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Milo Burcham

Safeguarding Important Areas in the U.S. Arctic Ocean

Overview

The U.S. Arctic Ocean supports unique species found nowhere else in the country and is home to indigenous Inupiat people who have thrived on its bounty for thousands of years. The Pew Charitable Trusts believes that a balance must be struck between responsible economic development and preservation of ecosystem integrity and function in the Arctic Ocean. Safeguarding especially important areas can help the rapidly changing Arctic environment remain healthy, while providing local communities and the businesses that have invested there with more certainty about the future management of the region.

Marine life is abundant throughout the Beaufort and Chukchi seas. But recent syntheses of the best available science support the idea that certain areas, often those with distinct physical or oceanographic features, make exceptional contributions to ecosystem function and subsistence.¹ These sites have characteristics that make them important migration routes; provide vital habitat for marine mammal breeding, spawning, or foraging; and offer ideal conditions for the microscopic organisms that form the foundation of the marine food web. They are also crucial to the long-term health of the wildlife that sustain subsistence activities and to the spiritual, nutritional, and cultural well-being of the region's communities.

In January 2015, President Barack Obama permanently withdrew 9.8 million acres of Arctic marine waters from oil and gas leasing under the Outer Continental Shelf Lands Act.² The five areas set aside include: a coastal corridor in the Chukchi Sea, two whaling areas adjacent to the communities of Barrow and Kaktovik, the northwestern waters of Barrow Canyon, and a shallow shelf known as Hanna Shoal.

These ocean areas have long been publicly recognized and deferred—that is, temporarily excluded—from leasing because of their importance for wildlife, subsistence, and the health of the Arctic ecosystem.

Important Marine Areas Withdrawn in 2015 From Future Oil and Gas Leasing



■ Chukchi Coastal Buffer ■ Barrow and Kaktovik whaling areas ■ Hanna Shoal ■ Barrow Canyon Subsistence Area

25-Mile Chukchi Coastal Buffer

The Chukchi Coastal Buffer in the U.S. Chukchi Sea provides a crucial corridor for some of the largest marine wildlife migrations in the world. In January 2015, a 25-mile-wide stretch from Point Hope to Barrow was withdrawn from oil and gas leasing. From winter to early summer, this dynamic stretch of ocean, where land-fast ice and moving pack ice meet, is characterized by leads (large fractures) and polynyas (persistent areas of open



Bearded seals are common in shallow Arctic waters. High concentrations of these seals assemble in the nearshore Chukchi Coastal Buffer, where they give birth to pups in spring.

water) in the otherwise pervasive sea ice. These openings let in sunlight for algae to grow, providing energy for tiny floating animals such as plankton, and offer places for mammals to breathe. During the annual spring and early summer migration from the Bering Sea to the Arctic Ocean, they offer a passage through which almost the entire population of the western Arctic stock of bowhead whales, as well as beluga and gray whales, ice seals, waterfowl, gulls, seabirds, and other wildlife, transit north.

The buffer provides important habitat for marine wildlife year-round. Pacific walrus travel and forage in the buffer during late summer and fall; in the fall, when sea ice is scarce, they are often found between Point Lay and Icy Cape, where they haul out en masse. From winter through early summer, the sea ice leads in the Chukchi Coastal Buffer provide critical feeding opportunities for resident animals, such as bearded and ringed seals and polar bears. The buffer encompasses globally important hot spots for myriad bird species, including yellow-billed and red-throated loons, black brant, murre, gulls, pomarine jaegers, black-legged kittiwakes, and spectacled, Steller's, and king eiders.

Publicly available studies funded by the Bureau of Ocean Energy Management and other organizations document that Alaska Native villagers hunt and travel extensively in the Chukchi Coastal Buffer throughout the year.

The Chukchi Coastal Buffer has a long history of deferral from leasing because of its ecological value and its corridor of polynyas that support the Arctic food web. Starting in 1992, each successive five-year federal leasing plan for the Outer Continental Shelf has featured a buffer in the Chukchi Sea along the coast of Alaska.³ A slightly varied version of the initial corridor was deferred in the 1997-2002 plan, and over the years, as more science became available and input was gathered about where subsistence activities took place, the area deferred from leasing evolved into the continuous 25-mile-wide buffer that is recognized today.⁴



A bowhead whale swims along the sea ice in the Arctic Ocean. Bowheads, which are an important part of subsistence culture, can live more than 100 years.

Barrow and Kaktovik whaling areas

The Barrow whaling area, located adjacent to the Inupiat village of Barrow in the western Beaufort Sea, is critical to subsistence hunting for the Barrow community. In spring and fall, bowhead whales migrate through this area and, increasingly, remain during ice-free seasons to feed. Between July and November, spotted seals, also a subsistence species, haul out along the nearby coast.

The Kaktovik whaling area is located in the eastern Beaufort Sea, near the border with Canada and just west of the Mackenzie Delta. As it has for thousands of years, the area serves as essential subsistence hunting grounds for the Inupiat village of Kaktovik. It is a key feeding and resting spot for bowhead whales during their fall migration to the Bering Strait. The region surrounding the withdrawal area also provides excellent feeding and denning habitat for large numbers of polar bears.

Because of their importance to the Inupiat subsistence way of life, the Barrow and Kaktovik whaling areas were taken out of consideration for oil and gas leasing in 2003, when they were deferred from Beaufort Sea Lease Sale 186. They were subsequently exempted from Beaufort Sea Lease Sale 195 in 2005 and were left out of the 2007-12 leasing plan. They have not been considered in a lease sale or five-year plan since.⁵



A pair of spectacled eider drakes fly over the coastal waters of Barrow, Alaska. Millions of seabirds migrate annually across long stretches of the Arctic Ocean, using marine habitat to feed, rest, and breed.

Barrow Canyon Subsistence Area

The president's January 2015 withdrawal also included the northwestern waters of Barrow Canyon, which begins just offshore from Barrow and descends approximately 1,200 feet deeper than the surrounding seafloor, stretching 15 miles across and 150 miles long. This important feature is where nutrient-rich waters, originating from the Bering and southern Chukchi seas, travel along the Chukchi corridor to meet the westward current from the Beaufort Sea.

The canyon's circulation patterns, dynamic waters, and abundant spring sunshine fuel a remarkable population of tiny organisms—plants and animals—that form the foundation of the Arctic food web. Floating plankton, crustaceans, and other bottom-dwelling organisms draw a wide variety of predators, including gray whales that congregate to feed here each summer in and around the canyon. Bowhead whales gather to feed in the area in the spring and fall. When winter and spring arrive, bearded and ringed seals forage for invertebrates and fish in the canyon. Seabirds and waterfowl use the waters of the canyon as a critical migration route, and murre, shearwaters, eiders, and loons can be found throughout the region, along with Arctic cod and other fish. Studies show that nearby coastal villages regularly hunt in areas influenced by the canyon's productivity.⁶

The recognition of Barrow Canyon's key features, ecological value, and importance to subsistence hunting led to the deferral of its northwestern waters from oil and gas leasing in the 2012-17 leasing plan. The eastern waters of Barrow Canyon offer equally rich habitat that warrants careful consideration and future protection.⁷



Areas like Hanna Shoal in the Chukchi Sea are essential habitat for walrus, which rest in family groups between foraging and migrating.

Hanna Shoal

Hanna Shoal, 100 miles northwest of Alaska, is a shallow, 30-mile-wide shelf that rises from the surrounding seafloor to about 65 feet below the surface and interrupts the flow of warm water from the Bering Sea. The shoal's structure allows colder waters and sea ice floes to persist longer into the summer season than in other parts of the Chukchi Sea and makes the region increasingly important for species that rely on sea ice habitat. Recent satellite tracking data demonstrate that the shoal's sea ice, when present, provides an important resting place for walrus, which, along with bearded seals, are also attracted to the shoal to feed on the area's many seafloor animals, including clams, worms, and crabs. In winter and spring, the polynyas between Hanna Shoal and the coast of Alaska provide openings for animals such as bearded and ringed seals, which in turn attract polar bears that prey on them.

In its 2012-17 leasing plan for the Outer Continental Shelf, the Bureau of Ocean Energy Management recognized the importance of Hanna Shoal and slated the area for a multiyear scientific study, still ongoing, to identify and measure the central physical and biological processes (i.e., food web dynamics) that contribute to the high concentration of marine life found there.⁸ The Hanna Shoal region, an area larger than that withdrawn by the president, has been acknowledged as valuable for the larger ecosystem by agencies, scientists, and communities, and in public comments.



Arctic Ocean wildlife sustain the Inupiat people's subsistence activities, which have been key to their nutritional, cultural, and spiritual well-being for thousands of years.

Conclusion

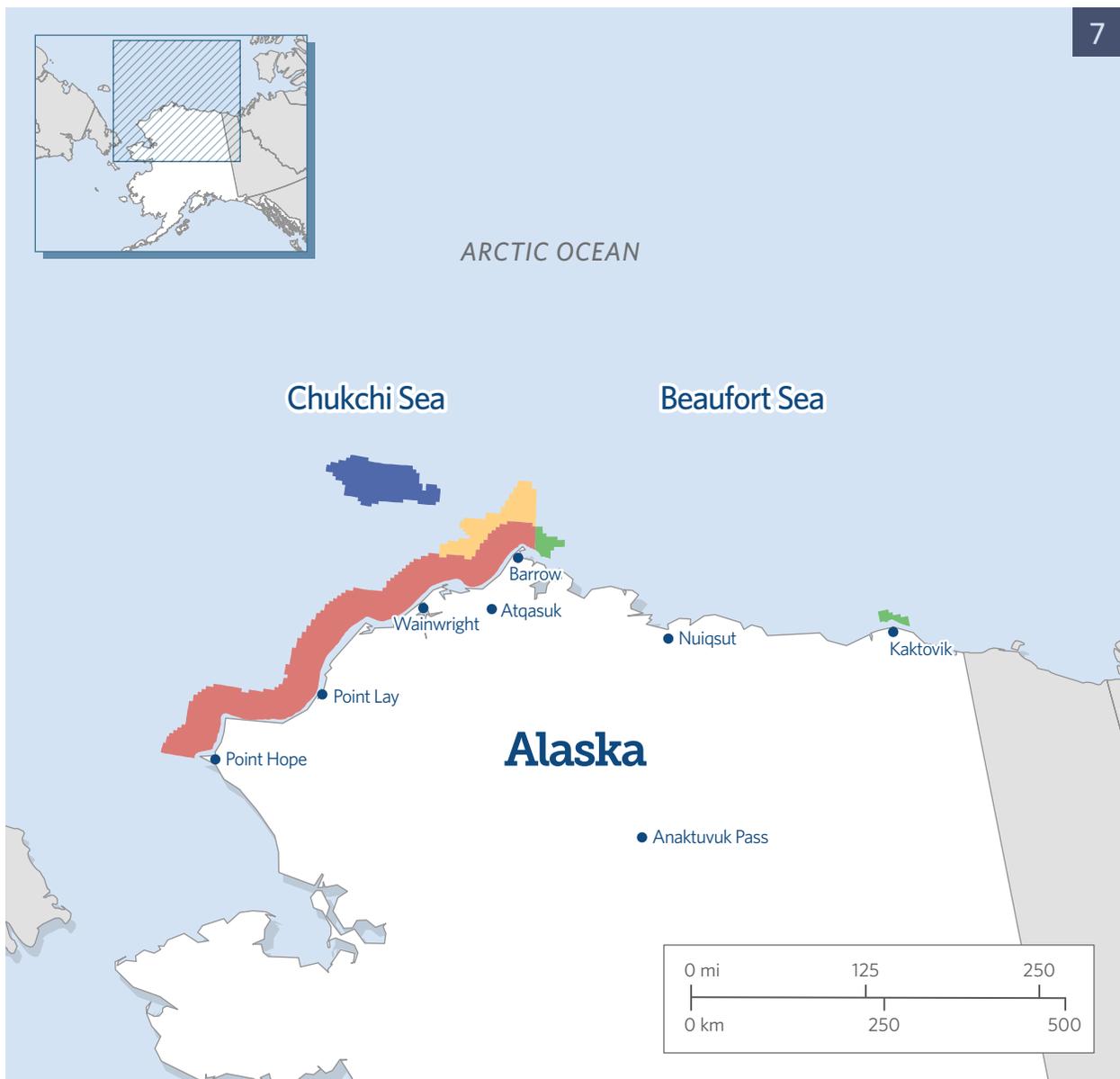
The areas permanently withdrawn by President Obama from oil and gas leasing in 2015 have a history of deferrals supported by public requests and a strong foundation of scientific and traditional knowledge documenting their importance. Setting these areas aside is a positive step toward striking a balance between development and conservation in the region. This work demands ongoing evaluation, in consultation with local indigenous communities and Western scientists, to identify other important areas in the Arctic Ocean that should be exempted from development to promote a healthy, sustainable, and resilient ecosystem for the long term.⁹ Finally, maintaining this balance in the Arctic also requires world-class standards for industry that improve safety and help prevent spills, as well as expanded infrastructure for operations and spill response.

A Timeline of Arctic Marine Area Deferrals

The important marine areas withdrawn in 2015 have a history of being deferred from leasing in previous, time-limited Outer Continental Shelf oil and gas leasing plans.



Arctic Ocean Areas Permanently Withdrawn in 2015 From Future Oil and Gas Leasing



Legend for maps 1-7

- Chukchi Coastal Buffer
- Barrow and Kaktovik whaling areas
- Hanna Shoal
- Barrow Canyon Subsistence Area

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An Inupiat hunter uses a wooden oar to listen for passing bowheads during the spring whaling season in the Chukchi Sea.

Endnotes

- 1 Raychelle Daniel et al., *A Synthesis of Important Areas in the U.S. Chukchi and Beaufort Seas* (April 8, 2015), http://ak.audubon.org/sites/default/files/documents/important_areas_chukchi_beaufort_science_synthesis_8apr2015_lr.pdf.
- 2 Presidential Memorandum from President Barack Obama to Secretary of the Interior, "Withdrawal of Certain Areas of the United States Outer Continental Shelf Offshore Alaska From Leasing Disposition" (Jan. 27, 2015), <https://www.whitehouse.gov/the-press-office/2015/01/27/presidential-memorandum-withdrawal-certain-areas-united-states-outer-con>.
- 3 U.S. Department of the Interior, Minerals Management Service, *Proposed Final Comprehensive Program for Outer Continental Shelf Natural Gas and Oil Resource Management 1992-1997* (April 1992), 44, http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/PFP%2092-97.pdf.
- 4 U.S. Department of the Interior, Minerals Management Service, *Proposed Final Outer Continental Shelf Oil and Gas Leasing Program 1997-2002*, decision document (August 1996), http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/PFP%2097-02.pdf.
- 5 U.S. Department of the Interior, Minerals Management Service, "Alaska Region Beaufort Sea Lease Sale 186" (September 2003), http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Regional_Leasing/Alaska_Region/Alaska_Lease_Sales/Sale_186/Sale186Small.pdf.
- 6 U.S. Department of the Interior, Minerals Management Service, "Alaska Region Beaufort Sea Lease Sale 195" (March 2005), http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Regional_Leasing/Alaska_Region/Alaska_Lease_Sales/Sale_195/11_FNOS_195_map.pdf.
- 7 U.S. Department of the Interior, Minerals Management Service, *Proposed Final Outer Continental Shelf Oil and Gas Leasing Program 2012-2017* (June 2012), http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/2012-2017_Five_Year_Program/PFP%2012-17.pdf.
- 8 Ibid.
- 9 Ibid, 9.

For further information, please visit:

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Cover photos:

At left: Beluga whales take part in one of the world's largest marine animal migrations as they move north from the Bering Sea to the Arctic Ocean through a wide coastal corridor in the Chukchi Sea. **At right:** A festival celebrating whaling season includes a blanket toss, a traditional method of sighting whales migrating offshore.

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