill in the Norwegian Arctic, provided Norway assents.⁸⁴⁵

Russia. Russia's leading resource extraction and development companies, Gazprom (natural gas) and Rosneft (the world's largest publicly-traded petroleum company), continue to explore new resources in the Arctic. To succeed, however, Russia will need access to western technology and investment funds, and sanctions have impeded access to both.

Multilateral sanctions imposed on Russia, Russian companies, and selected Russian individuals following Russia's 2014 invasion of Ukraine continue to affect Russia's ability to develop its offshore oil and gas resources.⁸⁴⁶

In his November 17, 2015, testimony before a House committee, Admiral Papp reported that "The U.S. is in lockstep with the E.U. and Norway on sanctions that target, among other things, Russia's ability to develop resources in its Arctic waters."⁸⁴⁷

843. *Chevron Cancels Canadian Arctic Drilling as Oil Prices Slide*, REUTERS (Dec. 17, 2014),

<http://www.reuters.com/article/us-chevron-canada-artic-idUSKBN0JV2UU20141217>.

844. Kjetil Malkenes Hovland, *Statoil Fails to Make Commercial Discoveries in Arctic Drilling Campaign*, WALL ST. J. (Aug. 7, 2014), <http://www.wsj.com/articles/statoil-fails-to-make-commercial-discoveries-in-arctic-drilling-campaign-1407400451>.

845. Harry Davies, *Italian Firm Eni Poised to Begin Arctic Oil Quest as Shell Quits Alaska*, GUARDIAN (Sept. 30, 2015), <http://www.theguardian.com/environment/2015/sep/30/italian-firm-eni-to-begin-arctic-oil-quest-shell-quits-alaska>.

846. See e.g., Joseph J. Schatz, *The Transatlantic Cost of Russia Sanctions*, POLITICO (Sept. 12, 2015, 5:30 AM), <http://www.politico.eu/article/transatlantic-unity-russia-sanctions-united-states-europe-ukraine/>.

847. *Charting the Arctic: Security, Economic, and Resource Opportunities: Joint*

Sanctions were expanded in August 2015 to bar transporting certain equipment to Gazprom's Yuzhno-Kirinskoye field. And Rosneft postponed drilling a second well in the Kara Sea until 2018, because sanctions have reportedly prevented access to equipment and funding.⁸⁴⁸

In September 2015, Russia's Ministry of Natural Resources and Environment, Sergei Donskoi, announced that Russia will issue four field licenses to Rosneft, the country's largest oil producer, and Gazprom for development of the Arctic Shelf. Donskoi also commented that the ministry had considered suspending issuance of licenses but would continue issuing them under Russia's current legislation.⁸⁴⁹

On Dec. 29, 2015, Gazprom Chairman Alexey Miller underlined his company's commitment to the Russian Arctic region.⁸⁵⁰ The statement followed news that Gazprom's board of directors had approved an \$11.8 billion investment program for 2016.⁸⁵¹ Noting Gazprom's leadership position in the Russian petroleum industry, Miller said: "We have been efficiently developing the Prirazlomnoye field in the Arctic Shelf. In November, the amount of oil output reached one million [tons] there and this vividly demonstrates that we operate this complex and extremely promising region in a productive and safe manner."⁸⁵²

Miller was referring to Gazprom Neft's news that it has brought its second well into production at the Prirazlomnoye field, with output field now up to 1,800 tons per day (up from 300,000 tons/day in 2014). The Prirazlomnoye field is located in the Pechora Sea, thirty nautical miles from shore.⁸⁵³

Hearing Before the Subcomm.'s on Europe, Eurasia, and Emerging Threats, and Western Hemisphere of the H. Comm. on Foreign Affairs, 114th Cong. 9 (2015) (statement of Admiral Robert J. Papp, Jr.).

848. *Russia's Rosneft Unlikely to Resume Kara Sea Drilling Before 2018*, REUTERS (June 11, 2015),

<http://uk.reuters.com/article/russia-rosneft-kara-sea-idUKL5N0YW3DD20150611>.

849. *Sergei Donskoi: Rosneft and Gazprom to Receive Four Arctic Development Licenses*, ARCTIC (Sept. 2, 2015), <http://arctic.ru/resources/20150902/155646.html>.

850. Wendy Laursen, *Arctic Oil and Gas: Triumph and Disappointment in 2015*, MAR. EXECUTIVE (Dec. 30, 2015), <http://www.maritime-executive.com/editorials/arctic-oil-and-gas-triumph-and-disappointment-in-2015>.

851. *Id.*

852. *Id.*

853. *Id.*

Marine Pollution Prevention, Response & Liability

U.S. Vessel Response Plan Requirements. On September 30, 2013, the Coast Guard promulgated its final rule on Nontank Vessel Response Plans (NTVRPs).⁸⁵⁴ The rule entered into effect on January 30, 2014. Foreign vessels in innocent passage through the U.S. territorial sea or transit passage through an international strait in U.S. waters (e.g., Unimak Pass, which some 3,000 vessels transit each year) are exempt.⁸⁵⁵ On December 20, 2013, the Coast Guard granted a temporary Alternative Planning Criteria (APC) request by the Alaska Maritime Prevention & Response Network for the waters of the Western Alaska Captain of the Port region.⁸⁵⁶

In May 2015, the Coast Guard approved a second APC service provider for a limited area of Western Alaska. Resolve Marine Group and National Response Corporation (NRC) partnered to form 1 Call-Alaska.⁸⁵⁷ The new provider's coverage is limited to the northern Pacific great circle route and to nontank vessels transiting through the Aleutian Islands.⁸⁵⁸ This second APC approval raised concerns that competition between service providers will provoke a "race to the bottom," and discourage the investment necessary for the region to meet the more demanding National Planning Criteria for vessel spill response plans.⁸⁵⁹

The APC approvals for both providers were due to expire on December 31, 2015, but were extended through 2017.⁸⁶⁰ This, despite concerns over lack of response capability in the region raised by the co-chairs of Alaska's Arctic Policy Committee, Sen. Lesil McGuire and Rep. Bob Herron, in their testimony to the U.S. Senate Energy and Natural Resources Committee on

854. 33 C.F.R. § 151, 155, 160 (2016).

855. *Id.*

856. ALASKA MAR. PREVENTION & RESPONSE NETWORK, <http://www.ak-mprn.org/> (last visited Feb. 5, 2017).

857. *Resolve Marine Group and NRC Approved for Western Alaska Alternative Planning Criteria (APC)*, RESOLVE MARINE GROUP (May 2015), <https://resolvemarine.com/news/resolve-marine-group-nrc-approved-western-alaska-alternative-planning-criteria-apc/>.

858. *Id.*

859. *Id.*

860. *Resolve Marine Group and NRC Approved for Western Alaska Alternative Planning Criteria (APC)*, RESOLVE MARINE GROUP (May 2015), <https://resolvemarine.com/news/resolve-marine-group-nrc-approved-western-alaska-alternative-planning-criteria-apc/>.

March 5, 2015.⁸⁶¹

In December 2016, the Coast Guard temporarily suspended promulgation of the Alternative Planning Criteria National Guidelines in order to re-open the public comment period for an additional 90 days.⁸⁶²

Arctic Marine Scientific Research

Scientific Cooperation Between China, Japan, and Korea. The three observers to the Arctic Council met in June 2017 and agreed to strengthen cooperation on environmental protection and scientific research in the Arctic.⁸⁶³ The meeting was the second of its kind following the first gathering of the three states in Seoul in April 2016. The countries issued a joint statement after the meeting, noting that it is “indispensable for the international community to ensure the protection and preservation of the fragile marine environment of the Arctic Ocean, and maintain peace, stability and constructive cooperation based on a rule-based maritime order.”⁸⁶⁴

U.S.-led Scientific Mission. The U.S National Ice Center (USNIC) collaborated with the Office of Naval Research, Office of the Oceanographer of the Navy, the Danish Joint Arctic Command, Environmental and Climate Change Canada, and the University of Washington to deploy buoys into the Arctic Ocean in September 2017.⁸⁶⁵ The joint mission was conducted to collect weather and oceanographic data to enhance forecasting and environmental models thereby reducing

861. *United States Arctic Opportunities Hearing Before the S. Comm. on Energy and Natural Resources*, 114th Cong. 2 (2015) (statements of Sen. Lesli McGuire & Rep. Bob Herron), <http://www.energy.senate.gov/public/index.cfm/2015/3/united-states-arctic-opportunities-hearing>.

862. LT Sarah Janaro, *12/21/2016: Comment Period to Re-open for Alternative Planning Criteria National Guidelines*, COAST GUARD MAR. COMMONS (Dec. 21, 2016), <http://mariners.coastguard.dodlive.mil/2016/12/21/12212016-comment-period-to-re-open-for-alternative-planning-criteria-national-guidelines/>.

863. *Korea, Japan, China agree to beef up cooperation on Arctic issues*, THE KOREA HERALD (June 8, 2017), <http://www.koreaherald.com/view.php?ud=20170608000737>.

864. *Japan, China and South Korea OK joint study on Arctic development*, JAPAN TIMES (June 9, 2017), <https://www.japantimes.co.jp/news/2017/06/09/national/science-health/japan-china-south-korea-plan-joint-study-arctic-development/#.WnUUba2ZPVo>.

865. *US Navy Leads International Effort to Deploy Buoys into the Arctic Ocean*, DEPARTMENT OF THE NAVY (Sept. 12, 2017), http://www.navy.mil/submit/display.asp?story_id=102375.

operational risk for assets in the Arctic.⁸⁶⁶

A March 22, 2016 research paper published in *Atmospheric Chemistry and Physics* raises the possibility of a more rapid rate of sea level rise in this century than previously forecast by the U.N.'s Intergovernmental Panel on Climate Change, whose research is regarded as a gold standard in climate research but at the same time has also been criticized for being too conservative.⁸⁶⁷

According to Hansen, the increased melting could lead to a number of climate change “feedbacks” that could slow down and eventually shut down the oceans’ circulation, stratify the polar seas with warmer waters trapped below cold surface layers, increase the temperature difference between low and high latitudes, and generate increasingly powerful storms.⁸⁶⁸

Scientific Meetings. The Fifth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean was held in Ottawa, Canada from October 24-26, 2017.⁸⁶⁹ The 2017 Arctic Science Summit was held in Prague, Czech Republic from March 31-April 7, 2017.⁸⁷⁰

Assessments and Studies. The ongoing Sea State and Boundary Layer Physics of the Emerging Arctic Ocean study, an Office of Naval Research Departmental Research Initiative (DRI) chaired by Dr. Jim Thomson of the UW Applied Physics Laboratory, seeks to identify factors affecting the spatial and temporal variability of sea state, and improve forecasting of waves on the open ocean and in the marginal ice zone.⁸⁷¹ In

866. *Id.* .

867. James Hansen et. al, *Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 °C global warming could be dangerous*, *ATMOS. CHEM. PHYS.*, 16,3761-3812 (2016).

868. *Id.* .

869. *Fifth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean, 5th FiSCAO*, NOAA ALASKA FISHERIES SCI. CTR., https://www.afsc.noaa.gov/Arctic_fish_stocks_fifth_meeting/ (last visited Feb. 12, 2018).

870. *The Arctic Science Summit Week 2017*, <http://www.assw2017.eu> (last visited Feb. 2, 2018).

871. *Sea State and Boundary Layer Physics of Emerging Arctic Ocean*, APPLIED PHYSICS LAB., U. OF WASH., http://www.apl.washington.edu/project/project.php?id=arctic_sea_state (last visited Apr. 17, 2016).

launching the initiative, ONR noted that there remain fundamental gaps in our knowledge of the physical environment and processes, interactions and feedbacks that are critical to understanding the seasonal evolution of sea ice and the effect of increasing open water on the ice and on the atmosphere, at the Arctic to hemispheric scale.⁸⁷²

Ocean Acidification. Ocean acidification is particularly acute in polar waters. The Arctic Monitoring and Assessment Program, an Arctic Council Working Group, commissioned a three-year study of Arctic waters acidification.⁸⁷³ The report (Arctic Ocean Acidification Assessment) was released on May 6, 2013. AMAP released an overview report in March 2014.⁸⁷⁴

A study released in the June 2015 issue of *Oceanography* revealed that the Chukchi and Beaufort seas could reach acidification levels that threaten the entire marine ecosystem as early as 2030.⁸⁷⁵ The authors concluded by warning that “This region provides unique insights into how the global ocean will respond to human activities, and it is our best hope for developing the understanding that will be needed to mitigate and adapt to what will be our new, modern ocean environment.”⁸⁷⁶

INDIGENOUS ARCTIC RESIDENTS

The Arctic region is home to 30 different Indigenous groups and four million residents.⁸⁷⁷ The Arctic Council has granted Permanent Participant status to six Arctic Indigenous communities.⁸⁷⁸

In May 2016, Canada announced it will fully support the

872. *Id.*

873. *Arctic Ocean Acidification 2013: An Overview*, ARCTIC MONITORING AND ASSESSMENT PROGRAMME, <http://www.amap.no/documents/doc/arctic-ocean-acidification-2013-an-overview/1061> (last visited May 8, 2017).

874. *Id.*

875. J.T. Mathis et al., *Ocean Acidification in the Surface Waters of the Pacific-Arctic Boundary Regions*, 28 *OCEANOGRAPHY* 122, 127 (2015), http://tos.org/oceanography/assets/docs/28-2_mathis2.pdf.

876. *Id.*

877. *Protecting Life in the Arctic*, PEW CHARITABLE TRUSTS, <http://www.pewtrusts.org/en/projects/protecting-life-in-the-arctic> (last visited Apr. 17, 2016).

878. *Arctic Council*, ARCTIC PORTAL, <http://arcticportal.org/arctic-governance/arctic-council> (last visited Apr. 17, 2016).

2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).⁸⁷⁹ In 2010, President Obama issued a statement of support, while emphasizing that it is “not legally binding or a statement of current international law.”⁸⁸⁰

The International Whaling Commission (IWC) establishes aboriginal catch limits.⁸⁸¹ For 2013 through 2018 the IWC has authorized Alaskan and Chukotka native whalers to land up to 336 whales to meet subsistence needs.⁸⁸²

On July 31, 2015, the European Union formally approved the Government of Nunavut as a Recognized Body under the Indigenous Communities Exemption of the EU Seal Regime, which means that the Government of Nunavut will be able to certify sealskins as having been harvested according to the rules of the exemption.⁸⁸³ The EU seal ban issue had previously been cited by Canada as the reason for their objection to EU Observer status at the Arctic Council.⁸⁸⁴

Inuit leaders attended the COP21 climate change conference in Paris.⁸⁸⁵ Vice President of the Inuit Circumpolar Council-Canada Herb Nakimayak, Nunavut Premier Peter Taptuna, and Nunavut MP Hunter Tootoo of the federal fisheries ministry attended the summit as part of the Canadian delegation.⁸⁸⁶ Additionally, the Joint Arctic Peoples delegation

879. Tamara Khandaker, *Canada Adopts UN Declaration on Indigenous Peoples, but Some Are Skeptical Anything Will Change*, VICE NEWS (May 10, 2016), <https://news.vice.com/article/canada-finally-endorses-un-declaration-on-indigenous-people>.

880. Press Release, U.S. STATE DEP'T, Announcement of U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples 1 (Jan. 12, 2011), <http://www.achp.gov/docs/US%20Support%20for%20Declaration%2012-10.pdf>.

881. *Catch Limits & Catches Taken*, INT'L WHALING COMM'N, <https://iwc.int/catches> (last visited Apr. 17, 2016).

882. *Id.*

883. *European Union Approves Exemption for Nunavut Seal Hunt*, NUN. DEP'T OF EXEC. AND INTERGOVERNMENTAL AFFAIRS (July 31, 2015), <http://www.gov.nu.ca/eia/news/european-union-approves-exemption-nunavut-seal-hunt>.

884. Lassi Heininen, Heather Exner-Pirot & Joël Pflouffe, *This Year in the Arctic: Timeline of 2015 Events*, in ARCTIC YEARBOOK 2015: ARCTIC GOVERNANCE AND GOVERNING 29 (Lassi Heininen et al. eds., 2015), <http://www.arcticyearbook.com>.

885. Shady Oliver, *Arctic Delegation Heads to Paris Climate Talks*, ALASKA DISPATCH NEWS (Dec. 4, 2015), <http://www.adn.com/article/20151204/arctic-delegation-heads-paris-climate-talks>.

886. *Inuit Leaders in Paris Attempt to Raise Arctic Issues at COP21*, NUNATSIAQ NEWS (Dec. 1, 2015), http://www.nunatsiaqonline.ca/stories/article/65674inuit_leaders_in_paris_to_turn_cop

to Paris was headed by ICC's international chair Okalik Egeesiak and holds observer status at the Conference.⁸⁸⁷ The Inuit hoped to see support for Inuit adaptation and mitigation efforts, use of native knowledge in decision making and creation of global financing to support Indigenous peoples to monitor and battle climate change.⁸⁸⁸

On October 25, 2016 IMO Secretary-General Kitack Lim received a delegation of Arctic Indigenous leaders at IMO headquarters in London.⁸⁸⁹ In this unprecedented meeting, the delegates discussed a wide range of issues, including their concerns regarding the impacts of Arctic shipping on Indigenous communities.⁸⁹⁰ The group hopes to achieve permanent status for Indigenous communities in this international forum in order to be party to decisions that will increasingly affect their livelihoods.⁸⁹¹

MILITARY ACTIVITIES IN THE ARCTIC

When the Arctic Council was established in 1996, the founding states elected not to include military security issues in the council's mandate.⁸⁹² Some have argued that the decision to exclude security issues should be reconsidered. Recommendations include a complete de-militarization of the Arctic (as is the case with Antarctica) and declaring the Arctic region to be a nuclear-weapons-free zone.

Canada. Canada is a charter member of NATO. Its armed forces number 68,000 active and 7,000 reserves. In addition, the Canadian Coast Guard, a civilian, non-paramilitary organization, has over 4,500 civilian members.

It is too early to predict how the Trudeau's national security policy might differ from those of the Harper government, but

21_attention_to_arctic_issues/.

887. *Id.*

888. *Id.*

889. Levon Sevunts, *Arctic Indigenous Leaders to Push for Permanent Voice in World Maritime Body*, RADIO CAN. INT'L (Oct. 20, 2016), <http://www.rcinet.ca/en/2016/10/20/arctic-indigenous-leaders-to-push-for-permanent-voice-in-world-maritime-body/>.

890. *Id.*

891. *Id.*

892. The Council's Charter states that "The Arctic Council should not deal with matters related to military security." Ottawa Declaration, page 1, note 1.

the immediate withdrawal of Canadian military forces from Syria and Iraq may foreshadow a more isolationist posture.⁸⁹³

Vessel procurement requirements for the Royal Canadian Navy (RCN) and Canadian Coast Guard are consolidated in the National Shipbuilding Procurement Strategy.⁸⁹⁴ In 2011, the government awarded a \$25 billion contract to build six to eight Arctic Offshore Patrol Ships as well as fifteen other warships for the RCN over the next two decades.⁸⁹⁵ The Canadian Press reported on September 3, 2014 that the Arctic ship order was on time and under budget.⁸⁹⁶ By December, however, the Canadian Parliamentary Budget Office estimated that only four ships would be built, with a 50 percent chance of on-time delivery.⁸⁹⁷

Canada announced in August 2014 plans to develop a series of Northern Operations Hubs, “to facilitate initial rapid deployment and up to 30 days sustained operations in the North.”⁸⁹⁸ The hubs are expected to be operational by 2018 in Iqaluit, Yellowknife, Resolute Bay, and Inuvik. Canada also conducted a Canadian Armed Forces Joint Arctic Experiment that tested unmanned technology in Arctic conditions.⁸⁹⁹

Finland. Finland, which has adopted a non-alignment

893. Jessica Murphy, *Canada to End Airstrikes in Syria and Iraq*, GUARDIAN (Oct. 20, 2015), <http://www.theguardian.com/world/2015/oct/21/canada-end-airstrikes-syria-iraq-new-prime-minister-trudeau>.

894. *National Shipbuilding Strategy*, PUB. WORKS AND GOV'T SERV. CAN., <http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/index-eng.html> (last updated May 15, 2017).

895. Jeffrey Gilmour, *Canadian Defense Spending – A Case Study of Management*, 15 J. MIL. AND STRATEGIC STUDIES 177 (2014), <https://www.ciaonet.org/attachments/24455/uploads>.

896. *Design of Arctic Patrol Vessels on Time, Under Budget by \$20 to \$30M*, GLOBAL NEWS (Sept. 3, 2014), <http://globalnews.ca/news/1541457/design-of-arctic-patrol-vessels-on-time-under-budget-by-20-to-30m/>.

897. OFFICE OF THE PARLIAMENTARY BUDGET OFFICER, BUDGET ANALYSIS FOR THE ACQUISITION OF A CLASS OF ARCTIC/OFFSHORE PATROL SHIPS 2 (2014), http://www.pbo-dpb.gc.ca/web/default/files/files/files/AOPS_EN.pdf.

898. David Pugliese, *Canadian Forces to Stockpile Military Equipment in Arctic ‘Hubs’ for Faster Response in Case of Emergency*, NAT'L POST (Aug. 21, 2014), <http://news.nationalpost.com/news/canada/canadian-forces-to-stockpile-military-equipment-in-arctic-hubs-for-faster-response-in-case-of-emergency>.

899. Alycia Coulter, *Joint Arctic Experiment 2014 Demonstrates Capabilities of Unmanned Systems at CFS Alert*, NAT'L DEF. AND THE CANADIAN ARMED FORCES (Oct. 22, 2014), <http://www.forces.gc.ca/en/news/article.page?doc=joint-arctic-experiment-2014-demonstrates-capabilities-of-unmanned-systems-at-cfs-alert/i1glw4ox>.

policy, is not a member of NATO;⁹⁰⁰ however, NATO and Finland actively cooperate on peace and security operations. Finnish and international concerns were raised in late 2014, when Russia reopened its Cold War era military base in Alakurtti, less than forty miles from the Finnish border.⁹⁰¹ In early June of 2015, rumors circulated that Finland's new government was exploring the possibility of joining NATO.⁹⁰² Finland's military numbers 35,000 standing armed forces and 900,000 reserves.⁹⁰³

NATO. The North Atlantic Treaty Organization, established by the Atlantic Treaty of 1949,⁹⁰⁴ now includes twenty-eight member-states.⁹⁰⁵ Article V of the treaty states that if an armed attack occurs against one of the member-states, it should be considered an attack against all members, and other members shall assist the attacked member, with armed forces if necessary.⁹⁰⁶

At the July 2016 NATO summit in Warsaw, Poland, the alliance officially acknowledged Russia's "aggressive actions, including provocative military activities in the periphery of NATO territory" as putting Moscow at odds with the alliance, which could lead to an increased focus on Arctic security.⁹⁰⁷ A

900. General Gustav Hägglund, *Finnish Defence Policy Aims to Protect Against External Pressures*, NATO, <http://www.nato.int/docu/review/1995/9504-4.htm> (last visited Apr. 16, 2016).

901. Elisabeth Braw, *Putin Makes His First Move in Race to Control the Arctic*, NEWSWEEK (Jan. 5, 2015), <http://www.newsweek.com/2015/01/16/putin-makes-his-first-move-race-control-arctic-296594.html>.

902. Mark Seip, *Fearful of Putin, Finland Explores NATO Membership*, NEWSWEEK (May 4, 2015), <http://www.newsweek.com/fearful-putin-finland-explores-nato-membership-339428>.

903. *Id.*

904. North Atlantic Treaty, Apr. 4, 1949, 63 Stat. 2241, 34 U.N.T.S. 243 [hereinafter North Atlantic Treaty].

905. NATO member states are the following: Albania, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, the United Kingdom, and the United States. *NATO Member Countries*, NATO, http://www.nato.int/cps/en/natolive/nato_countries.htm (last updated Feb. 6, 2017).

906. North Atlantic Treaty, Apr. 4, 1949, 63 Stat. 2241, 34 U.N.T.S. 243

907. Rob Huebert, *How the Warsaw NATO Summit Altered Arctic Security*, NEWS DEEPLY: ARCTIC DEEPLY (July 18, 2016), <https://www.newsdeeply.com/arctic/community/2016/07/18/how-the-warsaw-nato-summit-altered-arctic-security>.

communiqué from the summit states: “In the North Atlantic, as elsewhere, the Alliance will be ready to deter and defend against any potential threats, including against sea lines of communication and maritime approaches of NATO territory.”⁹⁰⁸

In March 2016, Norway led the largest iteration of Exercise Cold Response to date.⁹⁰⁹ Approximately 16,000 troops from thirteen NATO Allies and partners worked through a ten-day exercise in the Arctic under subzero conditions.⁹¹⁰ The exercise tests the troops’ ability to move and fight together against a common enemy.⁹¹¹ Canadian Forces also held Exercise Arctic Ram 2016, which simulated securing a crashed satellite with sensitive information near Resolute Bay, in Nunavut, Canada.⁹¹²

Norway. Norway is a charter member of NATO. Its armed forces number 26,200 active and 56,200 reserves. The Russian announcement that it will soon add a marine brigade to its Northern Fleet and station those marines near Pechenga (Murmansk Oblast)—just nine miles from the Norwegian border—raised concerns in Norway.⁹¹³

At the CSIS forum described in Section III.I above, Norway’s Foreign Minister Børge Brende expressed Norway’s grave concern with Russia’s violations of international law, which has created a “new security environment in Europe,” Brende observed that Norway was compelled to impose sanctions and suspend military cooperation, but would continue to cooperate with Russia on fisheries, maritime safety, nuclear safety and environmental protection.⁹¹⁴

908. *Id.*

909. Matthew L. Schehl, *Marines Hit the Arctic for Largest Winter Exercise Since the Cold War*, MARINE CORPS TIMES (Mar. 2, 2016), <https://www.marinecorpstimes.com/story/military/2016/03/02/marine-hit-arctic-largest-winter-exercise-since-cold-war/81161832/>.

910. *Id.*

911. *Id.*

912. *This Week in the Arctic: Northern Navigation and Military Exercises*, ALASKA DISPATCH NEWS (last updated Sept. 26, 2016), <https://www.adn.com/arctic/article/week-arctic-northern-navigation-and-military-exercises/2016/02/26/#.VtGhKpaiYbI.twitter>.

913. See Trude Pettersen, *More Naval Infantry to the Northern Fleet*, BARENTS OBSERVER (Nov. 28, 2014), <http://barentsobserver.com/en/security/2014/11/more-naval-infantry-northern-fleet-28-11>.

914. See Minister of Foreign Affairs Børge Brende, *Special Advisory Board Meeting*, CSIS (Apr. 14, 2014), <http://csis.org/multimedia/video-borge-brende-minister-foreign>.

Russia. In 2016, much was written about the nature and extent of the security threat posed by a resurgent Russian Federation under President Vladimir Putin. The adjacent Baltic States were among the most outspoken. This map, posted on Twitter by Agnia Grigas, depicts the growing Russian military footprint in the Arctic.



The Nagurskoye base in Franz Josef Land was completed in 2017 and is said to be the largest building in the entire circumpolar high Arctic.⁹¹⁵

On December 26, 2014, President Putin signed the revised Russian Military Doctrine.⁹¹⁶ After characterizing NATO as a major threat to Russia's security, for the first time ever the doctrine named the protection of national interests in the Arctic among the main priorities for Russian armed forces in times of peace.

affairs-norway.

915. Thomas Nilsen, *Take a look inside Russia's northernmost Arctic military base*, BARENTS OBSERVER (Apr. 18, 2017), <https://thebarentsobserver.com/en/security/2017/04/take-look-inside-russias-northernmost-arctic-military-base>.

916. *Russia's New Military Doctrine Names NATO as Key Risk*, REUTERS (Dec. 26, 2014), <http://www.reuters.com/article/us-russia-crisis-military-doctrine-idUSKBN0K40Q120141226>.

Russia established its Arctic Command in 2014, to coordinate all military activities in the region.⁹¹⁷ On “Navy Day” in July 2015, Russia announced a new naval doctrine, in which the Arctic plays a central role.⁹¹⁸ Russia’s Northern Fleet now comprises two-thirds of the nation’s navy. That fleet will soon be reinforced with a marine brigade stationed near Pechenga (nine miles from the Norwegian border). In January 2015, Russia reopened its military installation in Alakurtti, sixty kilometers from the border of Finland.⁹¹⁹

Russia increased its military budget by nearly \$11 billion from 2014 to 2015. It has announced its intent to modernize seventy percent of its military by 2020.⁹²⁰

Russian General Valery Gerasimov stated that in 2015, the Defense Ministry will focus on increasing combat capabilities with a focus on the Arctic.⁹²¹ Moscow is in the process of construction of ten Arctic search and rescue stations, sixteen deep water ports, thirteen airfields, and ten air-defense radar stations.⁹²²

On December 9, 2015, Russia deployed an S-300 equipped air defense missile regiment on the Novaya Zemlya islands.⁹²³

Mark Ferguson, commander of the U.S. Navy in Europe and Africa and head of NATO’s joint force command in Naples,

917. Luke Coffey, *Russian Military Activity in the Arctic: A Cause for Concern*, HERITAGE (Dec. 16, 2014), <http://www.heritage.org/research/reports/2014/12/russian-military-activity-in-the-arctic-a-cause-for-concern>.

918. Wendy Laursen, *Moscow Launches New Strategy, New Ship*, MAR. EXECUTIVE (July 26, 2015, 7:39 PM), <http://www.maritime-executive.com/article/moscow-launches-new-strategy-new-ship>.

919. *Russia Moves First Troops to Arctic Base Near Finnish Border*, BARENTS OBSERVER (Jan. 15, 2015), <http://barentsobserver.com/en/security/2015/01/russia-moves-first-troops-arctic-base-near-finnish-border-15-01>.

920. Catrin Einhorn et al., *Russia Rearms for a New Era*, N.Y. TIMES (Dec. 24, 2015), http://www.nytimes.com/interactive/2015/12/24/world/asia/russia-arming.html?_r=0.

921. Timothy Heritage, *Russia to Step Up Combat Capabilities in Crimea*, REUTERS, (Jan. 13, 2015), <http://www.reuters.com/article/us-ukraine-crisis-russia-military-idUSKBN0KM10320150113>.

922. Jeremy Bender, *Russia Just Put the Finishing Touches on 6 Arctic Military Bases*, BUS. INSIDER (Dec. 7, 2015), http://www.businessinsider.com/russia-equipped-six-military-bases-in-the-arctic-2015-12?pundits_only=0&get_all_comments=1&no_reply_filter=1#comment-56679ed8ecad04e727ac49e3.

923. *Russian Defense Ministry Deploys S-300, S-400 Air Defense Missile Systems in Arctic*, TASS (Dec. 9, 2015, 4:40 PM), <http://tass.ru/en/defense/842758>.

stated that Russia's "arc of steel" from the Arctic to the Mediterranean is evidence of the country's remilitarization.⁹²⁴ Russia maintains twenty to thirty icebreaking ships, and it opened a specialized Arctic rescue center for emergencies in its Murmansk port in mid-October 2015.⁹²⁵

Commenting on Russia's militarization of the Arctic, Admiral Robert Papp, the U.S. Special Representative for the Arctic, commented that "The problem is less due to the military buildup than the buildup of rhetoric. . . . President Putin and his associates, their rhetoric about how important the Arctic is to them and their need to defend it is not useful to the type of cooperative efforts we would like to do within the Arctic."⁹²⁶

Admiral Paul Zukunft, Commandant of the U.S. Coast Guard, commented on Russia's buildup of capability in the Arctic, noting that his concern stems from the "complete lack of transparency" in the process.⁹²⁷

Senator McCain visited the Arctic in 2015 and explained in a Wall Street Journal Op-ed that Russia's rush to nationalize and control waterways in the Arctic Ocean raises issues of commercial shipping, military, and intelligence.⁹²⁸ McCain expressed concern about Russia's activities, stating that the country is "threatening the security and prosperity of the Arctic and Northern Europe by assertively deploying its military power, patrolling its neighbors' coastlines both above and below water, and building or reopening numerous military outposts across the region."⁹²⁹ Alaska's freshman Senator Dan

924. Jim Garamone, *NATO Leader Says Russia Building 'Arc of Steel' in Europe*, U.S. DEPT OF DEF. (Oct. 6, 2015), <http://www.defense.gov/News-Article-View/Article/622080/nato-leader-says-russia-building-arc-of-steel-in-europe>.

925. See Jen Judson, *The Icebreaker Gap*, POLITICO, (Sept. 1, 2015), <http://www.politico.com/agenda/story/2015/09/the-icebreaker-gap-000213>; *Arctic Rescue Center Put on Combat Duty in Russia's Murmansk*, TASS (Oct. 21, 2015), <http://tass.ru/en/society/830711>.

926. Keith Johnson, *Searching for Leads in the Opening Arctic*, FOREIGN POL'Y (Sept. 14, 2015), <http://foreignpolicy.com/2015/09/14/searching-for-leads-in-the-opening-arctic/>.

927. Jacqueline Klimas, *Interview: Adm. Paul Zukunft, Coast Guard Commandant*, WASH. EXAMINER, (Sept. 26, 2015), <http://www.washingtonexaminer.com/interview-adm.-paul-zukunft-coast-guard-commandant/article/2572774>.

928. John McCain, *The Real Arctic Threat*, WALL ST. J. (Sept. 1, 2015), <http://www.wsj.com/articles/the-real-arctic-threat-1441149448>.

929. *Id.*

Sullivan has repeatedly voiced his concerns about Russia's military activities in the Arctic.⁹³⁰

In April 2016, Russian submarine launched its Kalibr missile from the Barents Sea less than 24 hours after deputy head of the Federation Council's Committee for Defense and Security threatened Sweden that Russia will deploy more missiles to its northern regions if Sweden enters NATO.⁹³¹

The Northern Fleet conducted 4,700 exercises in 2017, more than half of which included combat training with the use of weapons. The same level of intensity is planned for 2018. According to Northern Fleet Commander Yevmenov, a total of sixty-eight surface vessels and submarines were involved in a total of 669 training operations at sea. A total of 213 of the operations included shooting of missiles.⁹³²

In 2016-2020, the Russian Ministry of Defense will focus on the development of military infrastructure in the Arctic region and on the Kuril Islands.⁹³³

Sweden. Sweden has declared itself a neutralized state and therefore not a member of NATO.⁹³⁴ However, reports circulated this year that Sweden was considering becoming a member of NATO if Finland also decided to join.⁹³⁵ The Swedish Armed Forces number 20,000 active, 12,000 reserve and 22,000 Home Guard.

930. Becky Bohrer, *Russian Military Moves Highlight U.S. Arctic Concerns*, Sullivan Says, ALASKA DISPATCH NEWS, (Aug. 17, 2015), <http://www.adn.com/article/20150817/russian-military-moves-highlight-us-arctic-concerns-sullivan-says>.

931. Thomas Nilsen, *Russian sub launched Kalibr missile day after warning against Swedish NATO membership*, BARENTS OBSERVER (Apr. 30, 2016), <https://thebarentsobserver.com/en/security/2016/04/russian-sub-launched-kalibr-missile-day-after-warning-against-swedish-nato#.VyTqEdeZMBF.twitter>.

932. Atle Staalesen, *Northern Fleet conducted 4,700 exercises this year*, BARENTS OBSERVER (Nov. 30, 2017), <https://thebarentsobserver.com/en/security/2017/11/northern-fleet-conducted-4700-exercises-year#.WiAS59uuHEY.twitter>.

933. *Russian Defense Ministry to focus on military infrastructure development in the Arctic*, THEARCTIC (Mar. 25, 2016), <http://arctic.ru/infrastructure/20160325/323055.html>.

934. Drazo Kraishnik, *Sweden and the Never Ending Debate for NATO Membership*, NATO ASS'N, (Jan. 14, 2016), <http://natoassociation.ca/sweden-and-the-never-ending-debate-for-nato-membership/>.

935. *Sweden and Finland Consider NATO Membership*, STRATFOR WORLDVIEW: GEOPOLITICAL DIARY, (Sept. 16, 2015), <https://www.stratfor.com/geopolitical-diary/sweden-and-finland-consider-nato-membership>.

United States. The United States is a charter member of NATO. Its armed forces (not including the Coast Guard) number 1.3 million active and 850,000 reserve.

The FY2016 National Defense Authorization Act (NDAA) required the secretary of defense to develop a new military strategy to respond to Russia's growing military presence in the Arctic. Section Act 1054 of the FY2018 NDAA requires the Secretary of Defense to submit a report to Congress on the department's capability and resource gaps and required infrastructure, including specific sections on infrastructure in the Arctic to protect national security, and also requests a review of Navy capabilities in the Arctic region under section 1065. Section 1233 provides a perspective on European security and notes that Russia continues to pose a threat, with one supporting factor being the country's increasing military activity in the Arctic region.

VI. UNIVERSITY OF WASHINGTON ALPI NEW DEVELOPMENTS

UW Arctic Law and Policy Institute (ALPI) Director Professor Craig H. Allen continued to serve as a Research Fellow in the U.S. Coast Guard's Center for Arctic Study and Policy and was also appointed to the National Maritime Security Advisory Committee. Malina Dumas (UW Law '18), a FLAS-sponsored student in Inuktitut, was reappointed a Hazelton Fellow for a second year, to assist in compiling this Year in Review.

VII. SELECTED CONFERENCES

The **11th Arctic Frontiers** conference was held in Tromsø, Norway from January 22-27, 2017. The focus of the 2017 conference, "White Space — Blue Future," was on oceans and speakers discussed the lack of knowledge about the Arctic Ocean, the processes occurring under the Arctic ice, changes in the Arctic's eco- systems and its impact on the fishing industry, among other topics.

The **Fourth Arctic Encounter Symposium** was held in Seattle from April 13-14, 2017.⁹³⁶ Speakers included U.S.

936. *Fourth Annual Arctic Encounter Symposium*, ARCTIC ENCOUNTER SYMPOSIUM,

Senator Lisa Murkowski, former Prime Minister of Greenland and current member of the Danish Parliament Aleqa Hammond, Ambassadors from Iceland and Norway, members of Congress, and prominent members of the scientific and business communities.⁹³⁷

The **Ecosystem Studies of Sub-Arctic Seas (ESSAS)** Annual Science Meeting Symposium on was held in Tromsø, Norway from June 11-15, 2017.⁹³⁸ The overall theme of the meeting was “Moving In, Out, and Across Arctic and Subarctic Marine Ecosystems: Shifting Boundaries of Water, Ice, Flora, Fauna, People and Institutions.”⁹³⁹

The U.S. National Ice Center and the U.S. Arctic Research Commission hosted the 7th **Symposium on the Impacts of an Ice-Diminishing Arctic on Naval and Maritime Operations**, July 18-20, at the U.S. Navy Memorial & Naval Heritage Center, in Washington, D.C.⁹⁴⁰

The 2017 **Arctic Circle Assembly** convened from October 13-15, 2017 in Reykjavik.⁹⁴¹ The Arctic Circle highlights issues and concerns, programs, policies and projects; it provides platforms for dynamic dialogue and constructive cooperation. While the plenary sessions are the responsibility of the Arctic Circle, the breakout sessions are organized by various participating partners in their own name and with full authority over the agenda and the choice of speakers.⁹⁴²

On June 21, 2017, the Wilson Center convened the **Arctic Circle Forum** event in Washington, DC titled “The United States and Russia in the Arctic,” which convened over 500 individuals representing commercial, environmental, indigenous, governmental, and academic interests.⁹⁴³

<http://www.arcticencounter.com/aeseattle-2017/> (last visited Feb. 4, 2018).

937. *Id.*.

938. *2017 ESSAS Annual Science Meeting*, ECOSYSTEM STUDIES OF SUB-ARCTIC SEAS, http://www.imr.no/essas/international_conference_on_subarctic_and_arctic_science/en (last visited Feb. 4, 2018).

939. *Id.* .

940. *7th Symposium on the Impacts of an Ice-Diminishing Arctic on Naval and Maritime Operations*, U.S. ARCTIC RESEARCH COMMISSION (2017), https://www.star.nesdis.noaa.gov/Ice2017/documents/ida7_program_20170713.pdf.

941. *2017 Arctic Circle Assembly*, ARCTIC CIRCLE (2017), <http://www.arcticcircle.org/Media/060917-2017-arctic-circle-assembly-program.pdf>.

942. *Id.* .

943. *Day 1: The Wilson Center-Arctic Circle Forum*, WILSON CENTER,

The **2017 Arctic Energy Summit** was held in Helsinki, Finland from September 18-20. The Summit addressed energy in the Arctic as it relates to small and off-grid community energy solutions, oil and gas development, renewable energy, regulation and financing, and transportation and transmission.⁹⁴⁴

The **Tenth Polar Law Symposium** was held in Rovaniemi, Finland from November 13-14, 2017.⁹⁴⁵ The theme of this year's symposium was "Global and Local Governance of the Poles: Law, Policy and the Promotion of Cooperation."⁹⁴⁶

The annual **Northern Premiers Forum** took place in Yellowknife in August 2017.⁹⁴⁷ Peter Taptuna of Nunavut, Bob McLeod of the Northwest Territories, and Sandy Silver of Yukon sent a message that they want more involvement in federal decisions that affect them, criticizing a number of recent policy moves.⁹⁴⁸ The leaders also indicated that they want to make industry investment in their territories more attractive rather than increase "regulatory complexity or uncertainty" and requested more financial support for infrastructure. Nunavut plans to host the 2018 Northern Premiers' Forum.⁹⁴⁹

The University of Washington's Arctic Law and Policy Institute (ALPI) is a collaborative, university-based, multidisciplinary think tank chartered to provide objective analysis of selected law and policy issues related to Arctic marine science, governance, pollution prevention and response, safety of navigation, conservation and management of natural

<https://www.wilsoncenter.org/event/day-1-the-wilson-center-arctic-circle-forum> (last visited Feb. 4, 2018).

944. *Agenda "At a Glance"*, ARCTIC ENERGY SUMMIT, <http://arcticenergysummit.com/story/Program> (last visited Feb. 4, 2018).

945. *Global and Local Governance of the Poles: Law, Policy and the Promotion of Cooperation: Programme*, ARCTIC CENTRE, UNIVERSITY OF LAPLAND (2017), <http://www.rovaniemi-arctic-spirit.fi/loader.aspx?id=30476abb-d1e0-482c-bf07-0b9fc13138b6> (last visited Feb. 12, 2018).

946. *Id.* .

947. Jane George, *Northern premiers present united front against Ottawa*, NUNATSIAQ ONLINE (Sept. 1, 2017), http://www.nunatsiaqonline.ca/stories/article/65674northern_premiers_present_united_front_against_ottawa/.

948. *Id.* .

949. *Id.* .

2018]

2017 ARCTIC YEAR IN REVIEW

263

resources and measures to ensure a healthy and sustainable future for Arctic peoples.

Readers are encouraged to report new developments for inclusion in future end-of-year reviews by writing to the Institute at: ALPI@uw.edu.