

ARCTIC LAW & POLICY YEAR IN REVIEW: 2014

Arctic Law & Policy Institute, University of Washington

A categorized review of major developments, with background information and current events

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I. INTRODUCTION: ARCTIC NEWS HIGHLIGHTS

The Arctic gave up one of its great mysteries in September 2014, when a team of Canadian researchers found the wreckage of the famed Franklin expedition, lost since 1845. But a new set of Arctic uncertainties emerged throughout the year. The Arctic became a convergence zone for a number of geopolitical issues, as Russian behavior inspired multiple concerns. Canadian scholar Michael Byers declared, “[t]he Arctic is at the center of world politics given the incredible pace of climate change and also given geopolitical developments involving Russia.”¹ Russia reported a major new oil discovery in the Kara Sea. But every Arctic nation except Russia rejected the Crimea referendum;² and by the end of 2014, sanctions levied against Russia for its actions in Ukraine took a serious toll on Arctic oil and gas development, already hurting from depressed prices. At the same time, Russia’s Arctic military expansion kept a frantic pace. Heated exchanges between Russian and Canadian leaders contributed to a growing concern that the Arctic’s historic stability might face its own climate change as the ice recedes. On the other hand, the International Maritime Organization—with Russian

1. Michael Byers, Prof. at Univ. of B.C., Panel Remarks at the Passing the Arctic Council Torch Conference (Sept. 30, 2014) (video available at <http://csis.org/event/passing-arctic-council-torch>).

2. The March 16, 2014 vote under which Crimea broke from Ukraine and joined Russia as a federal subject.

participation—adopted a mandatory Polar Code, expected to regulate certain aspects of Polar shipping by 2017. As the United States prepares to take over the Arctic Council Chair in 2015, much hinges on whether other nations interpret Russian Arctic endeavors as progress or provocation.

Mystery also gathered around how the United States chair might change Arctic Council priorities. The past Canadian chair focused on economic development for the people of the Arctic; the U.S. is poised to focus on environmental issues. In July 2014, President Obama appointed Admiral Robert Papp as U.S. Special Representative for the Arctic and Fran Ulmer as Special Advisor on Arctic Science and Policy. Secretary of State John Kerry will be the next chair. By October, Papp and Kerry identified themes centered on climate change and ocean stewardship. The resource development-focused Alaska Arctic Policy Commission responded with an open letter decrying the contrast with the Canadian theme, urging emphasis on jobs and economic development.

Economic development in the Arctic generally takes the form of either oil and gas exploration or marine shipping. Both raised more questions than answers in 2014. In January, the Ninth Circuit U.S. Court of Appeals reversed a lower court decision and rejected a Chukchi Sea oil and gas environmental impact statement as inadequate. The decision sent the Bureau of Ocean Energy Management (BOEM), the agency responsible for the impact statement, back to the drawing board to revise the only active exploration plan in the United States Arctic outer continental shelf.

Meanwhile, the shadow cast over Arctic oil and gas by the 2010 *Deepwater Horizon* disaster continues to grow. In September, a United States District Judge found BP Exploration and Production “grossly negligent,” which could raise its civil penalties as high as \$18 billion. In light of these decisions and low oil prices, developers may find Arctic exploration prohibitively expensive.

Arctic shippers may face a similar calculus. Arctic ice is in decline and interest in Arctic shipping may be at an all-time high. In October the *Nunavik*, an icebreaking cargo ship, successfully carried 23,000 tons of nickel concentrate from Quebec to Point Barrow, through the Northwest Passage without escort. Shipping on the Russian side, along the Northern Sea Route, experienced a sharp decline in 2014 after several years of marked increase. Still, the route was fully

open for six weeks and is an increasingly viable option.

But most analysts consider all Arctic sea routes a long way from making economic sense, and insurers remain deeply skeptical. Arctic shipping casualties rose from seven during 2002 through 2007 to forty-five per year from 2009 through 2013. Ice forecasting capabilities, and search and rescue assets, are widely considered insufficient for any increase in Arctic shipping. The U.S. Congress again declined to fund new icebreaker acquisition. And there is apparently a climate penalty for Arctic shipping: a 2014 study predicted that shifting vessel traffic from the Suez route to the relatively short northern routes would still result in a net warming effect for the first 150 years. Most agree that Arctic shipping is on the rise. Few express confidence that Arctic states are prepared to safely manage increased traffic.

The discovery of Franklin's ship not only reconfirms that the Arctic is a difficult and dangerous place, it also reminds us that we have a greater ability than ever to uncover and understand its mysteries. Much progress and many new questions arose during 2014. This report provides a categorized discussion of these issues, including background material and recent developments.

II. TREATIES & INTERNATIONAL AGREEMENTS

A. *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.³ In doing so, they rejected calls for a new treaty regime, similar to the Antarctic Treaty System.⁴ 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

3. See Arctic Ocean Conference, May 27-29, 2008, The Ilulissat Declaration (May 28, 2008), available at http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf.

4. Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71.

relevant provisions. We therefore see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.”⁵

However, there is no progress to report on possible U.S. accession to the 1982 U.N. Convention on the Law of the Sea (UNCLOS).⁶ 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. Proponents—which include every president since Bill Clinton’s presentment to Congress twenty years ago, the Navy, the U.S. Coast Guard, and the Alaska Arctic Policy Commission—point out that failure to accede leaves the United States without standing to assert an extended continental shelf claim that would give it mineral rights beyond the customary 200 nm Outer Continental Shelf.

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

The UNFCCC,⁷ which entered into force on March 21, 1994, sets an overall framework for intergovernmental efforts to tackle the challenges of climate change. It recognizes that the climate system is a shared resource that can be degraded by industrial and other emissions of carbon dioxide and other greenhouse gases. 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.

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. The current protocol

5. See The Ilussiat Declaration, *supra* note 3.

6. U.N. Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

7. U.N. Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc. No. 102-38, 1771 U.N.T.S. 107.

was agreed to at the parties' 2007 meeting in Kyoto.⁸ The Kyoto Protocol set out two commitment periods, during which member states have pledged to reduce greenhouse gas (GHG) emissions. The second began on January 1, 2013 and will run through 2020. While the U.S. is a party to the UNFCCC, it has not ratified the Kyoto protocol despite signing it in 1998.⁹ Canada formally withdrew from the Kyoto Protocol in 2011.¹⁰

President Obama issued a Joint Announcement on Climate Change with the People's Republic of China on November 11, 2014.¹¹ The announcement affirms that the Presidents of the United States and China "are committed" to an ambitious 2015 emissions agreement with legal force under the Convention.¹²

In December, the UNFCCC parties held the twentieth Conference of Parties (COP 20) in Lima, Peru. The conference concluded with a new climate change agreement that purports to set the stage for a potentially ground-breaking agreement at the United Nations Climate Conference in Paris in 2015.¹³

C. International Convention for the 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.¹⁴ The U.S. is a party, and MARPOL is implemented in the U.S. by regulations

8. See Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 2303 U.N.T.S. 148.

9. *Status of Ratification of the Kyoto Protocol*, FRAMEWORK CONVENTION ON CLIMATE CHANGE, UNITED NATIONS, http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php (last visited April 20, 2015).

10. See *id.*

11. See Press Release, The White House, Office of the Press Secretary, U.S.-China Joint Announcement on Climate Change (November 12, 2014), *available at* <https://www.whitehouse.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>.

12. *Id.*

13. See U.N. Framework Convention on Climate Change, Dec. 1–12, 2014, Report of the Conference of the Parties, Decision -/CP.20 (advance unedited version), *available at* http://unfccc.int/files/meetings/lima_dec_2014/application/pdf/auv_cop20_lima_call_for_climate_action.pdf.

14. See International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 1340 U.N.T.S. 1884.

promulgated under the Act to Prevent Pollution from Ships.¹⁵ 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. Amendments to MARPOL Annex III entered into force on January 1, 2014.

MARPOL Annex VI was adopted in 1997 and went into effect in 2005. The Annex 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). It also allows states to seek International Maritime Organization (IMO) approval of sulfur special emissions control areas (SECA), within which stricter emission limits may be set. The IMO approved an application by the U.S., Canada, and France to establish a SECA for North America in 2010. It entered into force in 2011 and its 0.1% sulfur emissions limit went into effect January 1, 2015. The North American SECA does not presently extend into the Arctic (see below). As a result, the global Annex VI emissions standards (3.5% sulfur) apply in those waters.

D. Maritime Labor Convention (2006).

The Maritime Labor Convention (MLC),¹⁶ completed in 2006, entered into force on August 20, 2013. As of November 2014, sixty-four states representing eighty percent of global shipping have ratified the convention. The U.S. is not among them; however, the U.S. Coast Guard has issued a Navigational and Vessel Inspection Circular providing implementation guidance.¹⁷

15. Pub. L. No. 96-478, 94 Stat. 2297 (1980) (codified at 33 U.S.C. §§ 1905–1915 (2012)).

16. Maritime Labor Convention, Feb. 23, 2006, 45 I.L.M. 792, U.N.T.S. Reg. No. I-51299.

17. See U.S. Coast Guard, COMDTPUB P16700.4, Navigation and Vessel Inspection Circular No. 02-13 (2013), available at <https://www.uscg.mil/hq/cg5/nvic/pdf/2013/MLC%20NVIC%2002-13.pdf>.

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

The Oil Pollution Response agreement was signed by all Arctic Council member-states at the 2013 ministerial meeting in Kiruna, Sweden.¹⁸ The Agreement builds on frameworks established by UNCLOS, the Oil Pollution Preparedness, Response and Co-Operation Convention (OPRC),¹⁹ and the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties.²⁰

F. Fisheries.

On April 3, 2014, the U.S. Senate gave its advice and consent to four fisheries treaties, including the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries;²¹ the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean;²² the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean;²³ and the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing.²⁴

III. STATE PRACTICE

*Over time, the practice is what determines the purport of the treaty.*²⁵

18. See Arctic Council, *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* (May 15, 2013).

19. International Convention on Oil Pollution Preparedness, Response and Co-operation, Nov. 30, 1990, 1891 U.N.T.S. 77.

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

21. Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, Oct. 24, 1978, S. Treaty Doc. No. 96-20, 1135 U.N.T.S. 369.

22. Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, Nov. 14, 2009, S. Treaty Doc. No. 113-1.

23. Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean, May 2, 2012, S. Treaty Doc. No. 113-2.

24. Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Nov. 22, 2009, S. Treaty Doc. No. 112-4.

25. William T. Burke, *State Practice, New Ocean Uses, and Ocean Governance under*

A. *United States: Federal Government*

1. *U.S. Congress*

a. *Howard Coble Coast Guard and Maritime Transportation Act of 2014*

Congress passed the Coast Guard Authorization bill in early December 2014, authorizing the appropriation of just over \$8.7 billion of the Coast Guard's proposed \$9.8 billion budget.²⁶ President Obama signed the bill on December 18. Title V adds a section on Arctic Maritime Transportation.

The new section seeks to ensure "safe and secure maritime shipping in the Arctic including the availability of aids to navigation, vessel escorts, spill response capability, and maritime search and rescue in the Arctic."²⁷ To carry out this purpose, the Secretary (of the agency in charge of the Coast Guard, currently Homeland Security) is "encouraged" to negotiate, conclude, and execute agreements with Arctic and other seafaring nations. The Secretary must also "promote safe maritime navigation by means of icebreaking where necessary, feasible, and effective"

Section 503 requires the Coast Guard to report on the status of the IMO Polar Code, including any related amendments to existing conventions, the cost and safety impacts for coastal communities, and actions the Secretary must take to implement Polar Code provisions.

The Bill forces the Coast Guard to arrive at real conclusions regarding icebreaker needs. The Coast Guard must determine whether it is cost effective to reactivate the non-functioning Polar Sea (icebreakers are discussed in more detail under the Department of Homeland Security/U.S. Coast Guard heading below). If cost-effective, the Coast Guard must develop a service life extension plan, and may use 2015 funds to

UNCLOS, in *GOVERNANCE: STRATEGIES AND APPROACHES FOR THE 21ST CENTURY* 222 (Thomas A. Mensah ed., 1996). We are saddened to report that UW Professor of Law and of Marine Affairs Emeritus and renowned law of the sea scholar William T. Burke passed away on July 4, 2014.

26. See Howard Coble Coast Guard and Maritime Transportation Act of 2014, Pub. L. No. 113-281, 128 Stat. 3022 (codified as amended at various sections of 14, 16, 33, and 46 U.S.C.).

27. 14 U.S.C. § 90 (2014).

reactivate the ship for seven to ten years. If reactivation is not cost-effective, or if the Secretary fails to make a determination, the Coast Guard has ninety days to make a decision and take action “as though such determination was made.” The Coast Guard must submit a bridging strategy for icebreaking operations through September 2024, and more extensive Arctic and Antarctic strategies through 2050. The strategies must compare leasing and purchasing options, although the Coast Guard previously reported that leasing provides no cost advantage.

The authorization bill prohibits the Coast Guard from spending any funds appropriated from 2016 through 2024 on icebreaker design activities “based solely on an operational requirement of another Federal department or agency,” unless that agency pays the bill. At a hearing in July, a House subcommittee chairman asked Navy, NOAA, and National Science Foundation witnesses, as beneficiaries of the icebreaking missions, if they would contribute funds for icebreaker acquisition.²⁸ They declined, and this provision may be the result.

b. Four Fisheries Treaties

The Senate ratified the four fisheries treaties mentioned above, including agreements on the prevention of illegal fishing, conservation and management in the South and North Pacific Ocean, and an amendment to the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries.

c. Arctic Deep Draft Ports: Water Resources Reform and Development Act of 2014

For the first time since 2007, Congress passed a water resources bill authorizing various projects throughout the country.²⁹ Section 2105 provides for the development of Arctic Deep Draft Port Partnerships. Under the new law, the Army Corps of Engineers may provide technical assistance to non-Federal public entities “for the development, construction,

28. See *Implementing U.S. Policy in the Arctic: Hearing Before the H. Subcomm. on Coast Guard and Maritime Transp.*, 113th Cong. (2014).

29. See *Water Resources Reform and Development Act of 2014*, Pub. L. No. 113-121, 128 Stat. 1193 (codified as amended at various sections of 16, 33, 42, and 43 U.S.C.).

operation, and maintenance of channels, harbors, and related infrastructure associated with deep draft ports for purposes of dealing with Arctic development and security needs.” The Secretary may accept or expend funds under such partnerships only pursuant to written agreements, and must prioritize projects identified as important by the Army, Department of Homeland Security, and Department of Defense.

d. Other Congressional Activities

A bill to reauthorize and amend the Magnuson-Stevens Act (Fisheries Conservation and Management) was referred to the Senate Committee on Commerce, Science, and Transportation on December 9, 2014.³⁰

Alaska Representative Don Young (R) and Washington State Representative Rick Larson (D) formed an Arctic Working Group to advise Congress on commercial, navigation, and U.S. security issues related to “rapidly melting Arctic sea ice.”³¹

2. President

In January 2014, President Obama followed his 2013 National Strategy for the Arctic Region with an Implementation Plan.³² The plan lays out thirty-six objectives, including: improve infrastructure, enhance domain awareness, ensure safe and responsible resource development, conserve ecosystems, chart the region, promote scientific research, and resolve boundary disputes. The President assigned a number of specific tasks, with deadlines and benchmarks for measuring success, across a number of federal agencies. Some agencies coordinate multiple tasks. The United States Coast Guard is designated lead agency in seven, and support in nineteen.

The majority of 2014 tasks focus on research that lays groundwork for more concrete deliverables in 2015 and

30. See S. 2991, 113th Cong. (2014).

31. Dean Scott, *Arctic Caucus Formed on Navigation, Commercial Issues Linked to Melting Sea Ice*, BLOOMBERG BNA (Aug. 5, 2014), <http://www.bna.com/arctic-caucus-formed-b17179893314/>.

32. THE WHITE HOUSE, IMPLEMENTATION PLAN FOR THE NATIONAL STRATEGY FOR THE ARCTIC REGION (2014), https://www.whitehouse.gov/sites/default/files/docs/implementation_plan_for_the_national_strategy_for_the_arctic_region_-_fi....pdf.

beyond. The lack of central oversight makes it difficult to track overall progress. Most agencies seem to have at least started their 2014 tasks, but nearly all fall short of completion.

The Department of Energy stands out as an exception. The Department's Office of Indian Energy Policy and Programs held seven tribal consultation sessions and seven stakeholder outreach meetings throughout Alaska between October and December 2014.³³ The Department hosted two free regional community and facility-scale renewable energy project development and finance workshops in Anchorage and Nome. The workshops covered strategic energy planning, clean energy project development and financing, technology updates, energy efficiency, weatherization, and workforce development. Department of Ecology also sponsored a May 1-2, 2014 "Business of Clean Energy in Alaska" conference, and developed a 2015 program to train and develop regional energy ambassadors to provide Alaska Native villages with front line technical assistance.³⁴ The Department also seems to remain involved in a number of small-scale clean energy projects initiated prior to the Implementation Plan, and continues its START initiative to support additional projects.

3. *State Department*

Secretary of State John Kerry responded to appeals from Alaska Senators Begich (D) and Murkowski (R) when he announced plans to appoint a Special Representative for the Arctic Region. He said the Arctic represents a "very rare convergence of almost every national priority in the most rapidly-changing region on the face of the earth," and cited a need to prepare for the U.S. chair of the Arctic Council in 2015.³⁵ Kerry appointed United States Coast Guard Admiral Robert J. Papp to the position on July 16, and former Alaska Lt. Governor and current chair of the U.S. Arctic Research

33. *National Strategy for the Arctic Region*, OFFICE OF INDIAN ENERGY POLICY AND PROGRAMS, <http://energy.gov/indianenergy/national-strategy-arctic-region> (last visited April 23, 2015).

34. See Alaska Start Program, *available at* <http://energy.gov/indianenergy/resources/start-program/alaska-start> (last visited May 16, 2015).

35. Press Release, U.S. Dep't of State, Secretary Kerry Announces Department Will Establish a Special Representative for the Arctic Region (Feb. 14, 2014), *available at* <http://www.state.gov/secretary/remarks/2014/02/221678.htm>.

Commission Fran Ulmer as a Special Advisor on Arctic Science and Policy.³⁶

Admiral Papp's work to define U.S. priorities began immediately. Within thirty days of his appointment, Papp had met with Senator Murkowski and held meetings in Anchorage, Fairbanks, and Barrow, Alaska to consult with policy makers, local representatives, indigenous leaders, environmental organizations, and business leaders. Julie Gourley, Senior Arctic Official in the State Department, unveiled the results at a meeting with other Arctic nations in late October: address climate change impacts, organize effective stewardship of the Arctic Ocean, and improve economic and living conditions. According to Gourley, the U.S. wants to rein in carbon and methane emissions, increase climate monitoring and information sharing among Arctic oil producers, and push renewable energy for Arctic villages. Secretary Kerry will reportedly become the Arctic Council Chair in May 2015.

The State Department Arctic chair goals, centered on environmental concerns, noticeably depart from the Canadian focus on economic development, a point the Alaska Arctic Policy Commission co-chairs highlighted in a strongly-worded open letter to Admiral Papp and Ambassador David Balton.³⁷ They want more focus on jobs and resource development. By November, Admiral Papp inserted their concerns during comments at public meetings and interviews. He spoke of "securing economic development for Arctic residents"³⁸ and described the priorities as an overarching focus on "maritime governance and stewardship,"³⁹ followed by two buckets of projects: climate change and economic well-being. Admiral Papp usually emphasizes "responsible development."⁴⁰

36. Press Release, U.S. Dep't of State, Retired Admiral Robert Papp to Serve as U.S. Special Representative for the Arctic (July 16, 2014), *available at* <http://www.state.gov/secretary/remarks/2014/07/229317.htm>.

37. Letter from Senator Lesil McGuire & Representative Bob Herron, Alaska Arctic Policy Commission, to Admiral Bob Papp & Ambassador David Balton (Oct. 6, 2014), *available at* <http://www.akarctic.com/wp-content/uploads/2013/10/10.6.14-LTR-to-Papp-and-Balton-from-AAAPC-co-chairs-FINAL.pdf>.

38. Kevin McGwin, *The Admiral Who Went into the Cold*, ARCTIC JOURNAL (Nov. 4, 2014), <http://arcticjournal.com/politics/1120/admiral-who-went-cold>.

39. Michael Casey, *America's Man in the Arctic Supports 'Environmentally Sound' Drilling*, FORTUNE (Nov. 7, 2014), <http://fortune.com/2014/11/07/americas-man-in-the-arctic-supports-environmentally-sound-drilling/>.

40. *See, e.g., The United States as an Arctic Nation: Opportunities in the High North:*

4. *Department of Homeland Security/U.S. Coast Guard*

As mentioned above, describing President Obama's Arctic Strategy Implementation Plan, the United States Coast Guard plays a central role in federal Arctic initiatives. Arctic highlights for 2014 include a major leadership transition, ongoing efforts to improve icebreaking capabilities, the annual Arctic Shield exercise, and several search and rescue operations.

a. *New Leadership*

The Coast Guard celebrated its 224th birthday in 2014 with a leadership transition. The new Commandant, Admiral Paul F. Zukunft, previously served as Commander of Coast Guard Pacific Area, and as federal on-scene coordinator for the *Deepwater Horizon*-Macondo disaster. New Vice Commandant, Vice Admiral Peter Neffenger, is a marine safety expert. The University of Washington School of Law's Professor Craig Allen, a former Coast Guard officer, described the new team as, "consummate interagency players who are equally comfortable in command-and-control or cooperate-and-coordinate operating cells."⁴¹

b. *Icebreakers*

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 would need three heavy and three medium icebreakers to fulfill its statutory missions.⁴² Vol. II of the study analyzes Arctic Mission Area Needs.⁴³ To

Hearing Before the H. Subcomm. on Europe, Eurasia, and Emerging Threats, 113th Cong. 5-32 (2014) (statement of Admiral Robert J. Papp, Jr., Special Representative for the Arctic) available at <http://docs.house.gov/meetings/FA/FA14/20141210/102783/HHRG-113-FA14-Transcript-20141210.pdf>.

41. Craig H. Allen Sr., *Why a U.S. Coast Guard?*, THE MARITIME EXECUTIVE, July 21, 2014, <http://www.maritime-executive.com/features/Why-a-US-Coast-Guard-2014-07-21>.

42. See ABS CONSULTING, UNITED STATES COAST GUARD HIGH LATITUDE REGION MISSION ANALYSIS CAPSTONE SUMMARY (2010), available at <http://assets.fiercemarkets.com/public/sites/govit/hlssummarycapstone.pdf>.

43. Mission analysis is the first step in the Major System Acquisitions Manual. The High Latitude Region Mission Analysis identified gaps in four Arctic mission areas:

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 polar icebreakers:⁴⁴ United States Coast Guard Cutter (USCGC) *Healy*, a medium icebreaker with a projected service life of 2030, and USCGC *Polar Star*, a heavy icebreaker whose original thirty-year service life ended in 2006.

The National Fleet Plan issued by the Navy and Coast Guard in March 2014 called for the creation of a formal partnership “to examine synergistic missions, requirements, and capabilities in the unique Arctic operation environment.”⁴⁵

The Coast Guard website includes the following statement:

The Coast Guard is in the preliminary phase of a new, heavy polar icebreaker acquisition program. This stage in the process includes developing a formal mission need statement, a concept of operations, and an operational requirements document – all necessary before developing and implementing a detailed acquisition project plan.⁴⁶

The website also says that the polar icebreaker acquisition project received approval to move forward on June 13, 2014 after the project team “identified specific capabilities necessary to address mission performance gaps and prepared a formal mission need statement, concept of operations overview, and preliminary acquisition plan.”⁴⁷

USCG Vice Commandant Vice Admiral Peter Neffenger provided written testimony to the House Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation on July 23, 2014:

Operating in ice-impacted waters is challenging, requiring specialized infrastructure and equipment, plus well-trained

defense readiness, ice operations, marine environmental protection and ports, waterways and coastal security. The effect of the gaps is exacerbated by gaps in Arctic communications system capability, limited forward operating locations/infrastructure and gaps in environmental response and mitigation capability in ice-covered waters.

44. The study does not address domestic icebreakers, such as USCGC Mackinaw stationed on the Great Lakes, and the eight 140 foot “Bay class” icebreaking tugs.

45. DEP’T OF THE NAVY & U.S. COAST GUARD, NATIONAL FLEET PLAN (2014), available at http://www.navy.mil/strategic/Fleet_Plan_Final.pdf.

46. *Icebreaker Acquisition Directorate*, U.S. COAST GUARD, <http://www.uscg.mil/Acquisition/icebreaker/> (last visited April 20, 2015).

47. *Id.*

personnel, to achieve successful outcomes. The Coast Guard will continue to tailor operations and prioritize future collaborative efforts to match risk trends, maximize stewardship of resources, and assess out-year needs to ensure it can serve the nation's interest in the Arctic.⁴⁸

The Congressional Research Service contributed a detailed analysis of icebreaker capabilities and modernization needs on August 4, 2014, which generated a series of related meetings and reports.⁴⁹ For example, Rear Admiral Daniel Abel, who took over as Commander of the Alaska-based Coast Guard District 17 in June 2014, reportedly told the U.S. Arctic Research Commission during a September two-day meeting in Anchorage, "Currently, the Coast Guard feels that the inventory that we have, between the *Polar Star* and the *Healy*, provides the minimum capability that we need to get us to about 2020."⁵⁰ A 2013 USCG mission flyer supports his statement.⁵¹

These reports suggest the USCG developed a document describing ice breaker needs, possibly responsive to the President's Implementation Plan. If so, it remains well hidden, and the Coast Guard's icebreaker plans remain vague.

c. *Arctic Shield*

District 17 Commander Abel said, "As maritime activity continues to increase in the Arctic, so does our responsibility and commitment to protect those on the sea, to protect the United States from threats delivered by the sea, and to protect the sea itself."⁵² The Coast Guard calls its annual assortment

48. *Implementing U.S. Policy in the Arctic: Hearing Before the H. Subcomm. on Coast Guard and Maritime Transp.*, 113th Cong. (2014) (statement of Vice Admiral Peter Neffenger, USCG Vice Commandant) available at <http://transportation.house.gov/uploadedfiles/2014-07-23-neffenger.pdf>.

49. RONALD O'ROURKE, CONGRESSIONAL RESEARCH SERVICE, COAST GUARD POLAR ICEBREAKER MODERNIZATION: BACKGROUND AND ISSUES FOR CONGRESS (2015), available at <http://fas.org/sgp/crs/weapons/RL34391.pdf>.

50. Yareth Rosen, *U.S. Icebreaker Fleet Will Need Makeover by About 2020, Coast Guard Says*, ALASKA DISPATCH NEWS, Sept. 16, 2014, <http://www.adn.com/article/20140916/us-icebreaker-fleet-will-need-makeover-about-2020-coast-guard-says>.

51. U.S. COAST GUARD, POLAR ICE BREAKER ACQUISITION DIRECTORATE (2013), available at <http://www.uscg.mil/acquisition/icebreaker/pdf/icebreaker.pdf>.

52. Press Release, U.S. Coast Guard, Coast Guard Completes Arctic Shield 2014 (Oct. 31, 2014), available at <http://www.uscgnews.com/go/doc/4007/2403602/Coast->

of Arctic engagements “Arctic Shield.” Arctic Shield is spearheaded by operations aboard the USCGC icebreaker *Healy*, though the deployments include multiple cutters and MH-60 Jayhawk helicopters. Activities this year concentrated on the Seward Peninsula, Bering Strait, and the Northern Alaska Continental Shelf.

Arctic Shield 2014 included the first-ever Jayhawk deployment to a national security cutter, which can serve as a command and control platform for maritime domain awareness, search and rescue, and law enforcement. Another first was the takeoff and landing of an unmanned aircraft system from a Coast Guard icebreaker. Prevention and enforcement activities included fifty-four at-sea boardings and thirty-six safety inspections. The Coast Guard Research and Development Center tested pollution response capabilities in conjunction with NOAA, and the National Ice Rescue School provided training in three Arctic communities. Prevention and outreach activities spanned twenty-nine villages.

The Arctic Shield team also executed several high-visibility search and rescue cases that illuminated some of the Arctic’s unique hazards. In July, the *Healy* broke a twelve-mile path through the ice to rescue a man who navigated his private sailboat to a trapped position forty miles northeast of Barrow, Alaska. In August, a Jayhawk crew medevaced an injured crew member from the South Korean research icebreaker *Araon* 250 miles north of Barrow. In October, deteriorating weather prevented the extraction of an unmanned barge sprung loose from its tow in Canadian waters and adrift in the Beaufort Sea. The Coast Guard will monitor its position over the winter and hope for further action next season.

d. Other USCG Highlights

In April 2014, the Coast Guard released its Report of Investigation into the Circumstances Surrounding the Multiple Related Marine Casualties and Grounding of the MODU Kulluk.⁵³ The report identified inadequate assessment and management of risks as the most significant factor.

Guard-completes-Arctic-Shield-2014.

53. See U.S. COAST GUARD, REPORT OF INVESTIGATION INTO THE CIRCUMSTANCES SURROUNDING THE MULTIPLE RELATED MARINE CASUALTIES AND GROUNDING OF THE MODU KULLUK (2012), available at <http://www.uscg.mil/hq/cg5/cg545>

The Coast Guard opened the Center for Arctic Study and Policy (CASP) in September 2014 as part of its strategic Arctic objectives.⁵⁴ The new CASP is located on the campus of the U.S. Coast Guard Academy in New London, CT and near the Coast Guard's Research and Development Center. Its missions will include high-level analysis of U.S. and USCG Arctic strategy and policy; providing support to USCG Offices, Directorates, Areas and District 17, along with the Arctic Council and the Arctic Coast Guard Forum; and to broaden cadet knowledge and awareness of Arctic issues.

In a December 2014 continuation of a process announced in 2010, the Coast Guard published a request for comments on how consolidating traffic into a defined vessel routing system in the Chukchi and Bering Seas may impact or benefit the region.⁵⁵

5. *Department of Commerce / National Oceanic & Atmospheric Administration*

The National Oceanic and Atmospheric Administration (NOAA) released its annual Arctic Report Card in December 2014, showing continued significant Arctic change.⁵⁶

The agency's new Arctic Action Plan (April 2014) is directly responsive to the President's Implementation Plan.⁵⁷ NOAA's plan is meant to provide "NOAA scientists, stakeholders and partners a roadmap to make shared progress in monitoring, understanding, and protecting" the Arctic region.⁵⁸ It includes six strategic goals: (1) forecast sea ice, (2) improve weather and

/docs/documents/Kulluk.pdf.

54. Press Release, U.S. Coast Guard Academy, Center for Arctic Study & Policy (Sept. 19, 2014), *available at* <http://www.cga.edu/Center%20for%20Arctic%20Study%20Policy.pdf>.

55. Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea, 79 Fed. Reg. 72157 (proposed Dec. 05, 2014) (to be codified at 33 C.F.R. pt. 167) [hereinafter Port Access Route Study].

56. See NAT'L OCEANIC AND ATMOSPHERIC ADMIN. ARCTIC REPORT CARD 2014 (M.O. Jeffries, J.Richter-Menge, and J.E. Overland eds., 2014), *available at* http://www.arctic.noaa.gov/reportcard/ArcticReportCard_full_report.pdf.

57. See U.S. DEPT OF COMMERCE, NOAA'S ARCTIC ACTION PLAN (2014), *available at* <http://www.arctic.noaa.gov/NOAAarcticactionplan2014.pdf>.

58. NOAA Releases Arctic Action Plan, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ARCTIC THEME PAGE (April 21, 2014) <http://www.arctic.noaa.gov/features/action-plan.html>.

water forecasts and warnings, (3) strengthen foundational science to understand and detect Arctic climate and ecosystem changes, (4) improve stewardship and management of ocean and coastal resources in the Arctic, (5) advance resilient and healthy Arctic communities and economies, and (6) enhance international and national partnerships.

The plan includes 88 milestone actions for 2014 and 2015 that “will evolve with Administration budgets, Congressional appropriations, and national priorities.” Many actions support the development of better baseline understanding of the Arctic. They include preparing a baseline monitoring report for all managed fish stocks, and conducting synoptic bioeffects sampling studies for baseline sediment chemistry, benthic community assessment, and sediment toxicity in the Bering, Chukchi, and Beaufort Seas. NOAA also has an Arctic Theme Page that serves as the focal point for Arctic observations, from which interested parties can access a huge amount of data and reports from NOAA and non-NOAA sources.⁵⁹

a. Ocean Acidification

Several NOAA-led studies focused on ocean acidification (OA) and the effects of climate change on Alaska’s fishery sector. The chemical composition of high-latitude oceans, like those around Alaska, is “considered to be more vulnerable to the impacts of OA on shorter timescales.”⁶⁰ The impacts result from human development that increases carbon dioxide (CO₂) concentrations in the atmosphere, terrestrial runoff, and ultimately the ocean. Mollusks and other shellfish face the most immediate threat, but their scarcity in the food web threatens species of particular importance in Alaska, including crab and salmon.

A July report suggested that “highly productive commercial and subsistence fisheries are located in regions projected to experience rapid transitions in temperature, pH, and other

59. See *Arctic Theme Page*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN., <http://www.arctic.noaa.gov/> (last visited April 23, 2015).

60. J.T. Mathis et al., *Ocean Acidification Risk Assessment for Alaska’s Fishery Sector*, 2014 PROGRESS IN OCEANOGRAPHY (July 18, 2014) available at http://ac.els-cdn.com/S0079661114001141/1-s2.0-S0079661114001141-main.pdf?_tid=40e1eeb2-fbf5-11e4-96ad-0000aacb360&acdnat=1431799330_32cd8eb1c7cf89de97d8e90b7bb0c57c.

chemical parameters. . .beginning this decade.”⁶¹ The unfortunate conclusion found southeast and southwest Alaska—highly reliant on fishery harvests, characterized by relatively low incomes, and already under acute socio-economic strains—highly vulnerable to negative impacts of ocean acidification.⁶²

b. Ringed Seal Critical Habitat

In December, NOAA proposed to designate roughly 350,000 square miles of Alaska’s north and west coasts as critical habitat for ringed seals. Ringed seals are a primary food source for polar bears, and share the polar bear’s reliance on ice and snow in the Bering, Chukchi, and Beaufort Seas.⁶³ The seals are designated as threatened or endangered under the Endangered Species Act, which requires designation of critical habitat areas. The proposed designation includes “no regulatory restrictions, only a consultation requirement for federal agencies.” Alaska Senator Lisa Murkowski criticized the size of the proposed habitat area and suggested it would severely impact development.⁶⁴

c. Oil Spill Risk

Also in December, NOAA released an Alaska Oil Spill Risk Analysis that highlights the increasing risk level in Southeast Alaska, the Aleutians, the Beaufort Sea and Kodiak/Shelikof Strait regions, and Cook Inlet.⁶⁵

61. *Id.*

62. *See id.*; *see also* U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-14-736, OCEAN ACIDIFICATION: FEDERAL RESPONSE UNDER WAY, BUT ACTIONS NEEDED TO UNDERSTAND AND ADDRESS POTENTIAL IMPACTS (2014).

63. Designation of Critical Habitat for the Arctic Ringed Seal, 79 Fed. Reg. 71714 (proposed Dec. 3, 2014) (to be codified at 50 C.F.R. pt. 226).

64. Annie Feidt, *NOAA Proposes Critical Habitat for Ringed Seals*, ALASKA PUBLIC MEDIA (Dec. 2, 2014), <http://www.alaskapublic.org/2014/12/02/noaa-proposes-critical-habitat-for-ringed-seals/>.

65. NAT’L OCEANIC AND ATMOSPHERIC ADMIN., ALASKA OIL SPILL RISK ANALYSIS (2014), *available at* <http://www.alaskafisheries.noaa.gov/habitat/restoration/oilspill/oilspillfactsheet1114.pdf>.

6. *Department of Interior*

The Department of Interior issued a comprehensive Climate Change Adaptation Plan in January 2014.⁶⁶ Where the 2013 plan focused on assessing vulnerabilities, this year's plan focused on actions related to Executive Order 13653, Preparing the United States for the Impacts of Climate Change.⁶⁷ As the title suggests, the plan concentrates on *adaptation* and *resilience*. The priorities include: (1) investing in research and supplying critical data and information, (2) working with communities that rely on the Department's lands, facilities, and resources to prepare for climate change impacts and develop measures to reduce future risks, and (3) implementing actions that highlight the benefits of new technologies, innovative resource management, and infrastructure improvements that will strengthen the resiliency of our communities and landscapes.

Oil & Gas

Oil and gas development in the Alaska Outer Continental Shelf is one of DOI's more visible activities. In March 2013, Interior Secretary Ken Salazar said during a news conference "Shell screwed up in 2012 and we're not going to let them screw up when they try to drill in the Arctic again."⁶⁸ The Department spent more than a year drafting new Arctic drilling regulations, and submitted them to the President on August 15, 2014. As of December 2014, the draft rules are not yet available to the public. They will likely build from the Department's March 2013 Review of Shell's 2012 Offshore Oil and Gas Exploration Program⁶⁹ to require, for example,

66. See DEP'T OF THE INTERIOR, CLIMATE CHANGE ADAPTION PLAN (2014), available at http://www.doi.gov/greening/sustainability_plan/upload/2014_DOI_Climate_Change_Adaptation_Plan.pdf.

67. 78 Fed. Reg. 66819 (Nov. 1, 2013).

68. Howard Breen, "Shell Screwed up in 2012 and We're Not Going to Let Them Again": U.S. Secretary of the Interior Ken Salazar, VANCOUVER OBSERVER, Mar. 19, 2013, <http://www.vancouverobserver.com/opinion/shell-screwed-2012-and-were-not-going-let-them-again-us-secretary-interior-ken-salazar>.

69. U.S. DEP'T OF THE INTERIOR, REPORT TO THE SECRETARY OF THE INTERIOR: REVIEW OF SHELL'S 2012 ALASKA OFFSHORE OIL AND GAS EXPLORATION PROGRAM (2013), available at <http://www.doi.gov/news/pressreleases/upload/Shell-report-3-8-13-Final.pdf>.

enhanced spill containment capabilities including same-season relief wells, and comprehensive, integrated activity plans.

Chukchi Sea Oil and Gas Lease 193 was the subject of a Ninth Circuit Court of Appeals case that delayed completion of the sale pending a more thorough Supplemental Environmental Impact Statement (SEIS).⁷⁰ The court ruled that the Bureau of Ocean Energy Management (BOEM) based its original analysis on an arbitrary and capricious estimate of one billion barrels of recoverable oil. The new analysis, released October 31, considers a 4.3 billion barrel, seventy-seven-year scenario.⁷¹ The report estimates 800 small spills (<1,000 bbl) would occur, with a “75% chance of one or more large spills occurring over the 77 years of the scenario, and a 25% chance of no spills occurring.” BOEM conducted seven public hearings across Alaska from November 17 to December 4, 2014.⁷²

7. *Department of Defense*

In November 2013, Defense Secretary Chuck Hagel released the Department of Defense Arctic Strategy.⁷³ It 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. 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 strategy identifies the ways and means the Department of Defense intends to use to achieve these objectives as it implements the National Strategy for the Arctic Region. The

70. *See infra* Part III(A)(10).

71. BUREAU OF OCEAN ENERGY MGMT., BOEM 2014-653, DRAFT SECOND SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT OF CHUKCHI SEA PLANNING AREA (2014), *available at* http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Leasing_and_Plans/Leasing/Lease_Sales/Sale_193/Lease_Sale_193_DraftSSEIS_vol1.pdf.

72. *Chukchi Sea Oil and Gas Lease Sale 193*, BUREAU OF OCEAN ENERGY MGMT., <http://www.boem.gov/ak193/> (last visited April 24, 2015).

73. U.S. DEPT OF DEF., ARCTIC STRATEGY (2013), *available at* http://www.defense.gov/pubs/2013_Arctic_Strategy.pdf.

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 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.

Climate change is an increasingly central concern within the Department. The Department's March 2014 Quadrennial Defense Review did not add to the 2013 Arctic Strategy.⁷⁴ It did recognize that "[t]he impacts of climate change may increase the frequency, scale, and complexity of future missions, including defense support to civil authorities, while at the same time undermining the capacity of our domestic installations to support training activities." Similarly, the Department's October 2014 Climate Change Adaption Roadmap refers to climate change as a "threat multiplier" likely to exacerbate existing challenges from infectious disease to terrorism.⁷⁵ Outgoing Secretary Chuck Hagel concluded his foreword by saying, "[p]olitics or ideology must not get in the way of sound planning."

The United States Navy, in its Arctic Roadmap (February 2014), expects the region to remain a low threat security environment, characterized by peaceful resolution of differences.⁷⁶ The Navy considers its present 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. With particular attention on increasingly open Arctic Sea shipping

74. See U.S. DEP'T OF DEF., QUADRENNIAL DEFENSE REVIEW 2014 (2014), *available at* http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf.

75. U.S. DEP'T OF DEF., 2014 CLIMATE CHANGE ADAPTATION ROADMAP (2014), *available at* http://www.acq.osd.mil/ie/download/CCARprint_wForeword_c.pdf.

76. U.S. DEP'T OF THE NAVY, THE UNITED STATES NAVY ARCTIC ROADMAP FOR 2014 TO 2030 (2014), *available at* http://www.navy.mil/docs/USN_arctic_roadmap.pdf.

routes, the Navy 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.

Deep Draft Arctic Ports

In an October presentation at Elmendorf Air Force Base in Anchorage, Alaska, the Army Corps of Engineers reported on a Deep Draft Arctic Port Study evaluating feasibility in Nome and Port Clarence, after initially contemplating fourteen sites along western and northern Alaska.⁷⁷ Planning continues, though no definite plan emerged by the end of 2014.

8. *National Aeronautics and Space Administration*

Arctic sea ice, monitored by NASA satellites since 1978, melted to its sixth-smallest recorded size by the end of the 2014 melting season.⁷⁸ NASA reported in September that the Northwest Passage (NWP) above Canada and Alaska remained ice-bound, but a finger of open water north of Siberia reached beyond 85 degrees north, the farthest northern reach of open water since the late 1970s.⁷⁹ Apparently, weather patterns and ocean currents drive drifting chunks of pack ice, more prevalent during warmer conditions, into the NWP to jam its relatively narrow routes.

Three Alaska-based NASA projects worked over the summer to develop better baseline understanding of climate change impacts on glaciers, permafrost, and sea ice. NASA measures glacier gains and losses, carbon gas and methane release from melting permafrost, and studies the effect of diminishing sea ice on larger weather patterns.

77. See BRUCE SEXAUER P.E., U.S. ARMY CORPS OF ENGINEERS, ALASKA DEEP-DRAFT ARCTIC PORTS NAVIGATION FEASIBILITY STUDY (2014), *available at* http://www.wtcak.org/PDF2014/AIII/Sexauer_Bruce_US_Corps_of_Engineers.pdf.

78. Press Release, Nat'l Aeronautics and Space Admin., 2014 Arctic Sea Ice Minimum Sixth Lowest on Record (Sept. 22, 2014), *available at* <http://www.nasa.gov/press/2014/september/2014-arctic-sea-ice-minimum-sixth-lowest-on-record/#.VTp05CFViko>.

79. *See id.*

9. *Environmental Protection Agency*

The Environmental Protection Agency released the final versions of its agency-wide Climate Change Adaption Plan on October 31, 2014.⁸⁰ The plan is divided into seven subject-matter programs and ten regional implementation plans. Alaska and the U.S. Arctic are included in Region 10. The Region 10 Implementation Plan identifies significant concerns related to permafrost thawing and sea ice retreat.⁸¹ Section III outlines the existing EPA actions that address regional vulnerabilities, but also points out that some vulnerabilities have no existing actions. Because the EPA follows a regional approach, with reports generated by state-level advisory groups, many actions specific to the Arctic are found in the State of Alaska Adaptation Advisory Group 2009 report, Alaska's Climate Change Strategy: Addressing Impacts in Alaska.⁸²

10. *Significant U.S. Court Decisions*

a. *Subsistence Rights: Katie John v. United States*

The United States Supreme Court on March 31, 2014 declined to review the long-running “Katie John case,” ending twenty-seven years of subsistence rights litigation.⁸³ The decision effectively upheld last year's ruling that the federal government can include waters within and adjacent to federal land reserves in subsistence prioritization schemes when doing so is necessary to fulfill the purpose of the reserve.⁸⁴

80. U.S. ENVTL. PROT. AGENCY, EPA 100-K-14-001, CLIMATE CHANGE ADAPTATION PLAN (2014), *available at* <http://epa.gov/climatechange/Downloads/EPA-climate-change-adaptation-plan.pdf>.

81. U.S. ENVTL. PROT. AGENCY, EPA REGION 10 CLIMATE CHANGE ADAPTATION IMPLEMENTATION PLAN (2014), *available at* <http://epa.gov/climatechange/Downloads/Region10-climate-change-adaptation-plan.pdf>.

82. *See* ALASKA DEP'T OF ENVTL. CONSERVATION, ALASKA'S CLIMATE CHANGE STRATEGY (2009), *available at* http://climatechange.alaska.gov/aag/docs/aag_ES_27Jan10.pdf.

83. *See Alaska v. Jewell*, 134 S. Ct. 1759 (2014).

84. *John v. United States*, 720 F.3d 1214 (9th Cir. 2013), *cert. denied*, 134 S. Ct. 1759 (2014).

b. *Alaska Offshore Oil and Gas: Native Village of Point Hope v. Jewell*

The Ninth Circuit reversed a Federal District Court, District of Alaska opinion that would have allowed the Bureau of Ocean Energy Management's Chukchi Sea Lease Sale 193 to move forward on an estimate of one billion barrels of recoverable oil.⁸⁵ As mentioned above, the resultant revised environmental impact statement estimates a recoverable 4.3 billion barrels.

The case decided two core issues. First, even though the National Environmental Policy Act (NEPA) requires agencies to take a "hard look" at the environmental consequences of their actions, BOEM does not need to fully comply with NEPA at the lease sale stage. For example, when BOEM decides between lease sale locations with similar risk patterns, it need not analyze the impact on certain animals protected under other federal regulations, especially when the Agency must address the risk at a later stage in the development process. The plaintiffs argued that such information is essential at the lease sale stage. The court disagreed.

Second, BOEM must base production assumptions on rational estimates of how much oil a lease sale *could* produce, even if actual production seems unlikely. BOEM officials believed that Lease Sale 193 has only a ten percent chance of producing any oil, so 1 billion barrels overestimated the most likely scenario. Beyond that, BOEM did not explain its original estimate except by providing evidence that this is a reasonable estimate of how much oil the first producing field would generate. In future lease sales, including the revised estimate for 193, BOEM must base its analysis on the "full range of likely production if oil production were to occur."⁸⁶

c. *Oil and Gas Spill Liability: In re Deepwater Horizon*

The *Deepwater Horizon*-Macondo disaster has resulted in approximately 3,000 cases with over 100,000 claimants. Among these, the Federal District Court, Eastern District of Louisiana ruled in September 2014 that BP committed "gross

85. See *Native Village of Point Hope v. Jewell*, 740 F.3d 489 (9th Cir. 2014).

86. See *Native Village of Point Hope v. Jewell*, 740 F.3d 489, 505 (9th Cir. 2014).

negligence” and “willful misconduct” related to the 2010 blowout.⁸⁷ BP could face penalties up to \$18 billion during the third phase of the trial in January. This decision substantially raised the stakes of oil and gas development in the more logistically challenging Arctic OCS.

The plaintiffs included Federal and State Governments, banks, restaurants, fisherman, and others who asserted losses resulting from the blowout. The United States sued under the Clean Water Act (CWA), which caps penalties for ordinary or non-negligent violations at \$1,100 per barrel of oil discharged. Under a gross negligence or willful misconduct finding, the cap may rise to \$4,300 per barrel.

The court found that BP’s actions rose to gross negligence or willful misconduct because some acts alone (*e.g.*, misinterpreting a critical pressure test) reached that threshold, and because BP committed a chain of negligent acts that cumulatively established the threshold. It also indicated that the magnitude of potential harm, in a context BP knew to require heightened-alert (deep-water drilling), raised the applicable standard of care. If a court reviewing an Arctic spill followed this logic, the risk, magnitude of harm, and complexity of Arctic oil and gas operations would arguably indicate an even higher expectation of care.

The court also ruled that BP’s conduct warranted punitive damages under general maritime law, but that Fifth Circuit precedent prohibits its imposition in this case. The court suggested that the Ninth Circuit rule, applicable if a similar case arose in Alaska, would allow punitive damages.

This decision increased the liability exposure of oil and gas developers and contractors to such a vast extent that the chilling impact on Arctic projects must be profoundly immense.

d. Maritime Law Enforcement, Oil and Gas Context: United States v. Noble Drilling LLC

The *Deepwater Horizon* decision may provide context for Noble Drilling’s plea agreement in an Alaska U.S. District Court case related to Shell’s 2012 Arctic exploration activities.

Noble operated a drill ship for Shell. The charges arose after a Coast Guard inspection of Noble’s vessel in Seward in late

87. *In re Deepwater Horizon*, 21 F. Supp. 3d 657, 742 (E.D. La. 2014).

2012.⁸⁸ According to the agreement, Noble kept false records, failed to record certain details, and did not notify the Coast Guard of on-board hazardous conditions.

Noble admitted to eight felony counts, including knowing violations of the Act to Prevent Pollution from Ships, the Nonindigenous Aquatic Nuisance Prevention and Control Act, and the Ports and Waterways Safety Act; and agreed to pay an \$8.2 million fine plus \$4 million in community service payments. In return, the United States agreed to not prosecute Noble for any now-known related violations, including criminal offenses within the Western District of Washington. District of Alaska Chief Judge Ralph Beistline must approve the agreement.

11. *U.S. Arctic Research Commission*

Congress passed the Arctic Research and Policy Act of 1984, which established the U.S. Arctic Research Commission (USARC).⁸⁹ The Commission's 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 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; 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.

88. Plea Agreement, *United States v. Noble Drilling LLC*, No. 3:14-cr-00114-RRB (D. Alaska Dec. 8, 2014), available at <http://www.corporatecrimereporter.com/wp-content/uploads/2014/12/nobleplea.pdf>.

89. 15 U.S.C. §§ 4101–4111 (2012).

As mentioned above, Secretary of State John Kerry appointed U.S. Arctic Research Commission Chair Fran Ulmer as Special Advisor on Arctic Science and Policy in July 2014.⁹⁰ The USARC held its annual meeting in Anchorage on September 15 and 16.⁹¹ USARC also hosts an Arctic Science Portal that collects Arctic Science websites arranged in five categories, each with subcategories: society, environment, economics, reference, and organizations.⁹²

12. National Ocean Council

On July 19, 2010, President Obama issued Executive Order 13,547 (entitled “Stewardship of the Ocean, Our Coasts, and the Great Lakes”) establishing the National Ocean Policy (NOP) for the United States.⁹³ The order adopted most of the recommendations of the Interagency Ocean Policy Task Force he had appointed shortly after taking office.⁹⁴ The order also established the federal interagency National Ocean Council. On April 16, 2013, the administration released the National Ocean Policy Implementation Plan (NOPIP).⁹⁵

In July 2013, the National Ocean Council released the Marine Planning Handbook called for by the National Ocean Policy.⁹⁶ In November 2013, the World Ocean Council and the Nautical Institute jointly produced a more shipping-friendly guide to assist maritime professionals in better understanding and engaging in marine spatial planning.

The National Ocean Council maintains a blog on its website, but as of April 24, 2015 it has one entry since July 19, 2013.⁹⁷

90. See U.S. Dep’t of State, *supra* note 35.

91. See United States Arctic Research Commission, Agenda for 102nd Meeting (Sept. 15–16, 2014), *available at* http://www.arctic.gov/meetings/usarc102_agenda_9-3-14.pdf.

92. See *Arctic Science Portal*, U.S. ARCTIC RESEARCH COMM’N, <http://www.arctic.gov/portal/> (last visited April 24, 2015).

93. 75 Fed. Reg. 43023 (July 22, 2010).

94. See WHITE HOUSE COUNCIL ON ENVTL. QUALITY, FINAL RECOMMENDATIONS OF THE INTERAGENCY OCEAN POLICY TASK FORCE (2010), *available at* https://www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf.

95. *Obama Administration Releases Plan to Promote Ocean Economy and Resilience*, WHITE HOUSE COUNCIL ON ENVTL. QUALITY (April 16, 2013), *available at* https://www.whitehouse.gov/administration/eop/ceq/Press_Releases/April_16_2013.

96. NAT’L OCEAN COUNCIL, MARINE PLANNING HANDBOOK (2013), *available at* https://www.whitehouse.gov/sites/default/files/final_marine_planning_handbook.pdf.

97. See *National Ocean Council Blog*, NAT’L OCEAN COUNCIL, <https://www.whitehouse.gov/administration/eop/oceans/whats-new> (last visited April

13. *Committee on the Marine Transportation System*

President George W. Bush established the Committee on the Marine Transportation System (CMTS) in 2004. The CMTS is a federal cabinet-level, inter-departmental committee chaired by the Secretary of Transportation.⁹⁸ Its purpose is to create a partnership of federal departments and agencies with responsibility for the Marine Transportation System (MTS).

In response to the mandate by section 307 of the Coast Guard Authorization Act of 2010,⁹⁹ CMTS prepared the U.S. Arctic Marine Transportation System: Overview and Priorities for Action.¹⁰⁰ Secretary of Transportation Anthony Foxx presented the final report to the President on July 30, 2013.¹⁰¹

On November 6, 2014, the CMTS presented a webinar to receive suggestions toward an analysis of vessel activity in the U.S. Arctic over the next ten years.¹⁰² The webinar was responsive to President Obama's Arctic Implementation Plan directive that the CMTS develop a ten-year projection of Arctic maritime activity. A final report is due by the end of 2014.

14. *Marine Board of the National Academies Transportation Research Board*

The Marine Board co-authored the National Academies July 2014 report *Responding to Oil Spills in the U.S. Arctic Marine Environment*.¹⁰³ The 210-page report reviews the current state

24, 2015).

98. *What We Do*, COMM. ON THE MARINE TRANSP. SYS., <http://www.cmts.gov/About/Index.aspx> (last visited April 24, 2015).

99. Pub. L. No. 111-281, 124 Stat. 2905 (2010).

100. *U.S. Arctic Marine Transportation System: Overview and Priorities for 2013*, U.S. COMM. ON THE MARINE TRANSP. SYS. (2013), available at <http://www.cmts.gov/downloads/CMTS%20U%20S%20%20Arctic%20MTS%20Report%20%2007-30-13.pdf>.

101. Press Release, *CMTS U.S. Arctic Marine Transportation System Report Submitted by CMTS Chair Foxx to President Obama* U.S. COMM. ON THE MARINE TRANSP. SYS. (July 30, 2013), available at <http://www.cmts.gov/Bulletin.aspx?id=68>.

102. *Arctic Daily Update*, ALASKA BUS. MAGAZINE, Nov. 6, 2014, <http://www.akbizmag.com/Alaska-Business-Monthly/November-2014/Arctic-Daily-Update-November-6-2014/>.

103. NATIONAL RESEARCH COUNSEL, *RESPONDING TO OIL SPILLS IN THE U.S. ARCTIC MARINE ENVIRONMENT* (The National Academies Press, 2014), available at <http://www.nap.edu/catalog/18625/responding-to-oil-spills-in-the-us-arctic-marine-environment>.

of oil spill response science and assesses Arctic oil spill risks. It includes recommendations meant to help environmentalists, industry, state and local policy makers, and anyone interested in the Arctic to “preserve and protect it from damaging oil spills.”

The National Academies also published *The Arctic in the Anthropocene* in April 2014.¹⁰⁴ The 224-page report reviews the status of research questions previously identified by Arctic researchers, highlights new and emerging questions and the capability to answer them, and identifies a multi-disciplinary research strategy for the next ten to twenty years.

B. *United States: Alaska*

Alaskan speakers often remind those in the lower 48 that the United States is an Arctic nation because Alaska is an Arctic state.

1. *State of Alaska*

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.¹⁰⁵ More than half of the fish harvested in the U.S. are taken in the federal and state waters off Alaska.¹⁰⁶ Cruise ships carry some one million passengers to Alaska each year.¹⁰⁷

Alaska’s Coastal Zone Management Program, in place since 1977, was allowed to sunset on July 1, 2011.¹⁰⁸ In 2012, Alaska

104. NATIONAL RESEARCH COUNCIL., *THE ARCTIC IN THE ANTHROPOCENE: EMERGING RESEARCH QUESTIONS* (The National Academies Press, 2014), available at <http://www.nap.edu/catalog/18726/the-arctic-in-the-anthropocene-emerging-research-questions>.

105. *Alaska’s Oil & Gas Industry*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/oilgas/overview.html> (last visited April 24, 2015).

106. *Alaska’s Fishing Industry*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/fisheries/overview.html> (last visited April 24, 2015).

107. *Tourism*, RESOURCE DEV. COUNCIL FOR ALASKA, <http://www.akrdc.org/issues/tourism/> (last visited April 24, 2015).

108. Richard Mauer, *Loss of Coast Zone Program Hurts State’s Beluga Whale Case*,

voters overwhelmingly (62:38) rejected an initiative (Ballot Measure 2) that would have restored the CZM Program.¹⁰⁹ 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 1972.¹¹⁰ Reportedly, the state has declined to participate in the voluntary regional marine spatial planning called for by the President's National Ocean Policy.

2. *The Alaska Arctic Policy Commission*

The state's twenty-six-member Alaska Arctic Policy Commission (AAPC) released a preliminary report on recommendations to the Alaska legislature on January 30, 2014.¹¹¹ The Commission met in Anchorage on November 17 and 18, 2014 to finalize its work after two years of research and development.¹¹² At the meeting, Commission co-chair Lesil McGuire explained that the Alaska legislature created the AAPC in response to Obama administration Arctic initiatives that might have otherwise moved forward without Alaskan input.

The Final Report and Implementation Plan, released in early 2015, contain significant modifications and additions.¹¹³ The Final Report concentrates on four "Strategic Lines of Effort:" (1) promote economic and resource development; (2) address the response infrastructure gap; (3) support healthy communities; and (4) strengthen science and research.¹¹⁴ The Commission developed a set of recommendations to further

ALASKA DISPATCH NEWS (Oct. 30, 2011), <http://www.adn.com/article/20111030/loss-coast-zone-program-hurts-states-beluga-whale-case>.

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

110. See *Coastal Zone Management Programs*, OFFICE FOR COASTAL MGMT., <http://coast.noaa.gov/czm/mystate/> (last visited April 24, 2015).

111. See ALASKA ARCTIC POLICY COMM'N, PRELIMINARY REPORT TO THE ALASKA STATE LEGISLATURE (2014), available at <http://www.akarctic.com/wp-content/uploads/2014/02/AAPCpreliminaryReportV13final.pdf>.

112. See ALASKA ARCTIC POLICY COMM., ANCHORAGE MEETING NOTES (Nov. 17–18, 2014), available at <http://www.akarctic.com/wp-content/uploads/2014/12/AAPC-Anchorage-Meeting-notes-November-17-18-FINAL.pdf>.

113. See ALASKA ARCTIC POLICY COMM'N, FINAL REPORT (2015), available at http://www.akarctic.com/wp-content/uploads/2015/01/AAPC_final_report_lowres.pdf.

114. *Id.* at 11.

each line of effort, and identified state and federal actions necessary for each recommendation. The AAPC put heavy emphasis on resource development as a necessary first step to support all other Arctic policies.

The Commission mainly emphasizes Arctic development as an Alaskan initiative, but also includes a two-page acknowledgement of national and international interests it hopes to influence with specific recommendations. The AAPC urges Alaska to oppose President Obama's National Ocean Policy and the concept of Marine Spatial Planning, resist federal land withdrawals under the Antiquities Act, support ratification of the United Nations Convention on the Law of the Sea (with substantial caveats, and primarily to support an extended Continental Shelf claim), and to support oil and gas exploration in the Arctic National Wildlife Refuge.¹¹⁵ It recommends the United States develop Arctic infrastructure and streamline OCS exploration to promote increased Arctic development. The AAPC also highlights a hope that the priorities identified by the U.S. State Department for the U.S. Arctic Council chair—marine stewardship and climate change—focus on adaptation over mitigation, without new marine protected areas unless designated by the state of Alaska.

The resulting draft bill declares a state Arctic policy committed to “economically vibrant communities;” that seeks to “sustain current, and develop new, approaches for responding to climate change;” and to “manage the Arctic fish and wildlife for abundance and sustained yields” while attracting “Arctic investment by establishing a competitive business environment.”¹¹⁶

3. *New Leadership*

Alaskans have new leaders in the United States Senate and the state capitol. Republican Dan Sullivan ousted the incumbent Democrat Senator Mark Begich, and Republican Governor Sean Parnell lost to a “unity ticket” of independent Bill Walker and Democrat Byron Mallott.¹¹⁷ Republican

115. See ALASKA ARCTIC POLICY COMM'N, FINAL REPORT (2015), *supra* note 113. at 24–25.

116. *Id.* at 12–13.

117. *Alaska 2014 Election Results*, N.Y. TIMES, Dec. 17, 2014,

Senator Lisa Murkowski will take control of the Energy and Natural Resources Committee in the new Republican-majority Senate.¹¹⁸ She is expected to try to move bills on the Keystone XL pipeline, natural gas exports, and offshore and onshore drilling.¹¹⁹

4. *Alaska Marine Mammal Co-Management Agreements*

Section 101(b) of the U.S. Marine Mammal Protection Act provides the following exemption from the moratorium on taking marine mammals:

Exemptions for Alaskan natives. Except as provided in section 1379 of this title, the provisions of this chapter shall not apply with respect to the taking of any marine mammal by any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean if such taking—(1) is for subsistence purposes; or (2) is done for purposes of creating and selling authentic native articles of handicrafts and clothing.¹²⁰

Section 119 of the Act authorizes the National Marine Fisheries Service and U.S. Fish and Wildlife Service to enter into marine mammal co-management agreements with Alaska Native Organizations (ANOs), including, but not limited to, Alaska Native Tribes and tribally authorized co-management bodies.¹²¹ Agreements may involve: (1) developing marine mammal co-management structures and processes with federal and state agencies, (2) monitoring the harvest of marine mammals for subsistence use, (3) participating in marine mammal research, and (4) collecting and analyzing data on marine mammal populations.¹²²

Co-management agreements were authorized with the Alaska Beluga Whale Committee, Alaska Eskimo Whaling Commission, Aleut Marine Mammal Commission, Alaska

<http://elections.nytimes.com/2014/alaska-elections>.

118. Laura Barron-Lopez, *Murkowski Readies for Reins of Senate Energy*, THE HILL (Nov. 5, 2014), <http://thehill.com/policy/energy-environment/223042-sen-murkowski-readies-to-take-reins-of-senate-energy-committee>.

119. *Id.*

120. 16 U.S.C. § 1371(b) (2012).

121. 16 U.S.C. § 1388 (2012).

122. *Id.*

Native Harbor Seal Commission, Cook Inlet Marine Mammal Council, Ice Seal Committee, Indigenous People's Council for Marine Mammals, Traditional Council of St. George Island, and Tribal Government of St. Paul. Under Section 119 agreements, marine mammal stocks should not be permitted to diminish beyond the point at which they cease to fulfill their role in their ecosystem or to levels that won't allow for sustainable subsistence harvest.

C. Canada

Canada is a party to UNCLOS and a member of the Arctic Council. Canada's Arctic Council Chair, which ended in April 2015,¹²³ will be covered below in Section V. Canada's extended continental shelf submission to the Commission on Limits of the Continental Shelf is detailed in Section X.

Even with several high-profile successes (finding the Franklin ship, two Canadian icebreakers reaching the North Pole in August) some analysts found Canada unprepared for the forecasted increase in Arctic shipping. Environment Commissioner Julie Gelfand said in October that the Canadian Arctic is "inadequately surveyed and charted" and poorly serviced by the Coast Guard.¹²⁴ According to an October report, Canada will fail to deliver a proposed fleet of six to eight Arctic patrol ships due to budget problems.¹²⁵

In February, the National Aerial Surveillance Program doubled its five-year funding for flights to monitor and detect pollution from ships.¹²⁶ The Canadian government announced new measures in May to develop a "world-class tanker safety system" to boost oil spill preparedness and response.¹²⁷ In

123. Alex DeMarban, *Climate Change Emphasized as US Takes Chair of Arctic Council*, ALASKA DISPATCH NEWS, April 24, 2015, <https://www.adn.com/article/20150424/climate-change-emphasized-us-takes-chair-arctic-council>.

124. OFFICE OF THE AUDITOR GENERAL OF CANADA, REPORT OF THE COMMISSIONER OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (2014), available at http://www.oag-bvg.gc.ca/internet/docs/parl_cesd_201410_03_e.pdf.

125. *Id.*

126. Peter Meiszner, *Federal Government Doubles Funding for Aerial Water Pollution Surveillance*, GLOBAL NEWS, Feb. 19, 2014, <http://globalnews.ca/news/1159702/federal-government-doubles-funding-for-aerial-water-pollution-surveillance/>.

127. *World-Class Tanker Safety System: New Measures to Strengthen Oil Spill*

October, Canada announced it will not allow any new commercial fisheries in the Beaufort Sea without further research.¹²⁸

D. China

China became a permanent observer at the Arctic Council in 2013.¹²⁹ Its interest in the region centers on shipping efficiencies and resource development, both sometimes expressed in national security terms.

Chinese companies have partnerships across the Arctic. In May, China National Petroleum Corporation signed a Russian gas deal worth \$400 billion.¹³⁰ China National Offshore Oil Corporation partnered with Icelandic Eykon Energy to explore the island nation's Dreki oil field.¹³¹ China's largest copper producer, Jiangxi Copper, partnered with other Chinese and British investors in eastern Greenland.¹³² The New York Times reported in September that a "Chinese real estate tycoon" sought to buy a piece of Norway "two and a half times bigger than Manhattan."¹³³

The Norwegian land sale seems unrealistic, but China's Arctic interests are not. Reuters reported in June that a Chinese army assessment considers the country's Arctic interests important to "national economic development

Prevention, Preparedness and Response, and the Polluter Pay Principle, GOVERNMENT OF CANADA, May 13, 2014, available at <http://news.gc.ca/web/article-en.do?nid=847489>.

128. *Federal Government Restricts Possible Beaufort Sea Fisheries*, CBC NEWS, Oct. 17, 2014, <http://www.cbc.ca/m/touch/aboriginal/story/1.2803678>.

129. 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?_r=0.

130. Andrew E. Kramer, *Gazprom Makes a New Gas Deal with China*, N.Y. TIMES, Nov. 10, 2014, <http://www.nytimes.com/2014/11/11/business/international/gazprom-makes-a-new-gas-deal-with-china.html>.

131. Mia Bennett, *China-Russia Gas Deal Creates Arctic Winners and Losers*, ALASKA DISPATCH NEWS, July 5, 2014, <http://www.adn.com/article/20140705/china-russia-gas-deal-creates-arctic-winners-and-losers>.

132. TIM BOERSMA & KEVIN FOLEY, BROOKINGS INST., *THE GREENLAND GOLD RUSH* (2014), available at <http://www.brookings.edu/~media/research/files/reports/2014/09/24-greenland-energy-mineral-resources-boersma-foley/24-greenland-energy-mineral-resources-boersma-foley-pdf-2.pdf>.

133. Andrew Higgins, *A Rare Arctic Land Sale Stokes Worry in Norway*, N.Y. TIMES, Sept. 27, 2014, http://www.nytimes.com/2014/09/28/world/europe/a-rare-arctic-land-sale-stirs-concerns-in-norway.html?_r=1.

sustainability and national security.”¹³⁴ Reportedly, the assessment asserts a Chinese right to “a share of the Arctic’s resources, be present in the region and to carry out scientific research there.”¹³⁵ Several 2014 reports emphasized that Chinese officials refer to the country as “near Arctic,” even though China’s most northern point lies more than 1,000 miles south of the Arctic Circle.¹³⁶

It remains to be seen how China may interact with an Arctic Council built around the Law of the Sea (remember the Ilulissat Declaration), while rejecting its compulsory dispute settlement procedures in the South China Sea. Arctic blogger Mia Bennett provided an educated analysis on her blog, Cryopolitics.¹³⁷

E. Denmark/Greenland

Greenland’s Siumut Party, which has formed all but one Greenland government since 1979, won the November 2014 election by just 326 votes (29,500 voted, or 70 percent of the electorate).¹³⁸ Miká Mered, chief executive of Polarisk Analytics, said, “the outcome of this election is very good news for investors, especially in the mining and infrastructure sectors.”¹³⁹

Denmark’s dramatic continental shelf claim is covered below in Section X.

134. Ben Blanchard, *Chinese Army Think-Tank Says Arctic Energy Would Help Economy*, REUTERS, June 18, 2014, <http://www.reuters.com/article/2014/06/18/china-arctic-idUSL4N0OZ36720140618>.

135. *Id.*

136. See, e.g., Elizabeth C. Economy, *China’s Imperial President: Xi Jinping Tightens His Grip*, FOREIGN AFFAIRS, Nov.–Dec. 2014), available at <http://www.foreignaffairs.com/articles/142201/elizabeth-c-economy/chinas-imperial-president>.

137. Mia Bennett, *China-Russia Gas Deal Creates Arctic Winners and Losers*, CRYOPOLITICS (June 25, 2014), <http://cryopolitics.com/2014/06/25/china-russia-gas-deal-creates-arctic-winners-and-losers/>.

138. David Crouch, *Centre Left Narrowly Wins Greenland Election*, FINANCIAL TIMES, Nov. 29, 2014, <http://www.ft.com/cms/s/0/bc3693ce-77bb-11e4-9f13-00144feabdc0.html#axzz3YMXHOd44>.

139. Miká Mered, *Greenland Election: “Good News for Investors”*, HIGH NORTH NEWS (Nov. 29, 2014), <http://www.highnorthnews.com/mika-mered-polarisk-analytics-about-the-greenland-election-good-news-for-investors-2/>.

F. *Iceland*

The Arctic Circle conference, held in Reykjavik around mid-October, seems to have become the most significant annual gathering of international Arctic observers and participants. The organizers encourage organizations, forums, think tanks, corporations, and public associations to conduct meetings within the conference in order to increase participation and dialogue between multifarious stakeholders. It is difficult to imagine that a single issue was left off the 41-page 2014 program.¹⁴⁰ In opening remarks this year, Alaska Senator Lisa Murkowski emphasized that there are two Arctics: the Nordic side with modern infrastructure and amenities, and the substantially undeveloped Arctic of the United States, Canada, Russia, and parts of Greenland.¹⁴¹

G. *Japan*

The Arctic Council accepted Japan as a Permanent Observer in May 2013.¹⁴² In 2014, Japanese shipping company Mitsui OSK Lines Ltd. announced plans to begin regular transport of liquefied natural gas through the Arctic Ocean in 2018.¹⁴³ The plan includes constructing three icebreaking tankers for year-round operations between the Yamal Peninsula and Europe, and summer operations to Northeast Asia.¹⁴⁴ Once operational, Mitsui expects to transport roughly three million tons of LNG along the route annually.¹⁴⁵

140. Program from the Arctic Circle 2014 Assembly (Oct. 30–Nov. 2, 2014), *available at* <http://arcticcircle.org/sites/arcticcircle/themes/ac/pdf/2014%20Program%20October%2030.pdf>.

141. See Lisa Murkowski, Editorial, *Alaska Must Lead as U.S. Takes up Arctic Council Chair*, ALASKA DISPATCH NEWS, Nov. 19, 2014, <http://www.adn.com/article/20141119/lisa-murkowski-alaska-must-lead-us-takes-arctic-council-chair>.

142. Steven Lee Myers, *supra* note 129.

143. *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>.

144. *Id.*

145. *Mitsui O.S.K. to Pioneer Arctic Route for LNG*, 2014, *supra* note 144.

H. Korea

The Arctic Council admitted The Republic of Korea, along with Japan and Singapore, as Permanent Observer states in May 2013.¹⁴⁶ 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.¹⁴⁷ Korea hopes to become Northeast Asia's oil hub in anticipation of increases in Arctic shipping. The Korean icebreaker *Araon* generally conducts Arctic scientific research missions each year from July to October.¹⁴⁸

It was not a good year for Korean maritime activities, however. The South Korean Parliament in November approved plans to dismantle the Korean Coast Guard, a response to its failures during the tragic sinking of the *Sewol* passenger ferry in April.¹⁴⁹ Then, in November, the United States Coast Guard medically evacuated an *Araon* crewmember from the Arctic.¹⁵⁰ In December, a South Korean fishing vessel sank in the western Bering Sea.¹⁵¹ Reports indicate that Russia and the United States successfully rescued only eight of the vessel's sixty crewmembers.¹⁵²

I. Russia

Throughout 2014, news agencies reported on Russia's Arctic endeavors with constant reference to Ukraine.¹⁵³ Every Arctic

146. Steven Lee Myers, *supra* note 129.

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

148. *Id.*

149. Steven Borowiec, *South Korean President to Disband Coast Guard Over Ferry Response*, L.A. TIMES, May 18, 2014, <http://www.latimes.com/world/asia/la-fg-south-korea-ferry-apology-20140519-story.html>.

150. *Coast Guard Medevacs Crewmember from South Korean Icebreaker North of Barrow, Alaska*, U.S. COAST GUARD (Aug. 21, 2014), available at <http://www.uscgnews.com/go/doc/4007/2228514/Coast-Guard-medevacs-crewmember-from-South-Korean-icebreaker-north-of-Barrow-Alaska>.

151. Kim Tong-Hyung, *Searchers Recover 11 More Bodies From South Korean Fishing Vessel Sunk in Bering Sea*, ALASKA DISPATCH NEWS, Dec. 3, 2014, <http://www.adn.com/article/20141203/searchers-recover-11-more-bodies-south-korean-fishing-vessel-sunk-bering-sea>.

152. *See id.*

153. *See, e.g.*, Adam Taylor, *Putin Think of the Past When Talking Ukraine—but the*

Council member state except Russia rejected the Crimea referendum, which consequently resulted in Western nations imposing sanctions that hampered Russian oil and gas development. Nevertheless, Russia made good on a 2013 promise to make the Arctic a priority, with significant 2014 military, territorial, and marine shipping activities.

1. *Russia's Arctic Military*

In February 2014, Russia announced plans for a new strategic military command to protect Russian Arctic shipping, fishing, oil and gas, and national borders. By September, the Arctic Journal reported that Moscow had “staged exercises, stationed submarines, tested missiles, violated foreign airspace, re-opened Soviet-era bases,” and announced new bases on Wrangel Island and Cape Schmidt.¹⁵⁴ Even so, Russian Foreign Minister Sergey Lavrov said in October that he sees no need for a NATO presence in the Arctic because “there are no problems there which demand military decisions.”¹⁵⁵ Western news accounts rarely reported these developments without also referencing Russian aggression in Ukraine.

Some observers now suggest Russia cannot sustain these endeavors in light of an economic slowdown exacerbated by sanctions and low oil prices. Indeed, by the end of 2014, several accounts noted Russia's posture becoming generally more cooperative in the Arctic. Section 2 below provides more detail on this subject.

2. *Russian Territory*

News reporters could not resist putting a Crimea-annexation spin on Russia's outer continental shelf land claims, but so far Russia continues to observe applicable international law. In April 2014, Russia began judicial

Arctic is Where he Sees Russia's Future, WASHINGTON POST, Aug. 29, 2014, <http://www.washingtonpost.com/blogs/worldviews/wp/2014/08/29/putin-thinks-of-the-past-when-talking-ukraine-but-the-arctic-is-where-he-sees-russias-future/>.

154. Kevin McGwin, Editorial, *Russian Militarisation*, ARCTIC JOURNAL (Sept. 11, 2014), <http://arcticjournal.com/politics/990/russian-militarisation>.

155. Sam LaGrone, *Russian Foreign Minister: No Need for NATO in the Arctic*, U.S. NAVAL INST. NEWS (Oct. 22, 2014), <http://news.usni.org/2014/10/22/russian-foreign-minister-need-nato-arctic>.

proceedings to establish exclusive rights to an area in the Sea of Okhotsk that the Commission on the Limits of the Continental Shelf (CLCS) unanimously affirmed is part of the Russian continental shelf.¹⁵⁶ In October, 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.¹⁵⁷ Then, in November, Russia's Minister of Natural Resources announced that Moscow will submit documents for its Arctic claims to CLCS in spring 2015.¹⁵⁸ Noted Canadian Arctic scholar Michael Byers said, "[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. . . . Russia is compromising, is looking for a reasonable solution rather than seeking to extend its claim as far as the geology and geography might allow."¹⁵⁹ This may change, though, since Denmark filed a surprisingly expansive CLCS claim in December that is particularly provocative toward Russia (see section X).

3. *Northern Sea Route Shipping*

Russia's Northern Sea Route (NSR) opened for six weeks starting in August, a later start than some recent years, but with a record number of applications for passage.¹⁶⁰ The Northern Sea Route Information Office did not release official

156. See 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 March 11, 2014), available at http://www.un.org/Depts/los/clcs_new/submissions_files/rus01_rev13/2014_03_13_COM_REC_RUS_Summary.pdf.

157. Mia Bennett, *Arctic Satellite Image of the Week: Russia Discovers New Arctic Island*, ALASKA DISPATCH NEWS, Nov. 17, 2014, <http://www.adn.com/article/20141117/arctic-satellite-image-week-russia-discovers-new-arctic-island>.

158. *Russia Hopes Sanctions Play No Role in Arctic Claim*, SPUTNIK (Nov. 21, 2014), <http://sputniknews.com/russia/20141121/1014996650.html>.

159. *High North Dialogue 2015: Interview with Michael Byers*, THE ARCTIC INSTITUTE (Oct. 9, 2014), <http://www.thearcticinstitute.org/2014/11/111014-Michael-Byers.html>.

160. *Northern Sea Route Opens Early*, MARITIME EXECUTIVE (Aug. 27, 2014), <http://www.maritime-executive.com/article/Northern-Sea-Route-Opens-Early-2014-08-27>.

statistics before the end of 2014, but unofficial reports indicated only twenty-three actual transits, down from seventy-one in 2013.¹⁶¹ Hoping for increased traffic, the Ministry of Emergency Situations opened the third of ten planned search and rescue centers in October.¹⁶² The center includes firefighting, diving and oil spill clean-up capabilities. Russia expects all centers to be operational in 2015. Russia also has at least two icebreakers in development, including what will be the world's largest nuclear icebreaker.¹⁶³

An Arctic Institute report released in October 2014 analyzed the 2013 NSR season's transit numbers.¹⁶⁴ The report suggests that Russian data may exaggerate NSR traffic because the reporting agency does not distinguish between full or partial voyages and shipment versus ballast transits.

J. The European Union

The European Union's application for Arctic Council permanent observer status remains under consideration. Some 2014 reports suggested that the Council withheld approval pending resolution of a dispute with Canada over an EU seal products ban.¹⁶⁵ The EU and Canada reached a seal agreement in October 2014, but Leona Aglukkaq, the Canadian Arctic Council Chair, maintains that the two issues are not related.¹⁶⁶

161. See, e.g., Trude Pettersen, *Northern Sea Route Traffic Plummeted*, BARENTS OBSERVER (Dec. 16, 2014), <http://barentsobserver.com/en/arctic/2014/12/northern-sea-route-traffic-plummeted-16-12>.

162. Trude Pettersen, *Third Arctic Search and Rescue Center Opened*, BARENTS OBSERVER (Oct. 15, 2014), <http://barentsobserver.com/en/arctic/2014/10/third-arctic-search-and-rescue-center-opened-15-10>.

163. *Russia Lays Down World's Largest Icebreaker*, RT (Nov. 5, 2013), <http://rt.com/news/world-biggest-icebreaker-russia-275/>.

164. See MALTE HUMPERT, THE ARCTIC INST., ARCTIC SHIPPING: AN ANALYSIS OF THE 2013 NORTHERN SEA ROUTE SEASON (2014), available at http://issuu.com/thearticinstitute/docs/malte_humpert_analysis_northern_sea/0.

165. See, e.g., Chris Plecash, *Seal Deal Clears Way for EU Observer Status at Arctic Council*, EMBASSY (Oct. 22, 2014), <http://www.embassynews.ca/news/2014/10/20/seal-deal-clears-the-way-for-eu-observer-status-at-arctic-council/46259>.

166. *Id.*

IV. INTERNATIONAL GOVERNMENTAL ORGANIZATIONS

A. *United Nations*

The U.N. General Assembly recognized early the need for an ongoing periodic review of law of the sea issues, so it established the Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (ICP) in 1999. 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.¹⁶⁷ The annual SG reports, the ICP reports, and related U.N. General Assembly resolutions each document state and international organizations' practices and collect relevant research and analysis on the same. The U.N. has also just completed its first installment (2010-2014) of its ambitious World Ocean Assessment.¹⁶⁸ Meanwhile, the fifteenth annual ICP meeting in May 2014 focused on the role of seafood in global food security.¹⁶⁹

The United Nations climate summit in Lima, Peru seemed poised to collapse along familiar fault lines between historic top polluters and rapidly developing countries. The UPI reported a last-minute deal announced on December 14, 2014 that is essentially an agreement to come to an agreement next year,¹⁷⁰ perhaps bolstered by a U.S. and China Joint Announcement on Climate Change in November.¹⁷¹ Under the agreement, each nation must outline domestic carbon emission

167. 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), available at http://www.un.org/depts/los/general_assembly/general_assembly_reports.htm.

168. See WORLD OCEAN ASSESSMENT, <http://www.worldoceanassessment.org/> (last visited April 26, 2015).

169. Fifteenth Meeting of the U.N. Open-ended Informal Consultative Process on Oceans and the Law of the Sea, May 27–30, 2014, *Report from the Co-chairs of the Consultative Process*, U.N. Doc. A/69/90 (June 6, 2014).

170. Suzanne Goldenberg, *Lima Climate Change Talks Reach Global Warming Agreement*, THE GUARDIAN, Dec. 12, 2014, <http://www.theguardian.com/environment/2014/dec/14/lima-climate-change-talks-reach-agreement>.

171. See The White House, *supra* note 11.

reduction plans over the next six months, setting up a possible move toward harmonization at the next summit.¹⁷²

Differentiation remains the principal obstacle to effective accord. The general problem is that the wealthiest countries have and continue to produce the vast bulk of anthropogenic carbon emissions since global industrialization began in the nineteenth century. Poorer developing countries are in many ways dependent upon inexpensive and relatively dirty technology and fuels (like coal) for their own development. Key arguments emerge about whether these countries should take on different obligations in an attempt to distribute the costs of climate action relative to emission patterns. The 2014 climate summit indicates little, but still measurable, progress.

B. 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.¹⁷³ Council chairmanship rotates among the eight member-states every two years. In 2013, Canada began its two-year term as chair.¹⁷⁴ The theme of Canada's chairmanship was "development for the people of the North," with a focus on responsible Arctic resource development, safe Arctic shipping, and sustainable circumpolar communities.¹⁷⁵ For the 2015-2017 term, the United States will chair the Council. As is often pointed out, the U.S. is the only Arctic Council member-state that is not a party to the 1982 U.N. Convention on the Law of the Sea.

The Canadian theme took a great leap forward with the September 2014 creation of the Arctic Economic Council (AEC).¹⁷⁶ Senior Arctic Officials approved a plan to facilitate its development at their March meeting in Yellowknife,

172. Suzanne Goldenberg, *supra* note 170.

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

174. *Canadian Chairmanship Program 2013–2015*, ARCTIC COUNCIL (May 15, 2013), <http://www.arctic-council.org/index.php/en/resources/news-and-press/news-archive/735-canadian-chairmanship-program-2013-2015>.

175. *Id.*

176. *Founding Meeting of the Arctic Economic Council Scheduled*, ARCTIC COUNCIL (Aug. 27, 2014), <http://www.arctic-council.org/index.php/en/resources/news-and-press/news-archive/928-founding-meeting-of-the-arctic-economic-council-scheduled>.

Northwest Territories. The plan supported the establishment of an independent body of business representatives to facilitate Arctic business opportunities, trade, investment, and growth. AEC membership includes twenty-one business interests and six Arctic indigenous groups, who held a foundational meeting in early September 2014 in Iqaluit, Nunavut.

The Arctic Council's Conservation of Arctic Flora and Fauna (CAFF) working group released a condensed version of its 2013 Arctic Biodiversity Assessment in March 2014.¹⁷⁷ The report provides nine key findings and seventeen policy recommendations meant to give policy-makers a snapshot of current Arctic biodiversity.

The Arctic Council task force on Arctic Marine Oil Pollution Prevention (TFOPP) reportedly made good progress over several 2014 meetings, with robust participation on development of recommendations for presentation to the 2015 Council Ministerial meeting.¹⁷⁸ All eight Arctic states and two Permanent Participants, the Aleut International Association and the Inuit Circumpolar Council, attended the June meeting, along with observers from Germany, India, Italy, Japan, Singapore, the United Kingdom, the World Wildlife Fund, the Circumpolar Conservation Union, the International Association of Oil and Gas Producers, and the International Association of Drilling Contractors.

The Arctic Council does not make binding agreements, but the Norwegian Ambassador to Canada highlighted, in a September 2014 article, the potential of Arctic Council consensus. Arctic countries alone generate twenty-five percent of the world's CO₂ emissions, while all Arctic Council participants together generate eight percent.¹⁷⁹

177. CONSERVATION OF ARCTIC FLORA AND FAUNA, ARCTIC BIODIVERSITY ASSESSMENT (2013), available at <http://www.arcticbiodiversity.is/the-report/chapters>.

178. Press Release, Arctic Council, Arctic Council Renews Commitment to Arctic Economic and Social Development and Environmental Protection (April 24, 2015), <http://www.arctic-council.org/index.php/en/events/meetings-overview/ministerial-meeting-2015/1040-news-release-arctic-council-renews-commitment-to-arctic-economic-and-social-development-and-environmental-protection-5>.

179. Mona Elisabeth Brøther, *What Can the Arctic Governments Do About Climate Change?*, HUFFINGTON POST CANADA (Sept. 13, 2014), http://www.huffingtonpost.ca/mona-elisabeth-brother/arctic-climate-change_b_5811612.html.

C. *International Maritime Organization: Toward A Mandatory Polar Code*

In 2009, the International Maritime Organization (IMO) Assembly passed Resolution A.1024(26), which established the *Guidelines for Ships Operating in Polar Waters*.¹⁸⁰ The voluntary Guidelines, now in their second edition, apply to the polar waters of both the Arctic and Antarctic.¹⁸¹

IMO Committees made significant progress in 2014 toward finalizing a mandatory International Code for Ships Operating in Polar Waters (Polar Code). To this end, the IMO convened a Workshop on Safe Ship Operations in the Arctic Ocean, co-hosted by Arctic Options, a National Science Foundation-funded collaboration led by U.C. Santa Barbara's National Center for Ecological Analysis and Synthesis and the Bren School of Environmental Science & Management.¹⁸² The February 2014 event included presentations on issues and strategies for implementing the Polar Code in the Arctic.

The Code will remain nonbinding unless the IMO adopts amendments to the International Convention for the Safety of Life at Sea (SOLAS), and the International Convention for the Prevention of Pollution from Ships (MARPOL). The Maritime Safety Committee (MSC) adopted the SOLAS amendments in November 2014.¹⁸³ The Marine Environment Protection Committee (MEPC) approved draft amendments in October, and will consider adoption in May 2015.¹⁸⁴ If adopted as expected, under IMO *tacit acceptance* procedures the Code would become enforceable after a set period unless an agreed number of contracting parties object. Rejection is an unlikely outcome for modern, highly vetted IMO conventions, and the IMO expects the Code to enter into force by 2017. Some

180. G.A. Res. 1024/26, U.N. Doc. A 26/Res.1024 (Jan. 18, 2010).

181. INTERNATIONAL MARITIME ORGANIZATION, GUIDELINES FOR SHIPS OPERATING IN POLAR WATERS: 2010 EDITION (2010), available at <http://www.imo.org/Publications/Documents/Attachments/Pages%20from%20E190E.pdf>.

182. See International Maritime Organization, Circular Letter on the Workshop on Safe Ship Operations in the Arctic Ocean, U.N. Doc. 3427/Rev.1/Add.1 (Feb. 18, 2014).

183. *Maritime Safety Committee (MSC), 94th session, 17-21 November 2014*, INT'L MARITIME ORG. (Jan. 19, 2015), <http://www.imo.org/MediaCentre/MeetingSummaries/MSC/Pages/MSC-94th-session.aspx>.

184. *Draft Polar Code Approved by IMO's Marine Environment Protection Committee*, INT'L MARITIME ORG. (Oct. 20, 2014), <http://www.imo.org/MediaCentre/PressBriefings/Pages/32-mepc-polar.aspx#.VT3EsfViko>.

elements of the Code may have immediate *de facto* effect, though, if insurers use it as a baseline from which to insist on higher standards.

Key features include a Polar Ship Certificate program that requires vessel certification according to ice capability, and enhanced requirements for ship operations, structure, stability, safety, equipment, communications, manning and training, and voyage planning. On pollution prevention and environmental protection, MARPOL already specifically regulates the Antarctic, including a prohibition of any noxious liquid discharge, or the use or carriage of heavy fuel oil. The draft Code replicates many Antarctic provisions for Arctic application, but with a voluntary heavy fuel oil prohibition.

Environmental groups criticize the draft Code for weaknesses related to non-ice-strengthened ships operating in polar waters, black carbon emissions, ballast water, and oil spills. Lloyd's March 2014 decision to develop its own Arctic ice regime to supplement the Code may indicate a more widespread assessment that the Code does not go far enough in casualty prevention.¹⁸⁵

D. FAO Committee on Fisheries

The Food and Agriculture Organization of the United Nations 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 fishworkers.¹⁸⁶ COFI's 31st Session in June 2014 did not directly address the Arctic.¹⁸⁷ It did consider the pronounced effect of climate change and ocean acidification on small-scale fisheries, and food security; it

185. See LLOYD'S, CLIMATEWISE REPORT 2013/2014 (2014), available at <http://www.loyds.com/~media/files/loyds/corporate%20responsibility/climatewise/2014/loyds%20climatewise%20activities%2020132014%20final%20%20public.pdf>.

186. INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS, SAMUDRA REPORT NO. 53 (2009), available at http://www.icsf.net/images/samudra/pdf/english/issue_53/3346_art_roundup.pdf.

187. See Report of the 31st Session of the Committee on Fisheries, June 9-13, 2014, U.N. Doc. 2015/23 (Sept. 2014).

reiterated the need for a “human-rights based approach” to guidelines that “should not represent a barrier to trade.”¹⁸⁸

E. International Whaling Commission

The 1946 International Convention for the Regulation of Whaling (ICRW) established the International Whaling Commission (IWC).¹⁸⁹ The Commission’s purpose is to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry. The IWC headquarters is in Impington, near Cambridge, England.

In 1982 the IWC member-states adopted a moratorium on commercial whaling, which entered into force in 1986.¹⁹⁰ 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. In 1994, the IWC established the Southern Ocean Whale Sanctuary in the Antarctic.¹⁹¹

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 2002.¹⁹² Its 2002 instrument of adherence included a reservation to the commercial whaling moratorium. The reservation was not acceptable to all IWC member governments. However, in 2002, a majority of the ICRW parties voted to accept Iceland back as an IWC member. In 2013, taking advantage of its reservation to the moratorium, Iceland resumed whaling.¹⁹³ Icelandic whalers, who historically export much of their whale products to Japan, reportedly took 134 fin whales and thirty-eight minke whales

188. *Id.*

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

190. *Commercial Whaling*, INT’L WHALING COMM., <https://iwc.int/commercial> (last visited April 27, 2015).

191. *Southern Ocean Whale Sanctuary*, ANTARCTIC AND SOUTHERN OCEAN COALITION, <http://www.asoc.org/advocacy/antarctic-wildlife-conservation/southern-ocean-whale-sanctuary> (last visited April 27, 2015).

192. *Iceland and Commercial Whaling*, INT’L WHALING COMM., <https://iwc.int/iceland> (last visited April 27, 2015).

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

in 2013.¹⁹⁴ The government of Iceland increased the allowable takes for 2014, but reports indicate the commercial industry did not reach its quota.

The IWC allows non-zero whaling quotas for aboriginal subsistence. In 2012, the commission voted 48-10 to uphold new catch limits for Arctic subsistence whaling communities, which were set to expire in 2012.¹⁹⁵ 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.¹⁹⁶ The U.S. and Russia allocate the available strikes between Alaska Eskimos and Chukotka natives under a bilateral agreement.

The IWC held an Arctic Impacts Workshop in Anchorage on March 6-7, 2014.¹⁹⁷ The meeting brought together national, local, and native authorities with scientists, industry representatives, and intergovernmental and environmental organizations to consider the impact on cetaceans of increased marine activity in the Arctic.

F. North Atlantic Marine Mammal Commission

The North Atlantic Marine Mammal Commission (NAMMCO) (a less respected rival of the IWC) is self-described as an international body for cooperation on the conservation, management, and study of marine mammals in the North Atlantic.¹⁹⁸ The NAMMCO Agreement was signed on April 9, 1992 by Norway, Iceland, Greenland and the Faroe Islands, and entered into force on July 8, 1992.¹⁹⁹ Its headquarters is in Tromsø, Norway. Norway has been whaling commercially since 1994, consistent with its “objection” to the IWC moratorium.

194. *Whaling in Iceland*, WHALE AND DOLPHIN CONSERVATION, <http://us.whales.org/issues/whaling-in-iceland> (last visited April 27, 2015).

195. Yvonna Tahana, *Fight for Maoria Whaling Traditions*, NEW ZEALAND HERALD, July 5, 2012, http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10817502.

196. *Id.*

197. *Arctic Impacts Workshop, 6-7 March 2014*, INT'L WHALING COMM., <https://iwc.int/arctic-impacts-workshop-6-7-march-2014> (last visited April 27, 2015).

198. NAMMCO, <http://www.nammco.no/> (last visited April 27, 2015).

199. David D. Caron, *The International Whaling Commission and the North Atlantic Marine Mammal Commission*, 89 AM. J. INT'L L. 154 (1995).

In February 2014, the Commission held its twenty-second Council meeting in Oslo, Norway where representatives “confirmed their commitment to ensuring the sustainable utilization of marine mammals through active regional cooperation and science-based management decisions.”²⁰⁰ Their conclusions refute a United States Department of Interior certification that Iceland justifies its whaling practices on inadequate science, diminishing the effectiveness of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).²⁰¹

G. Commission On Limits of the Continental Shelf: Who Owns The North Pole?

Following an expansive December 2014 submission by Denmark, the Commission on Limits of the Continental Shelf (CLCS) will play a key role in determining whether any state’s continental shelf claims extend to the seabed under the North Pole. At issue is the geologic origin of an undersea mountain range, the Lomonosov Ridge.

1. Background and Legal Basis

Under the 1982 U.N. Convention on the Law of the Sea (LOSC), all coastal states have sovereign rights in the natural resources of their continental shelves.²⁰² A coastal state’s continental shelf extends at least 200 nautical miles (nm) seaward from the baseline. A complex formula in Article 76 of the LOSC provides a basis for some “geographically advantaged” states to assert claims to an “extended” continental shelf beyond 200 nm, if, among other things, certain geologic features are proved to be continental extensions.²⁰³ Denmark claims the Lomonosov Ridge as an extension of Greenland’s shelf (a semi-autonomous Danish territory).²⁰⁴

200. Press Release, NAMMCO, Activities Since the 20th Anniversary, 2012 (Feb. 28, 2014), available at <http://www.nammco.no/webcronize/images/nammco/995.pdf>.

201. See Convention on International Trade in Endangers Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243.

202. UNCLOS, *supra* note 6.

203. UNCLOS, *supra* note 6, at art. 76.

204. *Submission by the Kingdom of Denmark*, *infra* note 210.

Article 76 and Annex II of UNCLOS call for a Commission on the Limits of the Continental Shelf (CLCS). Its function is to make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf (i.e., ECS claims). CLCS recommendations are not binding on states. However, limits of the shelf established by a coastal state on the basis of CLCS recommendations are final and binding. 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—which would . . . base its decision on the equidistance principle.”²⁰⁵ The contested territory would likely be divided along a boundary lying equally distant from the contesting countries.

Until Denmark’s 2014 submission, discussed below, the Arctic CLCS process unfolded with very little conflict.

2. *Russian Claims*

The CLCS issued recommendations for Russia’s original December 20, 2001 submission on June 27, 2002.²⁰⁶ 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 . . .”²⁰⁷ Pursuant to that recommendation, Russia submitted a partial revised claim for the Sea of Okhotsk on February 28, 2013. After several amendments, the Commission unanimously adopted Russia’s revision on March 11, 2014.²⁰⁸ Russia indicated that a future revision would stop at the North Pole, even though studies indicated a potentially justified extension based on the Lomonosov Ridge.

3. *Canadian Claims*

On December 6, 2013, after ten years of surveys and research at a cost of some \$200 million, Canada submitted to

205. Michael Byers, *INTERNATIONAL LAW AND THE ARCTIC* (2013).

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

207. *Id.*

208. *Comm. on the Limits of the Continental Shelf*, *supra* note 156.

the Commission 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 on its Atlantic coast. 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.

In August 2014, the Harper government launched the first of two surveys to complete its submission. The second will be conducted in 2015. The Harper administration hinted at a North Pole claim, based on a connection between the Lomonosov Ridge and Ellesmere Island.

4. *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.²⁰⁹ Denmark notified the Commission that this is a partial submission and that it “intends to submit separate information on maritime areas north of Greenland.”²¹⁰

Denmark’s new submission encompasses the North Pole, extends to the outer boundary of Russia’s Exclusive Economic Zone (an area generally 200 nm seaward from the baseline, in which the adjacent state has special rights), overlaps a Norwegian claim, and will likely give rise to competing submissions from Russia and Canada. As of December 15, 2014, this is the newest of 56 claims dating back to 2008 still under consideration at the CLCS. Any recommendation is expected to take years.

5. *The United States Position*

The United States does not have standing to submit ECS claims to the CLCS because it has not acceded to UNCLOS. The U.S. Extended Continental Shelf Project, though, is a

209. United Nations Convention on the Law of the Sea, Receipt of the Submission Made by Canada to the Commission on the Limits of the Continental Shelf, U.N. Doc. CLCS.70.2013.LOS (Dec. 9, 2013).

210. *Submission by the Kingdom of Denmark*, DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA (Dec. 10, 2014), http://www.un.org/depts/los/clcs_new/submissions_files/submission_dnk_68_2013.htm.

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.²¹¹ The project has not reported any activity since 2012.

H. UNESCO, Intergovernmental Oceanographic Commission, ICES, and PICES

The United Nations Educational, Scientific and Cultural Organization (UNESCO) strives to build solidarity among nations by fostering information exchange across a number of disciplines.

The Intergovernmental Oceanographic Commission (IOC) is part of UNESCO.²¹² It is recognized through the United Nations Convention on the Law of the Sea (UNCLOS) as the competent organization in the fields of Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV).²¹³

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.²¹⁴ 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.²¹⁵ 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. ICES publishes an annual Report on Ocean Climate for the North Atlantic each December.²¹⁶

211. *U.S. Extended Continental Shelf Project*, NAT'L CNTR. FOR ENVTL INFO., <http://www.ngdc.noaa.gov/mgg/ecs/> (last visited April 27, 2015).

212. See *Intergovernmental Oceanographic Commission*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/> (last visited April 27, 2015).

213. See UNCLOS, *supra* note 6.

214. *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 April 27, 2015).

215. *Id.*

216. See, e.g., INT'L COUNCIL FOR THE EXPLORATION OF THE SEA, ICES REPORT ON OCEAN CLIMATE 2012 (Agnieszka Beszczynska-Moller & Stephen R. Dye eds., 2013),

The North Pacific Marine Science Organization (PICES) is an intergovernmental science organization that promotes and coordinates marine research in the northern North Pacific.²¹⁷ Members are Canada, Japan, China, Korea, Russia, and the United States. Whereas ICES extends work into the Arctic, the 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.”²¹⁸

I. World Trade Organization: The European Union Seal Products Ban

The World Trade Organization (WTO) is, among other things, a forum for governments to negotiate trade agreements and settle trade disputes. For example, on November 25, 2013, a WTO panel upheld the European Union’s 2010 ban on trade in seal products (Regulation (EC) No 1007/2009). 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. 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 2013.²¹⁹

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.” Such exceptions must comply with the Article

available at <http://www.ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20%28CRR%29/err321/IROC%202012.pdf>.

217. *About PICES*, NORTH PACIFIC MARINE SCI. ORG., <https://www.pices.int/about/default.aspx> (last visited April 27, 2015).

218. NORTH PAC. MARINE SCI. ORG., ANNUAL REPORT 2014 (2014), available at https://www.pices.int/publications/annual_reports/Ann_Rpt_14/ann_rep_2014.aspx.

219. Under the Ottawa Declaration, council decisions are made by consensus, creating a one-state veto.

XX chapeau (introduction): they must not arbitrarily or unjustifiably discriminate.

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.”²²⁰ The Seal Regime bans products derived from commercial hunts, but exempts products from certified traditional Inuit hunts. 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.

The Appellate Body found the ban allowable under Article XX, but unfairly favorable to Greenlandic seal products in violation of the chapeau. Canada and the EU agreed in September 2014 that the EU would bring its regulation into conformity with GATT obligations by October 2015. However, the EU and Canada struck a deal in October 2014 that seems to end the dispute. The EU will allow products from Canadian Inuit hunts, even if non-indigenous people process, market, and manufacture the items.²²¹

J. International Tribunals

On September 19, 2013, Russia arrested thirty activists from the Greenpeace vessel *Arctic Sunrise* after two protesters from the vessel attempted to scale the Gazprom oil rig *Prirazlomnaya* in the Pechora Sea, located in Russia’s exclusive economic zone (EEZ). The activists were originally charged with piracy, but charges were later reduced to “hooliganism.” They were brought to Murmansk for trial, sentenced to two months in jail, and transferred to detention facilities in St. Petersburg. On application by the Netherlands, as flag state for the *Arctic Sunrise*, ITLOS ordered Russia to release the protesters upon payment of a bond or other security.²²² Russia ignored the November 22, 2013 ITLOS order for over a month. However, on December 30, 2013, the

220. Appellate Body Report, *European Communities—Measures Prohibiting the Importation and Marketing of Seal Products*, WT/DS400/AB/R, WT/DS401/AB/R (April 29, 2014).

221. *Id.*

222. See Craig H. Allen, *ITLOS Orders Russia to Release ARCTIC SUNRISE and its Greenpeace Protestors*, OPINIO JURIS (Nov. 25, 2013), <http://opiniojuris.org/2013/11/25/itlos-orders-russia-release-arctic-sunrise-greenpeace-protestors/>.

last of the protestors were allowed to leave Russia. Russia did not release the *Arctic Sunrise* until June 2014.²²³

K. *United Nations Environment Program*

United Nations Environment Program (UNEP) facilitates and sometimes acts as secretariat for 13 Regional Seas Programs among 143 nations. Five other programs—including the program for the Arctic, which is administered by the Arctic Council states—are independently administered. 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.

The U.N. Environment Program issued a report on September 10, 2014 encouraging decision-makers to leverage the Montreal Protocol's success reducing ozone depletion to efforts to reduce greenhouse gas emissions that contribute to global warming.²²⁴

V. ARCTIC MARINE SHIPPING

Nearly all the perceived dangers and opportunities of a rapidly warming Arctic relate to shipping. Cruise companies plan voyages on both the Northern Sea Route and the Northwest Passage, even while insurers flag extraordinary risks. There can be no oil and gas development without reliable Arctic shipping. Increased vessel traffic may threaten indigenous ways of life. It also presents an impetus for

223. John Vidal, *Arctic 30: Russia Releases Greenpeace Ship*, *The Guardian*, June 6, 2014, <http://www.theguardian.com/environment/2014/jun/06/arctic-30-sunrise-russia-to-release-greenpeace-ship>.

224. WORLD METEOROLOGICAL ORG., REPORT NO. 56, SCIENTIFIC ASSESSMENT OF OZONE DEPLETION: 2014 (2014), available at http://ozone.unep.org/Assessment_Panels/SAP/SAP2014_Assessment_for_Decision-Makers.pdf.

increased infrastructure and delivery of much-needed supplies and services. As the ice melts, shippers may look north to cut costs, but only if traversing the Arctic is made more safe and efficient than alternatives.

A. *Background*

1. *Arctic Marine Shipping Assessment (AMSA)*

In 2009, an Arctic Council Protection of the Marine Environment working group led by Professor Lawson Brigham of the University of Alaska Fairbanks 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 (see Section VI).

2. *Shipping Routes*

Secure access and capacity limits to the Panama and Suez Canals will affect the demand for Arctic shipping routes in the coming decades. The Panama Canal Authority is presently at work on an expansion project that will add a larger third lock to the system and enable it to accommodate container ships of up to 12,000 TEUs (presently, it is limited to 5,000 TEU ships). The third lock is currently slated to open in the first quarter of 2016.

The present Panamax, New Panamax, and Suezmax limits are depicted in the following table:

	LENGTH	BEAM	DRAFT
Panamax (existing locks)	294 meters	32 meters	12 meters
New Panamax (3rd lock)	366 meters	49 meters	15 meters

Suezmax	Unlimited	50 meters	20 meters
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For comparison, the commonly cited limiting figures for vessels transiting the Northern Sea Route are thirty meter beam (vessels cannot be wider than the escorting icebreaker it must sometimes follow) and 12.5 meter draft (due to the shallow and often unavoidable straits between the New Siberian Islands). Limiting drafts in some Northwest Passage deep draft routes are as little as ten meters.

3. *Northern Sea Route*

The Northern Sea Route (NSR) traverses the Arctic Ocean north of Russia. 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. 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). Controversially, Russia also 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. In 2013, Russia set up the Northern Sea Route Administration (NSRA) and published new Rules of Navigation on the Water Area of the Northern Sea Route.²²⁵

While the Northern Sea Route undoubtedly holds more immediate shipping potential than the Northwest Passage, several 2014 reports suggest the route does not seriously compete with Suez or Panama. As of December 16, 2014, Russia's NSRA had not reported on 2014 transit statistics, but unofficial reports suggested a steep decline after several years of steady increase. Russia's Deputy Head of the Federal Agency for River and Sea Transport said 23 vessels used the NSR by the end of November 2014, compared to seventy-one total transits in 2013. A 2014 Arctic Institute analysis of the

225. See MINISTRY OF THE TRANSPORT OF RUSSIA, RULES OF NAVIGATION ON THE WATER AREA OF THE NORTHERN SEA ROUTE (2013), available at http://www.arctic-lia.com/docs/nsr/legislation/20130425185806en-Rules_unof.pdf.

2013 numbers suggests that many of those voyages were either incomplete or without cargo.

However, the world continues to prepare for more NSR shipping. Russia has added significant supportive military and search and rescue capabilities. The NSRA received 653 transit applications for 2014. The first Arctic cruise from the Murmansk region is scheduled for July 2015. The American Bureau of Shipping, a global classification society, released an advisory in January 2014 to guide ship owners through NSR risk assessment and Russia's permit process. 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.

4. *Northwest Passage*

Northwest Passage (NWP) transits, through Canada's maze of Arctic islands are much more limited. Still, the world prepares.

One unofficial source reported in 2013 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. The figure includes transits through all seven of the recognized NWP routes.

The 75,000 ton bulk carrier *Nordic Orion* attracted widespread attention after its 2013 NWP voyage from Vancouver, British Columbia to the port of Pori in Finland, carrying a cargo of coal. In 2014, the ice-strengthened bulk carrier *Nunavik* completed the first successful unescorted cargo transit, carrying nickel ore. In September, Canada announced plans to begin test shipments of oil as early as 2015, especially if the Keystone XL pipeline remains stalled. Crystal Cruises has scheduled a thirty-two-day, Anchorage to New York expedition through the NWP for 2016, which already has a waiting list for bookings starting at \$20,755 per person.

The NWP presents more shipping challenges than the NSR because of more hazardous ice conditions and a relative lack of infrastructure. In July, Maritime Executive interviewed several NWP experts regarding the Crystal Cruises plan. They unanimously expressed concerns, including "almost complete lack" of search-and-rescue capabilities, unpredictable ice

hazards, a dearth of onshore emergency services, waste disposal, spill response, and insufficient ship construction.

Canada considers the NWP internal waters, and has enacted an assortment of laws to regulate some of these exposures. An October Report of the Commissioner of the Environment and Sustainable Development on Marine 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.²²⁶

Cruise plans notwithstanding, the shipping industry seems to largely agree that in most instances Arctic shipping presents more hazards than benefits. Of course, some analysts have noted that Egyptian stability and security conditions could once again²²⁷ threaten navigation through the Suez Canal, shifting the decision calculus in favor of Arctic routes.

B. Agreements

1. Polar Code

The IMO's *Guidelines for Ships Operating in Polar Waters* provides voluntary standards for Arctic shipping. New standards are set to become mandatory under the Polar Code by 2017.²²⁸

2. 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

226. OFFICE OF THE AUDITOR GENERAL OF CANADA, 2014 FALL REPORT OF THE COMMISSIONER OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (2014), available at http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201410_e_39845.html.

227. During the Six Day War in 1967 Egypt closed the canal, forcing traffic around Cape Agulhas (Cape of Good Hope). The canal remained closed until 1975.

228. See *supra* Part 6.

embraced the agreement, opening three of ten planned SAR centers by the end of 2014. On October 30, 2013, U.S. and Canadian forces engaged in a Joint Arctic Search and Rescue Exercise. Cooperation on search and rescue activities is also facilitated by the North Pacific Coast Guard Forum and the North Atlantic Coast Guard Forum.

C. Actions

1. Central Bering Sea Place of Refuge

The Coast Guard and Marine Transportation Act of 2012 called for two Arctic marine studies.²²⁹ 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.

2. 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, 2014.²³⁰ The Army Corps of Engineers completed its study in March 2013.²³¹

229. See Pub. L. No. 112-213, 126 Stat. 1540 (2012).

230. U.S. COAST GUARD, FEASIBILITY OF ESTABLISHING AN ARCTIC DEEP-DRAFT SEAPORT (2014), available at <http://origin.library.constantcontact.com/download/get/file/1103854201241-742/2014-1.02.11.Feasibility+of+Establishing+an+Arctic+Deep-draft+Seaport.pdf>.

231. U.S. ARMY CORPS OF ENGINEERS, ALASKA DEEP-DRAFT ARCTIC PORT SYSTEM STUDY (2013), available at <http://www.poa.usace.army.mil/Portals/34/docs/AKports/1ADDAPSReportweb.pdf>.

3. *Marine Transportation System. See Section III.(A)(13).*

4. *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.²³² The study was initiated to evaluate the continued applicability of 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. The goal is to help reduce the risk of marine casualties and increase the efficiency of vessel traffic in the study area. Based on comments received from the 2010 notice, the Coast Guard developed a potential vessel routing system for the area, which is open for public comments until June 3, 2015.²³³ In 2012, Norway and Russia obtained IMO approval for a mandatory Ship Reporting Scheme for vessels transiting the Barents Sea.²³⁴

5. *Nontank Vessel Response Plan (NTVRP) Requirement.*

On September 30, 2013, the Coast Guard promulgated its final rule on Nontank Vessel Response Plans (NTVRP).²³⁵ 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. On December 20, 2013, the Coast Guard granted a temporary Alternative Planning Criteria (APC) request for the Western Alaska Captain of the Port region. Requirements can be found at the Alaska Maritime Prevention & Response Network.²³⁶ The APC approval will expire on December 31, 2015.

232. 75 Fed. Reg. 68,568 (Nov. 8, 2010).

233. Port Access Route Study, *supra* note 55.

234. M.S.C. Res. 348(91), U.N. Doc. 91/22/Add.2 (Nov. 28, 2012).

235. 78 Fed. Reg. 60,100 (Sept. 30, 2013) (to be codified at 33 C.F.R. 151, 155, & 160).

236. ALASKA MARITIME PREVENTION & RESPONSE NETWORK, <http://www.akmprn.org/> (last visited April 27, 2015).

6. *U.S. Coast Guard Marine Safety Information Bulletin*

The US Coast Guard issued a bulletin in December 2014 to remind the commercial fishing industry about new safety and equipment requirements coming into effect.²³⁷

VI. ARCTIC RESOURCES

A. *Arctic Living Marine Resources*

1. *U.S. Arctic Waters*

a. *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). 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. 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. The plan was implemented by the National Marine Fisheries Service in 2009.²³⁸ 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).

An initial study on the Arctic ecosystem was published by a researcher at NOAA's Alaska Fisheries Science Center in Seattle.²³⁹

237. U.S. COAST GUARD, MSIB NO. 18-14, IMPLEMENTATION OF NEW REQUIREMENTS FOR COMMERCIAL FISHING VESSELS (2014), *available at* <http://www.fishsafe.info/USCG%20MSIB%2018-14%20%28cor%29-%20CFVS%20Requirements%20Update.5PC.pdf>.

238. 74 Fed. Reg. 211 (Dec. 3, 2009).

239. G.A. Whitehouse, NOAA Technical Memorandum NMFS-AFSC-262, Preliminary Mass-balance Food Web Model of the Eastern Chukchi Sea, U.S. Dep't of Commerce (2013), *available at* <http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-262.pdf>.

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.

b. Ocean Acidification

A study released in July by NOAA and the University of Alaska sought to project the impact of ocean acidification on Alaskan communities dependent on commercial and subsistence fishing.²⁴⁰ The study found communities in southeast and southwest Alaska particularly vulnerable.

c. Walrus

The largest Pacific Walrus “haul out” ever recorded provided a September 2014 spectacle, with more than 35,000 animals grouping on a beach at Point Lay, Alaska. The following November, Earthjustice filed suit against the United States government arguing, among other things, that oil and gas leasing plans do not do enough to protect the ice-dependent walrus

d. Biodiversity Monitoring

In October 2014, NOAA, NASA, and BOEM announced a joint effort to create a marine biodiversity monitoring network. The network includes an Arctic project partially funded by the Shell Oil Company.

2. Arctic High Seas

a. 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

240. J.T. Mathis et al., *supra* note 60.

with the U.N. Convention on the Law of the Sea and other applicable international law, such as the Straddling Fish Stocks Agreement.

On June 3, 2008, President George W. Bush signed a congressional joint resolution relating to Arctic Fisheries.²⁴¹ That resolution emphasizes the need for the United States to work with other nations to prepare for conserving and managing future Arctic fisheries. 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.

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. Talks among the Arctic states reportedly 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.

The representatives agreed that there is no need for a new regional fisheries management organization (RFMO) because commercial fishing in the Arctic high seas remains unlikely. They also agreed that interim measures should discourage unregulated commercial fishing in the single high seas portion of the central Arctic Ocean entirely surrounded by the five participating countries, consistent with existing international law. Apparently, developments in Ukraine stalled plans to finalize an agreement by June. The group expects to meet again in Canada in 2015.

A research ship surprisingly caught three Bluefin tuna in the Denmark Strait, much farther north than these fish usually range. Some suggest this may be a sign of things to come, as warming Arctic temperatures support different species distributions.

241. Pub. L. No. 110-243, 122 Stat. 1569 (2008).

b. Arctic Sanctuary

In September, Greenpeace released a study indicating global support for an internationally protected Arctic sanctuary.²⁴² The study supports the environmental organization's June 2014 proposal for a binding multilateral agreement.²⁴³

B. Arctic Non-Living Marine Resources

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 those of their onshore counterparts.²⁴⁴

The International Energy Agency released its World Energy Outlook 2013 on November 12, 2014, projecting energy trends through 2040.²⁴⁵ It is too soon to tell how much the so-called shale oil and gas revolution will affect offshore oil and gas exploration activities in the Arctic. Russia's decision to shut down its Shtokman gas field after investing some \$20 billion, due to competition from cheaper shale gas, sent a powerful warning. In January 2014, Norway's Statoil cancelled a \$324 million Arctic natural gas pipeline project because of cost and volume uncertainties. The plummeting crude oil prices of late 2014 also discouraged development plans on the outer continental shelf (OCS).

1. United States

The federal Outer Continental Shelf Lands Act (OCSLA) defines the outer continental shelf (OCS) as all submerged

242. RIWI, GREENPEACE ARCTIC SURVEY (2014), available at <http://www.greenpeace.org/international/Global/international/briefings/polar/2014/Greenpeace-RIWI-Arctic-Survey.pdf>.

243. See Arctic Sanctuary: Global Commons, Environmental Protection & Future-Proofing, GREENPEACE, (June 2014), <http://www.greenpeace.org/international/Global/international/publications/oceans/2014/Arctic%20Sanctuary.pdf>.

244. 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), available at <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>.

245. INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2013 (2014), available at <http://www.worldenergyoutlook.org/publications/weo-2013/>.

lands lying seaward of state coastal waters which are under U.S. jurisdiction. Under the federal Submerged Lands Act, most states (including Alaska) have title to the adjacent submerged lands out to three miles offshore. Under the OCSLA, the Secretary of the Interior is responsible for the administration of mineral exploration and development of the OCS. 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. The Act also provides guidelines for implementing an OCS oil and gas exploration and development program.

OCSLA leasing responsibility is delegated to the DOI's Bureau of Ocean Energy Management (BOEM). The statutorily authorized OCSLA leasing program begins with preparation of five-year leasing plans. The current plan covers the period from 2012 to 2017. That plan authorizes the leasing of up to 55.11 million acres in the Chukchi Sea and 64.72 million acres in the Beaufort Sea north of Alaska.

a. Royal Dutch Shell and Lease Sale 193.

Royal Dutch Shell, the main purchaser of offshore Alaska drilling leases, had a disastrous 2012 Arctic season,²⁴⁶ and a fallow 2013 spent in negotiations with BOEM on conditions for return. The company publicly withdrew its 2014 plans after a Federal appellate court ruled that BOEM based the Final Environmental Impact Statement for Lease Sale 193 on inadequate information about the amount of oil to be produced.²⁴⁷

Shell continued to address BOEM's requests for additional information.²⁴⁸ Then, on August 28, 2014, Shell submitted a new plan for 2015. Citing uncontrollable delays, Shell asked for a five-year extension on their lease in October 2014. BOEM released a draft revised supplemental environmental impact statement on October 31, based on a much more productive

246. See U.S. DEP'T OF THE INTERIOR, *supra* note 69.

247. See *supra* Part 3(A)(10).

248. *Shell-Chukchi Sea Exploration Plan*, BUREAU OF OCEAN ENERGY MGMT., <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Plans/Shell---Chukchi-Sea-Exploration-Plan-and-Supporting-Documents.aspx> (last visited April 27, 2015).

scenario. The public comment period ended December 22, 2014. At the time of writing, Shell's plans remain uncertain, subject to a variety of discouraging factors.

b. Call for 2017 Proposals

Pursuant to the five year plan, in July 2014, BOEM issued a call for information and nominations for potential 2017 oil and gas lease sales in Alaska's Beaufort Sea offshore area. The program excludes two subsistence whaling areas near Barrow and Kaktovik. BOEM released the Draft Proposed Program in January 2015.²⁴⁹

c. Other Reports

The Brookings Institute released a thorough review of Offshore Oil and Gas Governance in the Arctic in March 2014.²⁵⁰ Greenpeace's March 2014 Frozen Future report reviews Arctic oil and gas development through the lens of the Shell's exploration history.²⁵¹ WWF's July report released the result of several modeling exercises to illustrate the potential trajectory of Arctic oil spills in the Beaufort, Bering, and Barents Seas.²⁵²

2. Russia

Russian oil and gas development hit some milestones in 2014 before slumping prices and sanctions took their toll. Russia's oil major Rosneft announced in June that it plans to invest \$400 billion in Arctic shelf programs over the next twenty years. In September, Gazprom Neft reported the one

249. 2017-2022 Outer Continental Shelf Oil and Gas Leasing Draft Proposed Programs, BUREAU OF OCEAN ENERGY MGMT., <http://www.boem.gov/2017-2022-DPP/> (last visited June 27, 2015).

250. CHARLES EBINGER ET AL., BROOKINGS INST., OFFSHORE OIL AND GAS GOVERNANCE IN THE ARCTIC (2014), available at <http://www.brookings.edu/~media/Research/Files/Reports/2014/03/offshore%20oil%20gas%20governance%20arctic/Offshore%20Oil%20and%20Gas%20Governance%20web.pdf>.

251. See GREENPEACE, FROZEN FUTURE: SHELL'S ONGOING GAMBLE IN THE US ARCTIC (2014), available at <http://www.greenpeace.org.uk/sites/files/gpuk/frozen-future.pdf>.

252. WORLD WILDLIFE FOUND., MODELING OIL SPILLS IN THE BEAUFORT, BERING AND BARENTS SEAS (2014), available at http://d2ouvy59p0dg6k.cloudfront.net/downloads/oilspillmodelling_factsheet_2014_11_letter_web.pdf.

millionth barrel produced at the Prirazlomnoye field in the Pechora Sea, the first commercial offshore oil development in the Arctic. Exxon received a temporary exemption from sanctions to wrap up operations with Rosneft. Days later, on September 27, the partnership announced it discovered around 930 million barrels at Universitetskaya in the Kara Sea.

3. *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. An October report in Bloomberg suggests that political opposition and depressed crude prices threaten Norway's Barents Sea ambitions.

4. *Canada*

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 EL 481 block of Canada's Beaufort Sea. Chevron reportedly cited economic uncertainty, though not directly related to the forty-eight 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.

C. *Marine Pollution Prevention, Response & Liability*

There were no significant marine pollution incidents in the Arctic in 2014.

At its 2013 biennial ministerial meeting in Kiruna, Sweden, the Arctic Council approved an Agreement on Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic.²⁵³

The National Academies released their report *Responding to Oil Spills in the US Arctic Marine Environment* in April 2014.²⁵⁴ The report assesses the current state of Arctic spill

253. See Arctic Council, *supra* note 18.

254. See COMM. ON RESPONDING TO OIL SPILLS IN THE U.S. ARCTIC MARINE ENV'T ET AL., *supra* note 103.

response and environmental assessment, and identifies key oil spill research priorities.

The US Coast Guard, with NOAA, again conducted oil spill response exercises during the annual Arctic Shield mission. The agencies conducted a simulated spill and tested detection and response technologies in real ice conditions. Testing included a mapping tool designed to provide a quick visualization of spill situations and response options, and airborne and underwater remote devices to delineate the extent of simulated contamination.

For more on spill liability, see Section III(A)(1) *In re Deepwater Horizon*.

VII. ARCTIC MARINE SCIENTIFIC RESEARCH

As mentioned above, the National Academies published *The Arctic in the Anthropocene* in April 2014.²⁵⁵ The 224-page report reviews the status of research questions previously identified by Arctic researchers, highlights new and emerging questions and the capability to answer them, and identifies a multi-disciplinary research strategy for the next ten to twenty years.

A. *Ocean Acidification*

One area of growing research attention is acidification of the oceans, which 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. The report was released on May 6, 2013.²⁵⁶ AMAP released an overview report in March 2014.²⁵⁷ The findings were discussed at the May 6-8, 2013 International Conference on Arctic Ocean Acidification in

255. See COMM. ON EMERGING RESEARCH QUESTION IN THE ARCTIC ET AL., *supra* note 104.

256. *Assessment of Arctic Ocean Acidification Studies Seawater pH*, ARCTIC COUNCIL (July 5, 2013), <http://www.arctic-council.org/index.php/en/resources/news-and-press/news-archive/762-assessment-of-arctic-ocean-acidification-studies-seawater-ph>.

257. ARCTIC MONITORING AND ASSESSMENT PROGRAM, ARCTIC OCEAN ACIDIFICATION 2013: AN OVERVIEW (2014), available at <http://www.amap.no/documents/doc/Arctic-Ocean-Acidification-2013-An-Overview/1061>.

Bergen, Norway and the assessment and policy recommendations were then presented at the Ministerial Meeting of the Arctic Council, May 2013, in Kiruna.

B. Giant Arctic Waves

A University of Washington study by Jim Thompson and W. Erick Rogers, released in May 2014, produced the first measurements of waves in the middle of the Arctic Ocean.²⁵⁸ The study detected that Arctic winds combined with newly open water to generate house-sized waves during September 2012. Related studies placed sensors throughout the Arctic during the 2014 summer.

C. Sea Ice Carbon Sink

Several studies published between 2013 and 2014 indicate that Arctic sea ice draws large amounts of CO₂ from the atmosphere. Scientists have long known that oceans absorb huge amounts of carbon, but generally thought this did not apply to ice-covered areas. The recent studies show that sea ice may have a major impact on the global carbon cycle, indicating how ice melt may itself amplify global warming and ocean acidification.

VIII. INDIGENOUS ARCTIC RESIDENTS

The Arctic region is home to thirty different indigenous groups and four million residents. The Arctic Council has granted Permanent Participant status to six Arctic indigenous communities. For the first time in its history, the chairmanship of the Arctic Council passed to an Inuk, when Leona Aglukkaq, the Canadian MP for Nunavut and current Minister for the Environment, assumed the chair's duties in May of 2013.

Neither the United States nor Canada signed the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In 2010, Canada officially endorsed the declaration, and President Obama issued a statement of

²⁵⁸ See Jim Thomson & W. Erick Rogers, *Swell and Sea in the Emerging Arctic Ocean*, 41 GEOPHYSICAL RESEARCH LETTERS 3136 (2014).

support. But Canada characterized it as “aspirational,” and President Obama emphasized that it is “not legally binding or a statement of current international law.”

The United Nations convened the first World Conference on Indigenous Peoples in New York in September 2014, with mixed results for Arctic residents. On the one hand, more than 1,000 indigenous leaders representing around 320 million people joined high-ranking government officials and made progress over a two-day discussion on implementing the U.N. Declaration on the Rights of Indigenous Peoples. On the other hand, Canada objected to provisions asserting that indigenous peoples must give free, prior, and informed consent to activities on their lands. Russia reportedly prevented two important leaders from leaving the country to attend. Nevertheless, the outcome document includes a number of affirmations that support indigenous rights.²⁵⁹

The International Whaling Commission (IWC) establishes aboriginal catch limits. For 2013 through 2018 the IWC allows Alaskan and Chukotka native whalers to land up to 336 whales to meet subsistence needs.

IX. 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.²⁶⁰ 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.

A. *United States*

The Department of Defense now identifies climate change as a security threat. United States Arctic military activities are covered throughout Section III above.

259. G.A. Res. 69/159, U.N. Doc. A/69/L.1 (Sept. 15, 2014).

260. The Council’s charter states that “The Arctic Council should not deal with matters related to military security.” Ottawa Declaration, *supra* note 173.

B. Russia

Russia's northern activities have perhaps been the most noticeable. At a conference in Tromsø, Norway on January 21, 2013, Yevgeny Lukyanov, Deputy Secretary of the Russian Security Council, argued that Russia and other Arctic littoral states should boost security on their Arctic frontiers, as rapid pack-ice loss is making the region more accessible to maritime traffic. Later that year, a Russian naval spokesman indicated that the Arctic will be a priority region for the Russian Navy in 2014, with increased training missions and emphasis on mapping lesser-known regions.

To that end, the commander of Russia's Aerospace Defense Forces announced in 2013 that Russia deployed aerospace defense units in the Arctic and started to construct an early missile warning radar in the region. Russia aims to ultimately deploy fully automated radar systems in the region.

Also in 2013, Ilyushin Il-38 May maritime patrol and anti-submarine warfare (ASW) aircraft and Tupolev Tu-142 Bear maritime reconnaissance and ASW aircraft regularly flew Arctic patrols. The ASW aircraft operated from fleet airbases in the Murmansk and Vologda regions and routinely fly over international waters above the Arctic Ocean and along the Northern Sea Route.

In 2014 Russia created a command center in the New Siberian Islands. It became operational on December 1 after a busy year of preparations. Russia sent six Northern Fleet vessels to form the core force for the new command in early September. Air Force drills and training missions started shortly thereafter, some close enough to U.S. and Canadian airspace to elicit a responsive interception.

The command reportedly includes two Arctic bases opened in 2014, with two more scheduled to open in 2015. Russian defense ministry sources say Russia will add air forces, ground forces, aerospace defense forces, and specialist units.

Jane's reports that United Shipbuilding Corporation is developing a new Russian warship concept designed to enable the basing and deployment of naval vessels in ice conditions and for warship towing.

In October the U.S. State Department released data exchanged under the START treaty indicating an indeterminate increase in Russia's Barents Sea-based nuclear

missiles. Russia test-fired an intercontinental ballistic missile from the Barents Sea in November.

NORAD cancelled a September Air Force exercise usually conducted with Russia because of tensions regarding Ukraine. Around the same time, the Alaska Dispatch News reported that the United States and Russia cooperated on a secret transport of highly enriched uranium from Poland to Murmansk.

On December 26, President Putin signed the revised Russian Military Doctrine. 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.

C. Canada

In Canada, vessel procurement requirements for the Royal Canadian Navy and Canadian Coast Guard were consolidated in the National Shipbuilding Procurement Strategy. 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.

The Canadian Press reported on September 3, 2014 that the Arctic ship order was on time and under budget. By December, however, the Canadian Parliamentary Budget Office estimated that only four ships would be built, with a fifty percent chance of on-time delivery.

Canada announced in August plans to develop a series of Northern Operations Hubs, "to facilitate initial rapid deployment and up to thirty days sustained operations in the North." 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.

D. Finland

In August 2014 Finland announced it would increase air surveillance after Russia reportedly violated its airspace three times in one week.

X. UNIVERSITY OF WASHINGTON EVENTS AND PUBLICATIONS IN 2014

On November 1, 2013, Kellye Testy, Dean of the University of Washington School of Law, authorized preliminary planning for the establishment of an Arctic Law and Policy Institute. The decision was made shortly after U.S. Arctic Research Commission chair Fran Ulmer's visit to UW. Early planning steps were coordinated between the School of Law and the School of Marine and Environmental Affairs within the UW College of the Environment, after consultations with a number of stakeholders. The School of Law offered its first Arctic Law and Policy Seminar for law students and graduate students in the College of the Environment, and pledged to contribute to the university's newly added undergraduate minor in Arctic Studies.

In 2014, the University of Washington College of the Environment convened its Future of Ice speaker series. The six public sessions were well attended.

The Arctic Law and Policy Institute hired its first Research Fellow, Adam Murray, in August 2014. Mr. Murray published articles on the IMO's tacit acceptance procedure and on atmospheric trust litigation in Alaska's Supreme Court. His article analyzing federal versus state authority to regulate seaward of the territorial sea, with particular focus on vessel pollution measures, will appear in the University of San Francisco Maritime Law journal in 2015. Some of this research is posted on the APLI website.²⁶¹

In 2014, the UW Law School opened a full-time Anchorage, Alaska office under the leadership of Betsy Baker, to build on longstanding ties to the state and to expand opportunities for special legal programming for Alaska's law students, bench, bar, and community leaders. To that end, UW Law launched a new "Second Friday CLE in Alaska" series, designed to update the legal community on recent developments in the law and to provide opportunities for attendees to enhance their legal skills. Subjects covered in 2014 included Alaska Native land trusts, marriage equality, Washington's limited license legal

261. *Arctic Law & Policy Institute*, UNIV. OF WASH. SCHOOL OF LAW, <http://www.law.washington.edu/arcticlaw/research.aspx> (last visited April 27, 2015).

technician program, and recent developments in Arctic law and policy focused on Alaska OCS oil and gas development.

UW Law hosted the Arctic Encounter Symposium (AES) at the University of Washington in January 2015.²⁶² Rachel Kallander served as the symposium's executive director.

Readers are encouraged to report new developments for inclusion in future end-of-year reviews by writing to the Institute at: ALPI@uw.edu.

²⁶² *Arctic Encounter Symposium 2015*, UNIV. OF WASH. SCHOOL OF LAW, <http://www.law.washington.edu/Events/ArcticEncounter/default.aspx> (last visited April 27, 2015).