



Public Employees for Environmental Responsibility

2000 P Street, NW, Suite 240 • Washington, DC 20036

Phone: (202) 265-PEER • Fax: (202) 265-4192

Email: info@peer.org • Web: <http://www.peer.org>

December 22, 2014

Mr. Daniel J. Basta
Director, NOAA Office of National Marine Sanctuaries
1305 East West Highway, N/NMS, 11th Floor
Silver Spring, MD 20910

RE: NOMINATION OF ALEUTIAN ISLANDS NATIONAL MARINE SANCTUARY

Sent via U.S. Mail & Email: sanctuary.nominations@noaa.gov

Dear Director Basta:

Pursuant to the final rule published in the *Federal Register* [15 CFR Part 922, Docket No. 130405334-3717-02, RIN 0648-BD20] Public Employees for Environmental Responsibility (“PEER”) submits this application to have the National Oceanic & Atmospheric Administration (“NOAA”) consider this nomination of the identified area of the marine environment for designation as a National Marine Sanctuary. As well, this nomination is consistent with, and helps fulfill, Executive Order 13547 issued July 19, 2010 entitled: “Stewardship of the Ocean, our coasts, and the Great Lakes”; and further secures the goal of the December 16, 2014 Presidential Memorandum extending the North Aleutian Basin/Bristol Bay OCS Planning Area withdrawal.

Section I - Basics

- **Nomination Title**

Aleutian Islands National Marine Sanctuary (AINMS)

- **Nominator Name(s) and Affiliation(s)**

Public Employees for Environmental Responsibility (PEER) – a national 501(c) (3) nonprofit environmental organization (tax number 93-1102740) dedicated to assisting current and former public servants better protect the planet and headquartered in Washington, DC. This nomination is made on behalf of Alaskan members of PEER who have dedicated their careers to the protection of that state’s and the Arctic marine environment.

Center for Biological Diversity – a national biological diversity conservation organization, which is involved in an array of Arctic conservation issues, with an office in Anchorage AK.

Eyak Preservation Council – an Indigenous People’s rights and wild fisheries conservation organization, based in Cordova AK.

The Center for Water Advocacy – a conservation organization working on water and human rights in the northwestern U.S., with an office in Homer AK.

North Gulf Oceanic Society – an Alaska cetacean research and conservation organization, based in Homer AK.

The Ocean Foundation – an international marine conservation organization, based in Washington, D.C.

Marine Endeavors – a seabird conservation consulting business, based in Oakland CA.

- **Nomination Point of Contact**

The point of contact in this matter is Richard Steiner, a member of the PEER Board of Directors, a retired University of Alaska professor of marine conservation, and a marine conservation consultant who has worked periodically in the nominated region since the 1970s in marine education, conservation, research, fisheries development, shipping safety, and commercial fishing.

His contact information is as follows:

Richard Steiner

Phone (907) 360-4503;

Email: richard.g.steiner@gmail.com;

Mailing Address: Box 666

9138 Arlon St., A3, Anchorage, AK 99507

An alternate point of contact is:

Jeff Ruch

PEER Executive Director

Phone (202) 265-7337; Email jruch@peer.org;

Mailing Address: PEER

2000 P Street, NW Suite 240

Washington, DC 20036

Section II - Introduction

- **Narrative Description**

Alaska’s seas and coasts are unique and globally significant for their diversity, expanse, and abundance of fish and wildlife, as well as their historical, cultural, and economic

significance. Although more than half of Alaska's lands receive permanent federal protection, virtually none of Alaska's federal waters receive comparable protective status.

All federal waters along the *entire* Aleutian Islands archipelago (from 3 to 200 nautical miles north and south of the islands) to the Alaska mainland, including federal waters off the Pribilof Islands and Bristol Bay, are proposed for designation as a National Marine Sanctuary. This will incorporate extensive, highly productive fish and crab habitat; unique cold-water coral and sponge benthic communities; unique hydrothermal vent ecosystems; seamount habitats; much of the Aleutian Trench; part of the Aleutian Basin; extensive marine mammal and seabird pelagic foraging habitat; endangered North Pacific Right Whale (*Eubalaena japonica*) critical habitat; Steller sea lion critical habitat; Southwest Alaska sea otter critical habitat; crab, halibut, herring, scallop, and salmon "savings (protection) areas;" and the seven Outer Continental Shelf (OCS) Planning Areas in the region, including the North Aleutian Basin (NAB) Planning Area [map attachment 1].

This sanctuary designation would encompass an offshore area of approximately 554,000 square nautical miles (nm²), an area larger than the recently expanded Pacific Remote Islands Marine National Monument, which covers approximately 370,000 nm². As such, the proposed Aleutian Islands National Marine Sanctuary would constitute the nation's largest marine protected area, and one of the largest in the world. It should be noted that in much of the proposed area, no new management restrictions are proposed herein, but all protections existing as of the date of nomination are to be enshrined permanently in regulation.

In further comparison with the Pacific Remote monument, the Aleutian Islands marine ecosystem is more biologically productive, has been more extensively exploited for commercial fisheries and marine mammal harvests for centuries, and is currently at greater immediate risk from overexploitation of marine resources, shipping, and offshore oil and gas development. In addition, the Aleutian Islands region has several thousand local residents who rely on the marine ecosystem.

- **Goals Description**

The Aleutian region includes some of the richest and most singular marine habitats in the world ocean. In fact, this region received one of the very first marine protective designations in U.S. history, when in 1913 President Taft reserved the Aleutians and its offshore waters, from Unimak to Attu, as a wildlife sanctuary (Executive Order 1733: "Establishing Aleutian Islands Reservation as Preserve for Native Birds, Animals, and Fish" March 3, 1913).

The Aleutian Islands Biosphere Reserve was designated by UNESCO in 1976, and the 1980 Alaska National Interest Lands Conservation Act (ANILCA) established the Alaska Maritime National Wildlife Refuge and the 1.3 million acre Aleutian Islands Wilderness, which pertains to the islands in the region.

Yet as detailed in Consideration 3 (below), Aleutian waters face rising threats on many fronts, with scant protection.

Through designation of the Aleutian Islands National Marine Sanctuary (AINMS), we propose the following management goals:

1. Protect seabird, marine mammal, and fish habitat, and restore populations and marine ecological resilience;
2. Protect and enhance Alaska Native marine subsistence;
3. Protect and enhance coastal small-boat fisheries;
4. Identify, monitor, and protect unique seabed habitats, including cold-water corals;
5. Reduce environmental risks from shipping, including oil and hazardous cargo spills, and whale-ship strikes;
6. Eliminate environmental risks from offshore oil and gas development;
7. Monitor and manage risks of marine invasive species introductions;
8. Reduce and manage marine debris;
9. Enhance marine eco-tourism development; and
10. Enhance scientific understanding of the region.

To achieve these overall management goals, we propose the following objectives:

- Permanently prohibit offshore oil, gas, and mineral leasing – All waters within the AINMS would be permanently excluded from oil, gas, and mineral leasing, including waters in the Department of Interior’s North Aleutian Basin (NAB) OCS Planning Area. In addition, the permanent prohibition on oil and gas leasing will apply to the Shumagin, St. George Basin, Aleutian Arc, Bowers Basin, St. Mathew-Hall Basin, and Aleutian Basin OCS Planning Areas. Even though the presidential withdrawal of the NAB area was extended by the December 16, 2014 Presidential Memorandum under section 12(a) of the Outer Continental Shelf Lands Act (OCSLA), the risk remains that Congress or a future administration may eliminate the withdrawal and reopen this, or other Planning Areas, to oil and gas development. The AINMS designation will specifically preclude such action, and permanently prohibit offshore petroleum exploration and development in the entire region.
- Protect Alaska Native subsistence and coastal fisheries – The AINMS will work with coastal residents of the region, particularly Alaska Natives, to protect marine subsistence activities; provide a substantial protected fishery reserve; and protect and enhance small boat, shore-based fisheries in the region.

- Protect marine mammal and seabird foraging habitat and prey species. While much of the *reproductive habitat* for seabirds and marine mammals on islands of the Aleutian region is currently protected (e.g. by the Alaska Maritime National Wildlife Refuge and National Marine Fisheries Service), most marine *foraging habitat* is not adequately protected. This has contributed to the alarming decline of many seabird and marine mammal populations throughout the Aleutian region, and an overall decline in the ecological health and integrity of the marine ecosystem. Filling this gap is a primary goal for the AINMS.
- Enshrine in regulation, and expand, habitat and species protections existing as of the date of nomination, December 22, 2014 – The eastern edge of the proposed Aleutian Islands National Marine Sanctuary (AINMS) would encompass critical habitat for the North Pacific Right Whale (the most critically endangered whale globally). In addition, the AINMS would make permanent the many laudable habitat and species conservation measures which have been implemented by the North Pacific Fishery Management Council (NPFMC) and National Marine Fisheries Service (NMFS) throughout the region, including closures of some (but not all) deepwater coral and sponge habitat in the Aleutian Islands Coral Habitat Protection Areas; Aleutian Islands Habitat Conservation Area (AIHCA); Bowers Ridge Habitat Conservation Zone; Alaska Seamount Habitat Protection Areas; Bering Sea Habitat Conservation Area; Nunivak Island, Etolin Strait, Kuskokwim Bay Habitat Conservation Area; Southwestern sea otter critical habitat; Walrus Islands federal closures; Gulf of Alaska Slope HCA; crab, halibut, herring, and salmon “savings areas;” all marine mammal conservation measures, including all Steller sea lion critical habitat; Scallop Conservation Areas; skate egg concentration Habitat Areas of Particular Concern (HAPC); Pribilof Island Habitat Conservation Area; the non-pelagic trawl closures along the south side of the Alaska Peninsula; and the Nearshore Bristol Bay Trawl Closure (map attachments 2, 3, and 4).

However, the current fishery restrictions were implemented by the NPFMC and NMFS without full consideration of the full range of ecological habitat conservation measures necessary. Many feel that the fisheries agency and fisheries council have not adequately balanced and protected non-commercial components of the marine ecosystem, such as seabirds, marine mammals, other fish species, cold-water corals, etc. As example, despite a continued decline in the sea lion population in the western Aleutians, a November 25, 2014 final rule from NMFS weakens sea lion protections in the region by opening areas previously closed to trawling for pollock, cod, and Atka mackerel. The AINMS will prohibit actions to remove or weaken existing protections, but will allow additional species and habitat protections to be established.

Thus, if after the AINMS is nominated (December 22, 2014), NMFS or NPFMC reduce or eliminate any of the existing marine habitat or species protections in the region, the AINMS will revert to the precise habitat and species protections that existed on the date of nomination - December 22, 2014. As the November 25, 2014 NMFS rule on Aleutian sea lions is scheduled to take effect December 26, 2014, and the AINMS nomination is filed December 22, 2014, this new NMFS rule will be voided by the AINMS designation. The AINMS will permanently enshrine all existing marine habitat and species protections

across the entire region in regulation, so that a future fisheries council or agency may not act to eliminate them.

On the other hand, NPFMC and NMFS would be able, and encouraged, to add to or increase any of the existing habitat and species protections in the region, as appropriate, based on the best science. Greater fishery restrictions in the region are clearly necessary to protect and rebuild important components of the marine ecosystem – fish, shellfish, seabirds, and marine mammals.

It is proposed that, west of 170 W and south of 55 N, the AINMS will extend the existing non-pelagic (bottom) trawl closure (the Aleutian Islands Habitat Conservation Area) to include all federal waters out to 200 nautical miles offshore, thus eliminating the current areas open to bottom trawling in federal waters west of 170 W. As well, the AINMS will expand the AIHCA trawl closure west of 170 W and south of 55 N, to apply to all trawls, including pelagic trawls, out to 20 miles offshore. The area from 20 – 200 miles offshore in the existing AIHCA will remain as is – all non-pelagic (bottom) trawls will continue to be prohibited, and pelagic trawls permitted.

The AINMS will also expand, as appropriate and as the science suggests, other fishery and habitat restrictions in the region. These will include additional critical seabed habitat protection closures in areas identified by additional benthic habitat surveys. As well, areas that should be considered for additional protections - in consultation with local Tribal governments, NMFS, and NPFMC - include the Seguam Pass and Bogoslof foraging areas for Steller sea lions; the Pribilof Island HCA; and the Nunivak, Etolin Strait, Kuskokwim Bay HCA. The AINMS will monitor the recovery of benthic habitat damaged by bottom trawls, and explore the potential for aiding its restoration.

As a significant portion of the commercial fishery catch from the Bering Sea/Aleutian Islands (BSAI) management region comes from Bering Sea sector, outside of waters proposed for inclusion in the AINMS, the AINMS will serve as a fishery reserve for rebuilding lucrative Bering Sea fisheries (e.g., crab, pollock, halibut, salmon, cod), protecting and rebuilding seabird and marine mammal populations, reducing by-catch of important "prohibited" species (crab, halibut, salmon), reducing marine debris from bottom hang-ups of bottom trawls, and protecting and enhancing small boat coastal fisheries in the region.

- Regulate transit merchant shipping – Require all transit ships (e.g. those not calling at Aleutian ports) to route outside of 50 miles offshore, except when transiting North or South between the Bering Sea and North Pacific, through the Aleutian passes such as Unimak Pass, Amchitka Pass, and at Buldir Island. This will affect some 4,000 – 8,000 merchant ships/year (many on “Innocent Passage”) transiting the region between North America and Asia ports. This routing restriction will reduce risks of groundings, heavy fuel oil spills, spills of hazardous cargo (e.g. chemicals, crude oil, petroleum products, etc.), invasive species introductions, and will reduce underwater noise generated from shipping into nearshore waters.

This ship routing restriction, along with others measures to reduce the risk of oil spills or whale-ship strikes, will require designation of the region by the International Maritime Organization (IMO) as a Particularly Sensitive Sea Area (PSSA), as proposed in 2009, and currently in consideration in the Aleutian Islands Risk Assessment process. To date, the only two PSSAs in US waters are the Florida Keys and Papahānaumokuākea Marine National Monument (Northwestern Hawaiian Islands). Until PSSA designation is secured for the Aleutian Islands region, all transit ships should be requested to voluntarily avoid waters within 50 miles of shore within the AINMS, and adopt other safety precautions. For Unimak Pass, a Vessel Traffic Service (VTS) and standby rescue tug should be required.

- Reduce risks from transit ship traffic in offshore waters (50-200 miles) of the AINMS – AINMS designation will facilitate development of the PSSA designation, including the 0-to-50 mile Area-To-Be Avoided (ATBA), other traffic routing agreements, vessel traffic systems, reporting agreements, real-time vessel tracking requirements, rescue/escort tug requirements, emergency tow packages, and more robust in-region oil spill response capacity. Additionally, measures to reduce the risk of whale-ship strikes will be identified and implemented as appropriate, including ship speed limits, marine mammal bow lookouts, night vision systems, active sonar, enhanced automated whale detection systems, acoustic “pingers” on ship bows, and so on.

This nomination is consistent with, and helps fulfill, Executive Order 13547 issued July 19, 2010 entitled: “Stewardship of the Ocean, our coasts, and the Great Lakes.” As well, it further strengthens the goal of the December 16, 2014 Presidential Memorandum extending the NAB/Bristol Bay leasing withdrawal.

- **Location Description**

The Aleutian Islands National Marine Sanctuary (AINMS) is proposed to include all federal waters (from 3 to 200 miles offshore) north and south of the Aleutian Islands, extending from the US-Russia Maritime Boundary in the west (170 E.), east to 157 W. (a total of 33 degrees Longitude).

The northern boundary of the AINMS will extend from the US-Russia boundary along the offshore EEZ boundary, to the southeast corner of the Bering Sea “donut hole,” then in a direct line north of the Pribilof Islands to Nunivak Island, then due east to the 3-mile boundary of Alaska state waters.

The southern boundary will extend from the US-Russia boundary along the offshore EEZ boundary to 157 W.

The AINMS will encompass and make permanent all habitat and species protections in the region that existed on December 22, 2014, including the entire existing Aleutian Islands Habitat Conservation Area (AIHCA); the southern edge of the Bering Sea Habitat Conservation Area (BSHCA); the Bowers Ridge Habitat Conservation Zone; the Aleutian Islands Coral Habitat Protection Areas; the Alaska Seamount Habitat Protection Area; all Steller sea lion critical

habitat; Southwest Alaska sea otter critical habitat; the Pribilof Island Habitat Conservation Area; Nunivak Island, Etolin Strait, Kuskokwim Bay Habitat Conservation Area; Pribilof Island Habitat Conservation Area; skate egg concentration Habitat Areas of Particular Concern; and other habitat and species protections (crab, halibut, salmon, herring, scallop protection areas) established by the North Pacific Fishery Management Council (NPFMC), the National Marine Fisheries Service (NMFS), and US Fish & Wildlife Service (USFWS); and will include the entire Department of Interior (DOI) North Aleutian Basin (NAB) Outer Continental Shelf (OCS) Planning Area (map attachments 2, 3, 4).

The AINMS would protect a total maritime area of approximately 554,000 square nautical miles.

Section III – Criteria Information

Criteria 1 Ecological Significance

The area's natural resources and ecological qualities are of global significance, and contribute significantly to biological productivity and diversity, maintenance of ecosystem structure and function, maintenance of ecologically and commercially important species and species assemblages, maintenance of critical habitat, representative biogeographic assemblages, and maintenance/enhancement of connectivity to other ecologically significant resources.

The Aleutian Islands marine ecosystem is one of the most biologically productive in the world ocean, supporting the largest populations of marine mammals, seabirds, fish, and shellfish in the nation, and one of the largest anywhere in the world. The marine ecosystem has supported the subsistence needs of coastal Alaska Native people for millennia, has experienced excessive marine mammal harvests by commercial marine mammal hunters and whaling fleets, and more recently has experienced excessive commercial fishery harvests and oil spills from transit shipping.

Of the 450 or so fish species in the region, some 25 are commercially exploited, including pollock, cod, flatfish, sablefish, rockfish, Atka mackerel, halibut, salmon, and herring. Shellfish harvested in the region include king crab, tanner crab, and shrimp.

The Aleutian region is one of the most important seabird habitats in the world, supporting tens of millions of seabirds each summer, including shearwaters, fulmars, petrels, kittiwakes, murres, auklets, albatross, and puffins. The whiskered auklet is endemic to the Aleutians. And the Aleutians serves as a significant spring and fall staging area for migratory waterfowl, including black brant, Taverner's Canada geese, emperor geese, and Steller's eiders. The recovery of Aleutian Canada geese is one of the most encouraging bird recovery stories in the world. Once feared extinct, a small remnant population was discovered on Buldir Island in the western Aleutians in the 1960s, from which the USFWS conducted a successful recovery program throughout the Aleutians.

As well, the Aleutian region is one of the most important marine mammal habitats in the world ocean, supporting over 20 species of marine mammals, including sea otter, fur seal, walrus, harbor seal, Steller sea lion, porpoise, killer whale, beluga whale, sperm whale, beaked whales,

North Pacific Right whale (the world's most endangered whale), Humpback whale, Sei whale, Blue whale, Minke whale, Fin whale, and Gray whale. Some of these are year-round residents (sea lions, seals, sea otters), and others are summer migrants (whales, etc.). Many of these are listed as threatened or endangered under the ESA. The western Aleutians region was the only habitat for one of the only marine mammal species to become extinct – the Steller's sea cow.

From Aleutian Subarea Contingency Plan, US DOI. Threatened & Endangered species in Aleutian region

Table 1: Endangered Species Act of 1973 Protected species and critical habitat			
Listed species	Stock	Latin Name	Status
Short-tailed albatross		<i>Phoebastria albatrus</i>	Endangered
Steller's eider	Alaska breeding	<i>Polysticta stelleri</i>	Threatened
Spectacled eider		<i>Somateria fischeri</i>	Threatened
Blue whale		<i>Balaenoptera musculus</i>	Endangered
Humpback whale		<i>Megaptera novaeangliae</i>	Endangered
Fin whale		<i>Balaenoptera physalus</i>	Endangered
Sei whale		<i>Balaena borealis</i>	Endangered
Sperm whale		<i>Physeter macrocephalus</i>	Endangered
Northern right whale		<i>Eubalaena glacialis</i>	Endangered
Northern sea otter	Southwest	<i>Enhydra lutris kenyoni</i>	Threatened
Steller sea lion	West of 140 degrees N	<i>Eumetopius jubatus</i>	Endangered
Designated Critical Habitat			
Species Group	General Reference Area		
Whales	Northern right whale in Bering Sea waters north of False Pass		
Birds	Spectacled eider critical habitat has been designated at Nelson and Izembek lagoons		
Sea otters	Aleutian Islands		
Sea lions	20 miles seaward around each major haulout		

Benthic habitats along the Aleutians also harbor the highest diversity and abundance of cold-water corals (some that can live up to 200 years) in the world, in addition to sponge habitat and unique hydrothermal vent ecosystems. Scientists have identified 101 cold water coral species in the region (about half of which are endemic to the Aleutians), and 136 sponge species, many of them new to science.

Regarding ecological connectivity, Unimak Pass, for example, is recognized as one of the most important migratory bird and marine mammal corridors in the world ocean, and can be fairly considered a “marine ecological gateway.” Much of the migration of whales, seals, seabirds, and fish (e.g. Bristol Bay red salmon) pass seasonally through this Aleutian pass. Aleutian Island passes are also a vital areas for zooplankton (euphausiids and copepods), squid, and forage fish, particularly young-of-the-year pollock and lanternfishes, and thus are critically important feeding areas for seabirds and marine mammals from throughout the North Pacific. The passes area also transition zones between the polar seas of the Bering and the Arctic and the temperate waters of the mid-latitude, northern Pacific Ocean.

Criteria 2 Historic Resources

The area contains submerged maritime heritage resources of special historical, cultural, or archaeological significance in that individually and collectively it contains many resources that are consistent with the criteria of eligibility for listing on the National Register of Historic Places; have met or which would meet the criteria for designation as a National Historic Landmark; or have special or sacred meaning to the Indigenous People of the region and nation. Uncontrolled access to archeological or paleontological sites can be damaging. Many of these resources are in areas protected only by their remoteness, and severe weather conditions.

Coastal sites in the Aleutians currently listed as National Historic Landmarks include:

<u>Name</u>	<u>Location</u>
Adak Army Base and Naval Operating Base	Adak
Anangula Archeological District	Nikolski vicinity
Attu Battlefield and U.S. Army and Navy Airfields	Attu
Cape Field at Fort Glenn	Umnak Island
Chaluka Site	Umnak Island
Dutch Harbor Naval Operating Base and Ft. Mears	Amaknak Island
Holy Ascension Orthodox Church	Unalaska
Japanese Occupation Site	Kiska
Seal Islands Historic District	Pribilof Islands

Notably, the Aleutian region is the only place in the U.S. that has been invaded and occupied by a foreign military (Japan, WWII). In addition, the Aleutians were the site of the Amchitka nuclear tests in 1965, 1969, and 1971 - the largest underground nuclear test in US history.

Moreover, there are more than 180 known shipwrecks and groundings in or adjacent to Aleutian waters. [See Attachment 5, with known wrecks organized by island].

Finally, it is highly likely that many yet to be identified marine archaeological and historic sites exist in the Aleutians. The AINMS will seek to identify such sites.

Criteria 3 Economic Value

The Aleutian Islands are home to the largest fishing port in the U.S. Each year nearly a billion pounds of fish and shellfish are landed at Dutch Harbor. Altogether, the sustainable fishery resources in the area are worth over \$2 billion dollars annually:

Gross Commercial Fishery Values for State and Federal Waters of the Bering Sea and Aleutian Islands Management Area, 2010
Salmon \$449.8 million
Halibut \$43.3 million
Herring \$26.6 million
Crab \$236.4 million
Other \$1.4 million

Groundfish \$1,580 million
TOTAL \$2.34 billion

Source: Terry Hiatt et al. December 2011. Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Area: Economic Status of the Groundfish Fisheries Off Alaska, 2010. Alaska Fishery Science Center.

A substantial portion of this fishery harvest derives from waters proposed for inclusion in the AINMS. In particular, of critical importance to the coastal economy of the proposed region is the Bristol Bay red (sockeye) salmon fishery, which is the largest sockeye run in the world.

In addition to commercial fishing, subsistence fishing is extremely significant to local residents. All five species of Pacific salmon use waters of the Aleutian Islands. The species and number of salmon harvested for subsistence varies greatly among communities. Other than salmon, subsistence fisheries in the area include crab and halibut.

While marine tourism is not yet a major industry in the region, it is steadily growing, and has significant growth potential. The number of charter boats and hotels is on the rise, as are flights into Unalaska / Dutch Harbor, as well as other areas.

Criteria 4 Public Benefits

The publically derived benefits of the area proposed for inclusion in the AINMS include commercial value, seafood production, aesthetic and intrinsic value, public recreation, and tourism, and all depend on conservation, recovery, and sustainable management of the area's unique and productive marine resources.

As discussed above, the Aleutian Islands region is a critical component supporting the world's largest groundfish fisheries, as well as the world's largest red salmon fishery. In addition, the region hosts the most abundant marine mammal, seabird, shellfish, and fish populations in the world ocean. It is truly one of the last great maritime wilderness areas in US waters. Conserving such marine ecological resources is of paramount importance to our national ocean policy.

Even if the general public finds it difficult and expensive to visit this region, conserving the ecological resources is important to all Americans. If a non-use, contingent valuation economic study were to be conducted for the Aleutian region, we are confident it would estimate the intrinsic value of protecting the region in the range of billions of dollars per year.

Section IV – Consideration Information

Consideration 1. Opportunities for research in marine science.

The AINMS will expand marine biological research in the Aleutian region, and the region will be nominated for designation as a marine Long-Term Ecological Research (LTER) Site within the National Science Foundation network. There are currently no marine LTERs in subarctic or arctic waters of the U.S. A focus of the LTER will be marine ecological resilience and recovery from excessive fishery harvests and impacts.

While the Aleutian Islands are a biologically diverse and productive marine ecosystem, little is known about its internal dynamics. Marine population declines and extinctions have occurred in the region. Several species of seabirds and marine mammals residing in or utilizing the Aleutian Islands are listed under the Endangered Species Act. In addition, severe economic losses have resulted from the collapse of economically valuable species, such as red king crab.

Conferring NMS status would allow researchers the opportunities to better understand a myriad of still largely unmet information needs, such as –

- The effects of climate change, including acidification, in cold water marine ecosystems;
- Species abundance trends;
- Contours and dynamics of the foraging, spawning, and nursery habitats of marine species;
- The recovery of seabed habitat damaged by bottom trawling, and the potential to aid in its restoration;
- The role of deep passes in limiting the distribution of species;
- Linkages between fish and invertebrate populations in the Aleutian Islands to the open ocean ecosystem and to the Bering Sea and Gulf of Alaska;
- The relationship between deep ocean ecosystems of the Western Aleutian Islands and shallower Bering Sea;
- Whether the Aleutian Islands are a wholly separate ecosystem;
- The distribution of unique habitat features such as cold-water corals and sponges, as well as kelp and other macroalgae; and
- The functional roles of commercial species in marine food webs.
- Marine ecological resilience and recovery from overexploitation (trophic cascade hypotheses, etc.)

Besides these and other biological research opportunities, as noted above, the Aleutians contain many yet to be identified marine archaeological and historic sites. Cataloging and documenting these sites is a vast undertaking which would further marine archaeological research.

Consideration 2. Opportunities for education, understanding, and appreciation of the marine environment.

The region proposed for inclusion in the AINMS offers world-class opportunities for public education, understanding, and appreciation of productive, sub-arctic marine ecosystems. While the region is remote, has notoriously inclement weather, and is very difficult to access, the unique region can, and should, be presented more effectively to the public via media, such as television, and print media. The AINMS will expand such public educational outreach efforts.

In addition, marine ecotourism can, and should, be enhanced and expanded in the Aleutian region. This will be a goal for the AINMS.

Consideration 3. Adverse impacts and threats from current or future uses.

The area of the proposed AINMS is at risk from four main threats: overfishing, oil and gas development, invasive species, and increasing shipping. These threats are, in turn, aggravated by the growing effects of climate change.

A. Pattern of Excessive Harvest Drives Species and Habitat Decline. Most of Alaska's threatened and endangered species are marine animals, and many seabird and marine mammal populations throughout Aleutians are in decline – the result, many scientists suspect, of excessive harvests of certain fish populations in combination with long-term changes in the ocean environment. While some laudable habitat and species conservation restrictions have been implemented by NMFS/NPFMC (as discussed above), some populations continue to decline, and many are not recovering sufficiently. It is clear that existing restrictions are not sufficient to restore the ecological integrity of the region.

B. Risks from Offshore Oil Development. The Alaska Outer Continental Shelf (OCS) is one of the last remaining large offshore hydrocarbon prospects in the nation, and is the target of both current and future leasing plans. The federal government estimates that the Alaska OCS may contain between 50 billion and 100 billion barrels of oil equivalent (oil & gas).

The Department of Interior's North Aleutian Basin (NAB) Planning Area covers the majority of the eastern edge of the proposed AINMS area, including Bristol Bay. But as many local communities and commercial fishermen strongly oppose offshore oil and gas leasing in this region, the NAB area was removed from the proposed leasing schedule in March 2010 by presidential withdrawal under section 12(a) of the Outer Continental Shelf Lands Act (OCSLA). And even though the OCSLA withdrawal was extended by the December 16, 2014 Presidential Memorandum, the risk remains that Congress or a future administration could eliminate the OCSLA withdrawal and reopen the area to oil and gas development. The AINMS designation would specifically preclude such.

In addition, other OCS Planning Areas in the proposed AINMS boundaries include the Shumagin, St. George Basin, Aleutian Arc, Bowers Basin, St. Mathew-Hall Basin, and Aleutian Basin Planning Areas. The AINMS designation would permanently prohibit opening of these Planning Areas as well.

There are significant concerns among many local people, and people across the U.S., regarding offshore development of oil and gas in the region through which the largest red salmon run in the world migrates. Each summer, juvenile Bristol Bay salmon migrate outbound, and adult salmon migrate inbound, directly through the NAB region. Beyond the normal operational impacts of potential offshore drilling and production in the NAB region (waste discharge, noise, habitat disturbance, etc.), there is a very real concern regarding the risk of a major oil spill. Regardless of how safely government and industry intend to develop offshore petroleum resources, the risk of a catastrophic oil spill cannot be eliminated. Many see this as an unacceptable risk to impose in such a biologically productive marine ecosystem.

Fishermen and local communities are keenly aware of the Deepwater Horizon disaster in the Gulf of Mexico, and are worried that such a blowout in the NAB area would devastate the Bristol Bay salmon fishery and other coastal resources. Fishermen are also aware that the ecological injury from the 1989 Exxon Valdez Oil Spill in Alaska's Prince William Sound persists today, over 25 years later. One fish population in the oil spill region - Pacific herring - is still listed today by government agencies as "Not Recovering."

C. Invasive Species. Another risk from oil and gas development and shipping is the introduction of invasive marine species. One international expert, Dr. Gregory Ruiz based at the Smithsonian Environmental Research Center, warned of vulnerabilities in current approaches in an email exchange with federal and state officials in March 2006. Dr. Ruiz cited "many gaps" in anti-invasive safeguards, including:

- Vague Standards. Hull cleaning standards are "largely undefined... the frequency of cleaning or magnitude of fouling is not explicit. Unlike ballast water, there are few contemporary studies of hull fouling on commercial vessels to define the effect of time, hull husbandry, and vessel type on biofouling – so there is a clear lack of information that would be useful in setting quantitative guidelines or regulations in this area";
- Rig Loopholes. "Of great concern to me is the transport of drilling platforms/rigs. When a rig is moved from a prior deployment, it is likely heavily fouled – much more so than commercial vessels, which are in motion (having limited residence time for colonization) and move quickly (sheering off organisms)"; and
- Ballast Water. "Coastwise, or domestic-source, traffic arriving to Alaska are not required to treat ballast – and hence the door is wide open for non-native species transfers from such 'invasion hotspots' as San Francisco Bay and Long Beach, source ports for many tankers." While dedicated tanker traffic to Prince William Sound does manage ballast water, other transit ships through the Aleutians do not effectively manage the potential for invasive species introductions. Some ships likely conduct open ocean exchange of ballast water in the region.

One analyst from the U.S. Department of Interior, Jeffrey Childs, proposed to integrate invasive species concerns into environmental assessments and mitigations for permitting activities, warning that "The introduction of non-native species to Alaska waters that subsequently become invasive may very well yield much greater significant adverse impacts than a large oil spill."

Indeed, in its 2009 comments to the Obama administration's Outer Continental Shelf Oil and Gas Strategy, NOAA recommended buffer zones that would bar drilling "around... Habitat Areas of Particular Concern, Critical Habitat for endangered and threatened species, [and] major fishing grounds," due in part to invasive species risk.

D. Ship Traffic on the Rise. The Arctic has witnessed a much faster than anticipated decline of sea ice and this trend will transform the Arctic Ocean into a navigable seaway over the coming decades. Commercial shipping companies are plotting new shipping lanes across the "opening"

Arctic. Besides freight vessels (e.g. bulk freighters, container ships, car carriers), we expect increased ship traffic along the Aleutians from oil and chemical tankers, and cruise ships.

This increased traffic produces more underwater noise that is known to cause impacts to marine populations. Negative impacts of underwater noise have been reported for more than 50 marine species in scientific studies to date. These adverse effects include disruption of normal behavior patterns, such as feeding; temporary loss of hearing or inability of marine mammals to communicate; and disorientation leading to stranding events. While the long-term or cumulative effects of heightened underwater sound levels remain unclear, there is growing concern that living in a noisy environment may push already highly stressed marine animals into population decline, with subsequent effects on marine communities and biodiversity.

Increased ship traffic also increases the risks of whale-ship strikes. Globally, fatal collisions with ships have become a significant threat to whale survival. Ship strikes are on the rise, due to a combination of increasing coastal ship traffic, smaller crew size, larger vessels, and faster speeds. As ships grow larger, the propeller/engine noise is localized far aft (e.g. 300 meters) of the bow of the ship, rendering the relatively silent approaching bow an even greater collision risk to marine mammals.

As well, there is insufficient protection from ship collisions, groundings, and fuel oil and hazardous cargo spills. As the Aleutians have some of the most severe maritime weather in the world, and ship traffic between Asia and North America is increasing in the region, this increases the risk of ship casualties. The passes in Aleutian waters have limited vessel tracking, no established traffic lanes, no vessel traffic system, no speed limits, no mandatory pilotage, no weather restrictions, inadequate or no rescue tug capability, and limited spill response capability. There is immediate risk of oil and other hazardous cargo spills each day in the Aleutians, with potentially catastrophic consequences.

For example, due to the water currents from Unimak Pass into the Bering Sea, a spill at Unimak Pass could spread widely across the southeastern Bering Sea ecosystem. The December 2004 grounding of the Malaysian bulk freighter *Selendang Ayu* on Unalaska Island gives a hint of the destructive potential. The ship lost engine power in a winter storm and grounded, costing the lives of six crewmembers, spilling over 300,000 gallons of heavy fuel into nearshore waters, and killing thousands of seabirds. Had the ship lost power and grounded at Unimak Pass during spring or fall, or had this been a chemical or oil tanker, the ecological injury could have been far worse.

E. Climate Change Multiplies Adverse Impacts. Climate change is reducing sea-ice cover and leading to unprecedented marine ecosystem impacts in Alaska, including ocean acidification, warming sea temperatures, altered distribution, and coastal erosion.

Changes in climate and the oceans are causing changes in marine migrations, which threaten to exacerbate the effects of excess fish harvests. Retreating sea ice and warming temperatures enable more Arctic oil and gas activity and increases in ship traffic. The waters of the Bering Sea/Aleutian Islands are more acidic than any other marine waters in the world, due to CO₂

absorption. Many in the marine science and fishing community are justifiably worried about acidification.

Summing up the thrust and seriousness of the threats to this ecoregion, the words of the National Research Council its 1996 report on the Bering Sea Ecosystem were prophetic:

“It is extremely unlikely that the productivity of the Bering Sea ecosystem can sustain current rates of human exploitation as well as large populations of all marine mammals and bird species that existed before known exploitation – especially recent exploitation – began.”

Arguably, no place in the American marine environment is more productive, or more at risk, than this area nominated for National Marine Sanctuary protection.

Consideration 4. Unique conservation and management value for this area or adjacent areas.

Alaska's approximately 218 *Marine Protected Areas* (MPAs) – including various fishery-management closures, buffers around sea lion rookeries, research reserves, state marine parks, critical habitat areas, game sanctuaries and recreation areas – offer few meaningful safeguards against these rising threats. The existing MPAs are mostly limited to inshore waters, provide minimal protections, and are often temporary. Recent attempts to secure permanent federal protections in Alaskan waters have been unsuccessful.

Conserving the region as proposed will relocate some fishing effort, and thus provide a fishery reserve to rebuild harvested fish and shellfish populations in adjacent areas. It will also protect critical feeding and reproductive habitat for many seabirds and whales that migrate to the Aleutians each summer from more southerly waters of the western, central, and eastern North Pacific.

The Aleutian Islands NMS will protect feeding habitat for many seabirds (e.g. albatross) that nest on the Papahānaumokuākea Marine National Monument (Northwestern Hawaiian Islands). Additionally, the AINMS will protect feeding habitat for whales that winter in US waters further south. For instance, protecting Unimak Pass from shipping and oil spill risks will directly protect the population of Gray whales that migrates along the Pacific coast of the U.S., through other National Marine Sanctuaries. The AINMS will also protect feeding habitat for some of the Humpback whales that winter in the Hawaiian Islands Humpback Whale National Marine Sanctuary.

In addition, the AINMS will work with the State of Alaska to develop corollary protections in state waters (0-3 mile) throughout the region, where appropriate.

Consideration 5. Supplements existing regulatory and management authorities.

Even though the December 16, 2014 Presidential Memorandum extends the NAB OCS withdrawal indefinitely, the risk remains that Congress of a future administration may reopen the

region to offshore drilling. Thus, the entire NAB OCS Planning Area and North Pacific Right Whale critical habitat area would be included in the AINMS, to *permanently* exclude oil and gas leasing, and to impose more stringent shipping safety protocols (e.g. measures to reduce whale-ship strikes and oil spill risks). The AINMS would facilitate designation of other critical habitat in the region, as appropriate. And, as discussed above, the Aleutian Islands NMS would be nominated by the federal administration as a PSSA in the IMO process, to better manage transit shipping through the region.

As discussed, the AINMS will complement the existing fishery management regime of the NPFMC and NMFS, by enshrining the existing habitat and species protections in regulation, and encouraging additional fishery management measures that will augment species and habitat protections in the region.

In addition, the AINMS will complement the Alaska Maritime National Wildlife Refuge (AMNWR) management of seabirds nesting on the Aleutian Islands, by protecting foraging habitat, reducing invasive species, and reducing marine debris.

Consideration 6. Potential commitments or partnerships to aid conservation.

Alaska Native Tribal governments in the region will be important co-management partners, as will the Alaska native marine mammals co-management commissions.

The Alaska Maritime National Wildlife Refuge (AMNWR) of the U.S. Fish and Wildlife Service is responsible for managing much of the land area contained within the proposed AINMS, and will be an important partner in AINMS management. While the management goals for the AMNWR call for protection of foraging habitat for seabirds which nest on the Aleutian Islands, the USFWS has little authority to actually do so. The AINMS will provide such capability.

The NMFS Alaska Regional Office and the NPFMC will also be important partners. These fisheries management organizations will be encouraged to work with the AINMS to implement more effective fishery management protocols in the region in order to enhance marine ecosystem recovery and sustainability.

The State of Alaska and local governments will also be important governmental partners in the development and operation of the AINMS.

Consideration 7. Community-based support for the nomination.

The nomination will facilitate a wide-ranging discussion among community organizations, governments (including Tribal governments), industry, and the public regarding the proposed designation of the region. The several Alaska-based and national marine conservation and science organizations joining as co-nominators indicate broad initial support.

Several other local and regional organizations are still formulating positions on this nomination. We believe that its publication on the NOAA National Marine Sanctuaries website will greatly enhance public review and comment on the nomination.

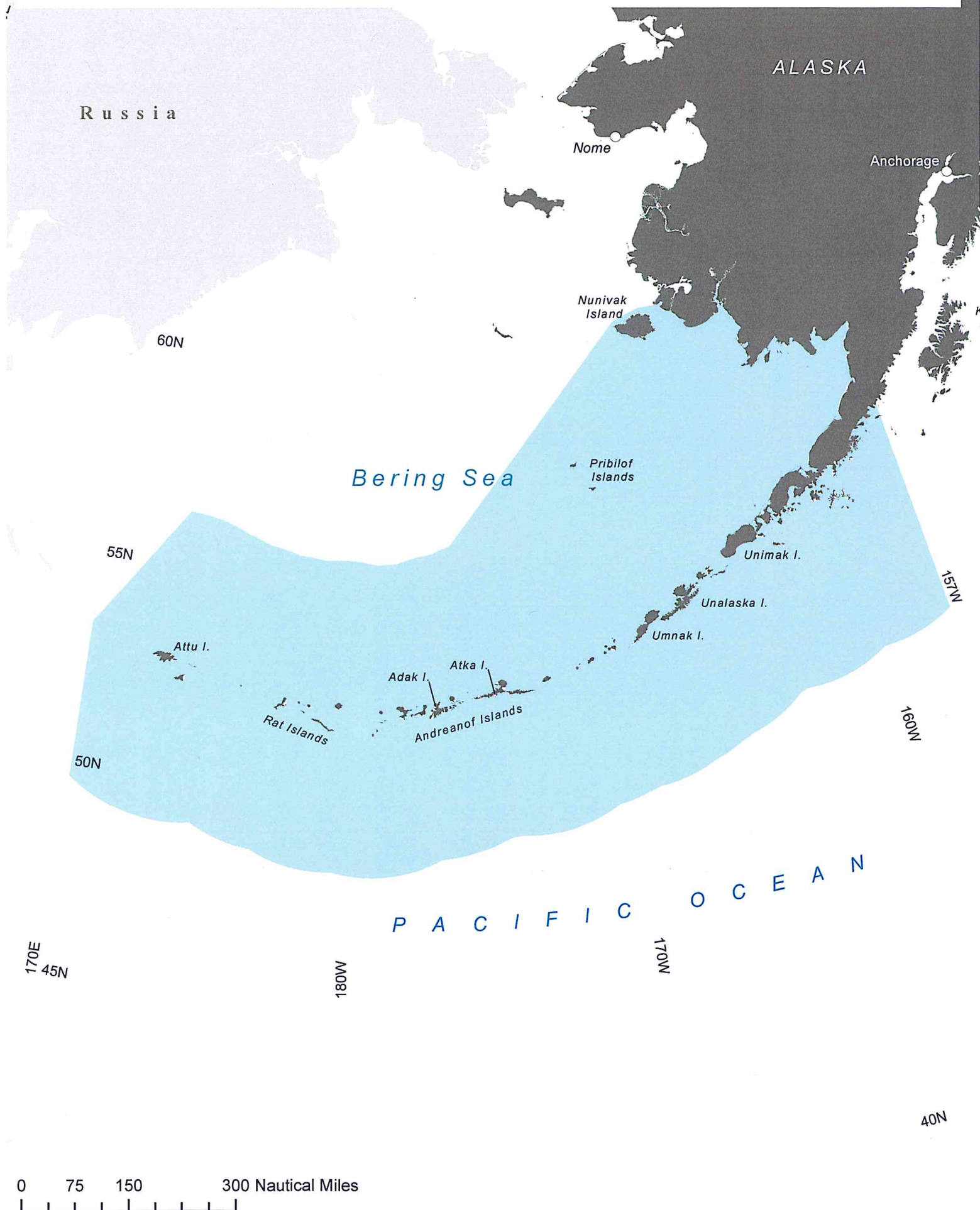
We are confident that the AINMS nomination will attract support from the national and Alaska marine conservation community, the national and Alaska environmental community in general, shore-based commercial fishing organizations, and hopefully the Alaska Native tribal organizations in the region. Importantly, we are confident the nomination will attract significant support of the American public – the co-owners and co-managers of the federal waters and resources of the region.

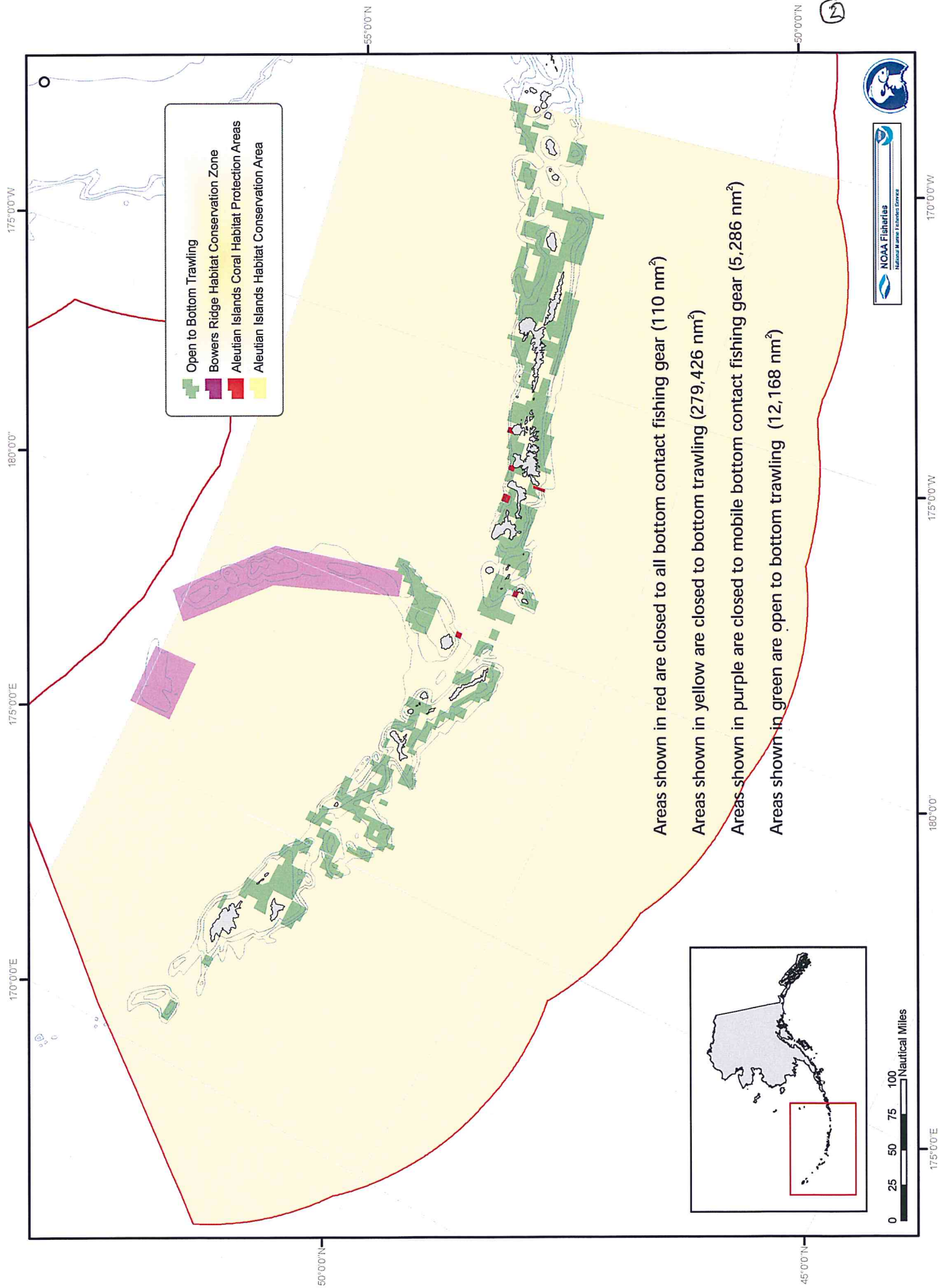
It is also expected that any proposed federal restrictions in Alaska will attract opposition. As example, the 1980 Alaska National Interest Lands Conservation Act (ANILCA) attracted a great deal of political opposition in Alaska, but today is viewed by many as an important federal management decision that has significantly aided Alaska's economy. We expect the AINMS designation to experience a similar political evolution. For example, we are aware that some business interests in the region oppose making permanent the NAB/Bristol Bay OCS withdrawal and the species and habitat protections, as well as the proposed expansion of trawl closures.

As stakeholders review and consider the nomination, it is likely that additional conservation management measures will be suggested, and we urge that all such suggestions be seriously considered in final designation. In order to capture this additional stakeholder input, the nominators will file supplemental support material later this spring summarizing the results of the outreach generated by the nomination process.

Cc. William Douros
West Coast Regional Director
NOAA Office of National Marine Sanctuaries,
99 Pacific Street
Suite 100F
Monterey, CA 93940
william.douros@noaa.gov

Aleutian Islands National Marine Sanctuary Proposed Boundaries





Steller Sea Lion Designated Critical Habitat

50 CFR 226.202

Foraging Area

■ Bogoslof

■ Seguam Pass

■ Shelikof Strait

★ Rookery

● Haulout

■ 20 nm Aquatic Zone

60°N

55°N

175°E

175°W

165°W

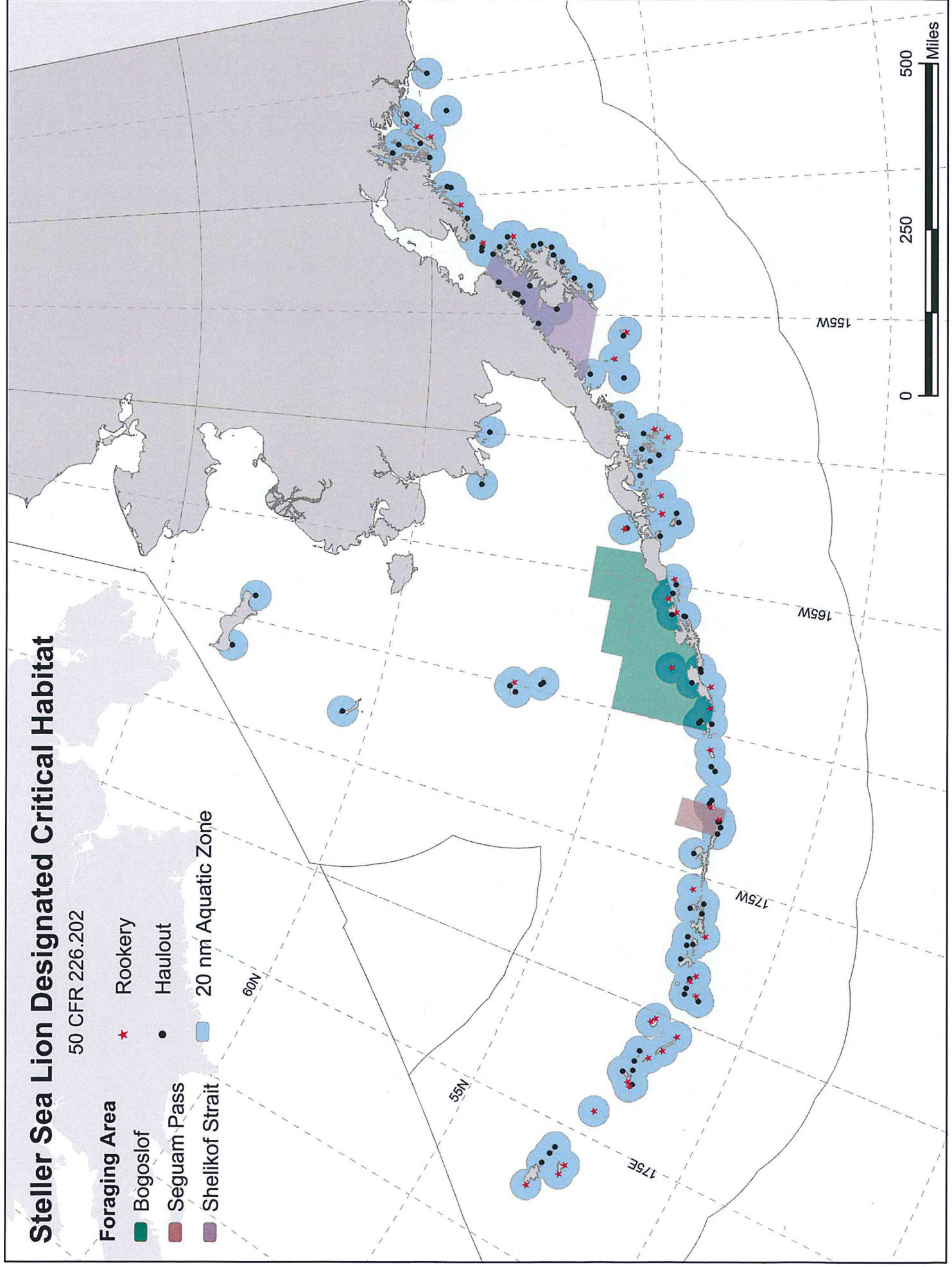
155°W

500

250

0

Miles



(4)



Abbreviations: Aleutian Islands (AI); Closure Area (CA); Conservation Zone (CZ); Fishery Closure (FC); Gulf Of Alaska (GoA); Habitat Conservation Area (HICA); Habitat Protected Area (HHPA); Marine Reserve (MR); National Estuarine Research Reserve (NERR); National Park (NP); National Wildlife Refuge (NWR); Put Fishing Closed Area (PFCA); Steller Sea Lion Protection Area (SSLPA); Trans It Gear Restricted Area (TGRA).

[illegible]

Attachment 5

Shipwrecks and Groundings

More than 150 known wrecks and groundings on or adjacent to the Aleutian Islands are listed here, organized by island. It is an incomplete work in progress.

- Adak I.**, 1754, Sept. 2nd, Russian ship *Sv. Iermiia* wrecked at Adak I. The survivors constructed a smaller vessel from the wreckage and driftwood, naming it *Sv. Petr i Pavel* and sailed it homeward in 1754. (Lydia T. Black, Dominique Desson, Early Russian Contact, AK Historical Commission, 1986)
The *Sv. Iermiia* had been built on Mednoi Island either out of the wreckage of the vessel *Sv. Simeon and Ioann* or driftwood. (Lydia T. Black, Proceedings of the Alaskan Marine Archaeology Workshop, 1983) Driven onto onshore rocks when anchor cable parted. Minerals Management Service (MMS)
- Adak I.**, 1869, April, an abandoned Japanese junk was stranded on Adak. (Charles Wolcott Brooks, Report of Japanese vessels wrecked in the North Pacific Ocean, Proceedings of the California Academy of Sciences, 1875), (MMS)
- Adak I.**, 1943, Feb. 22nd, Navy patrol boat *YP-72*, ex-seiner *Cavalcade* lost. (MMS)
- Aikतालिक I.**, 1895, April 14th, two-masted schooner *Kodiak* stranded and broke up on SE point when anchors would not hold. All hands got ashore and found shelter. (MMS)
- Aikतालिक I.**, 1897, April 25th, schooner *Alexandra* dragged anchor and stranded on the NW side. (MMS)
- Akun I.**, 1914, May 14th, 1,582 ton three-masted wooden cannery bark *Paramita* dragged both anchors in heavy wind and was holed by rocks off Ugamak Island. Heavy seas broke the wreck in two and it was abandoned. Some cargo was salvaged. (MMS)
- Akun I.**, 1919, Aug. 18th, gas screw *Warrick* lost at Lost Harbor. (MMS)
- Akun I.**, 1928, May 22-23, the 2,163 ton American bark *Star of Falkland* wrecked at Akun Head, Unimak Pass. All but one of the crew was saved; ship a total loss.
- Akun I.**, 1952, Aug. 1st, oil screw *Sundown* stranded. (MMS)
- Akun I.**, 1964, Feb. 10th, oil screw *Cape Spencer* stranded on the S. shore of Akun Bay. (MMS)
- Akun I.**, 1990, Aug. 17th, 32' F/V *White Night* took on water and was towed ashore by F/V *Neunik*; 3 saved. (MMS)
- Akutan I.**, 1918, Nov. 12th, three-masted gas screw schooner *Halcyon* broke anchor chains in SW storm and foundered in Akutan Bay; 12 crewmen escaped in small boats. (MMS)
- Akutan I.**, 1936, Sept. 14th, whaling steamer *Westport* struck a reef in a gale at Reef Bight and sank; crew was rescued by USCG cutter *Daphne*. (MMS)
- Akutan I.**, 1936, Dec. 13th, gas screw *Frederick A.* dragged anchors in strong gale and stranded just outside Akutan Bay. Hull was a total loss but engine salvaged. (MMS)
- Akutan I.**, 1939, July 23rd, vessel *Aberdeen* rammed by a whale. (MMS)
- Amak I.**, 1961, Oct. 13th, oil screw *Husky* stranded.
- Amaknak I.**, 1980, Dec., 80' steel limit seiner *Dauntless* wrecked at Ulakta Head while on maiden voyage. At the time it was the largest limit seiner yet built.
- Amatignak I.**, 1932, Sept. 27th, American freighter *Nevada* wrecked on Amatignak Island, three out of a crew of 37 survived.
- Amchitka I.**, 1917, July 13th, Japanese steamship *Kotohiro Maru* wrecked on SE end of Amchitka I., crew survived, ship became a total loss.
- Amchitka I.**, 1942, June 20th, U.S. Navy submarine *S-27 (SS-132)* grounded off Amchitka Island, crew escaped in rafts.
- Amchitka I.**, 1943, Jan. 12th, U.S. Navy destroyer *USS Worden (DD-352)* struck a rock at the entrance of Constantine Harbor, Amchitka I. and sank, 14 of the crew were lost, vessel became a total loss. (History of U.S. Naval Operations in WWII, vol. VII)
- Amchitka I.**, 1943, Oct. 28th, Navy patrol boat *YP-88* lost. (MMS)
- Amchitka I.**, 1946, American motorship *Crown Reefer* wrecked at Amchitka I., no loss of life, ship became a total loss.

Amlia I., 1785, Russian ship *Sv. Evpl* wrecked at Pankov Harbor, Amlia I., crew and cargo saved. (Lydia T. Black, Proceedings of the Alaskan Marine Archaeology Workshop, 1983)

Amlia I., 1894, May 11th, American whaling bark *James Allen* struck a rock at E. end of Amlia I. and sank, 15 crew saved, 25 lost. (Also reported as 15 lives lost in Marine Disasters of the Alaska Route by C.L. Andrews, 1916)

Atka I., 1831, Russian ship *Sivutch* wrecked E. of Wall Bay, Atka I., ship lost but crew and cargo saved. (Richard A. Pierce, Proceedings of the Alaskan Marine Archaeology Workshop, 1983).

Atka I., 1851, Japanese junk wrecked with three of the crew surviving. (Charles Wolcott Brooks, Report of Japanese vessels wrecked in the North Pacific Ocean, Proceedings of the California Academy of Sciences, 1875)

Atka I., 1871, July 10th, Japanese junk *Jinko Maru*, 180 kokus measurement, wrecked at Atka I. after having drifted, disabled, for 2500 miles from the coast of Japan. The crew of three survived. (Charles Wolcott Brooks, report of Japanese vessels wrecked in the North Pacific Ocean, Proceedings of the California Academy of Sciences, 1875), (MMS)

Atka I., 1942, Sept. 1st, Japanese submarine *RO-61* sunk by depth charges and shelling off Atka I., five crewmen survived. (History of U.S. Naval Operations in WWII, vol. VII)

Atka I., 1989 or 1990, 92' steel U.S. F/V *City of Seattle* wrecked just north of the western tip.

Attu I., 1750, Russian ship *Petr* wrecked on a voyage from Kamchatka to Attu. The crew remained on the island till 1752, when they were taken aboard the *Boris e Gleb*. (Lydia T. Black, Dominique Desson, Early Russian Contact, AK Historical Commission, 1986)

Attu I., 1862, Sept., a Japanese junk stranded near Attu I. after having drifted, disabled, for 90 days. Three out of a crew of twelve survived. (Charles Wolcott Brooks, Report of Japanese vessels wrecked in the North Pacific Ocean, Proceedings of the California Academy of Sciences, 1875), (MMS)

Attu I., 1943, Jan 5th, 6101 ton Japanese ship *Kotohiro Maru* was bombed and sunk off Attu. (History of U.S. Naval Operations in WWII, vol. VII)

Attu I., 1943, July 19th, US Army cable ship *Dellwood* sank in Massacre Bay after striking a pinnacle rock. (MMS)

Big Koniuji I., 1943, Nov. 25th, liberty ship *John P. Gaines* broke in two while transiting the area in a storm, with the loss of 10 crewmen.

Bird I., 1914, American schooner *W.H. Dimond* dragged anchor in a storm and stranded, vessel a total loss valued @ \$35,000. (C.L. Andrews, Marine Disasters of the Alaska Route, 1916)

Buldir I., 1914, Sept. 20th, U.S. Revenue Marine cutter *Tahoma* wrecked on an uncharted reef 31 miles off Buldir Island. Vessel broke up, all crew survived.

Buldir I., 1956, 123' American coastal tanker *Dulcinea* stranded on Buldir I., all crew rescued. Salvage attempts failed; vessel and its cargo of 285,000 gallons of aviation gasoline became a total loss.

Carlisle I., 1932, diesel F/V *Sunrise* lost. (MMS)

Chernabura I., 1882, Nov. 13, schooner *Diomedes Herman* while anchored in Chernabura Harbor was blown from its moorings by an easterly gale and wrecked against a steep bluff. (MMS)

Chuginadak, 1989, Oct. 15th, 122' F/V *Polar Command* wrecked, crew of 26 saved. (MMS)

Great Sitkin I., 1965, October, Greek steamship *Ekaterini G.* grounded on Great Sitkin Island, all crew rescued. Vessel is largely intact.

Igitkin I., 1980, American F/V *Devil Sea*, steel hull, official #541888, 33 gross tons and 45' length, 225 HP, hailing port Seattle, wrecked. (USCG Merchant Vessels of the United States, 1981)

Kagalaska I., 1901, Feb. 20th, American schooner *Iliamna* wrecked at Kagalaska I., crew saved.

Kanaga I., 1745, Russian ship *Eudokia* wrecked on Kanaga I. (Frederick A. Zeusler, Explorers Journal, 1960)

Kanaga I., 1938, Feb. 19th, U.S. Navy minesweeper *USS Swallow (AM-4)* stranded on rocks at the entrance to Kanaga Bay, Kanaga I. while conducting work with the Aleutian Island Survey Expedition. Crew of 40 officers and men taken to Dutch Harbor, ship became a total loss.

Kiska I., 1758, Sept. 5th or 6th, Russian ship *Sv. Kapiton*, length 17 arshin, wrecked off Kiska. *Sv Kapiton* was built in 1750/51 on Bering Island from the wreckage of *Sv. Pekup i Zonat*. (Lydia T. Black, Proceedings of the Alaskan Marine Archaeology Workshop, 1983). Ship driven onto reef near island. Crew reached shore but 17 died while on island.

Kiska I., 1942, June 19th, Japanese oiler *Nissan Maru* bombed and sunk in Kiska Harbor, Kiska I.

Kiska I., 1942, July 5th, Japanese destroyer *Arare* torpedoed and sunk at entrance of Kiska Harbor, by U.S. Navy sub *USS Growler (SS-215)*.

Kiska I., 1942, July 15th, Japanese subchasers *SC-25* and *SC-27* sunk in Kiska Harbor by U.S. sub *USS Grunion (SS-216)*.

Kiska I., 1942, July 30th, U.S. Navy submarine *USS Grunion* went missing in vicinity of Kiska I., presumed sunk by Japanese mine. (History of U.S. Naval Operations in WWII, volume VII)

Kiska I., 1942, Aug. 8th, 8,572 ton Japanese cargo vessel *Kano Maru*, previously damaged by a torpedo from *USS Grunion*, sunk at Kiska Harbor by U.S. Navy Catalinas. (History of U.S. Naval Operations in WWII, vol. VII)

Kiska I., 1942, Sept. 15th, 7,190 ton Japanese troop transport *Nozima Maru* bombed and sunk at Kiska Harbor. Only the bow section remains, grounded near the beach; the stern section was re-floated in 1956 and taken in tow to Japan.

Kiska I., 1942, Oct. 5th, 5,863 ton Japanese steamship *Borneo Maru* bombed and sunk at Gertrude Cove.

Kiska I., 1942, Oct. 17th, Japanese supply destroyer *Oboro* bombed and sunk at Kiska I.

Kiska I., 1942, Nov. 4th, Japanese submarine *RO-65* bombed and sunk at Kiska I.

Kiska I., 1943, Jan. 5th, 6577 ton Japanese ship *Montreal Maru* was bombed and sunk at Kiska. (History of U.S. Naval Operations in WWII, vol. VII)

Kiska I., 1943, Apr. 4th, Japanese steamship *Uragio Maru* bombed and sunk at Kiska Harbor.

Kiska I., 1943, May 14th, Japanese submarine *I-31* sunk by US forces. (MMS)

Kiska I., 1943, June 23rd, Japanese submarine *I-7* sunk by US forces. (MMS)

Korovin I., 1883, Sept. 4th, schooner *Wild Gazelle* stranded on an unknown reef in fog, darkness, and strong currents. (MMS)

Nagai I., 1905, Nov. 7th, schooner (ex-steamer) *Margery* wrecked on E. side of Sanborn Harbor, W. coast of island after chains parted in gale. (MMS)

Nagai I., 1911, three masted codfishing schooner *Czarina* stranded on the E. side on reef and was ground to pieces during heavy gale. Crew of 10 rescued. (MMS)

Near Islands, 1750, Russian ship *Sv. Petr* wrecked in Near Islands group, survivors were rescued in 1752. (Lydia T. Black, Proceedings of the Alaskan Marine Archaeology Workshop, 1983)

Popof I., 1888, Aug. 27th, schooner *Vanderbilt* stranded at Pirate Cove in severe storm. (MMS)

Popof I., 1905, Dec. 20th, scow schooner *Pirate* went ashore on rocky point at Red Bluff, N. end of island in snow squall. (MMS)

Rat I., 1780, unknown Japanese wreck. Rats escaping the wreck invaded island; it has been known ever since as Rat I. Before infestation it was called Hawadax. (Lydia T Black, Proceedings of the Alaskan Marine Archaeology Workshop, 1983)

Rat I., 1969, Feb. 1st, 134' Japanese F/V *Fukuyoski Maru # 15* in a sinking condition was intentionally run aground in a shallow sandy cove on the Pacific side, about a mile from the western end of the island.

Sanak I. group, 1890, April 26th, ship *Oneida* stranded on Hamings Rock 10 mi. SW of Sanak I. and immediately broke up with the loss of 77 Chinese passengers, the cargo, and the ship itself. Fifty of the passengers and the 28 crew were saved. In the Dictionary of Alaska Place Names, DOI, Donald J. Orth, 1967, in the listing for Oneida Rock, states: "Name reported by Ferdinand Westdahl, USC&GS, commander of the Coast Survey steamer McArthur, who made surveys in this area in 1901." Hamings Rock may have acquired the popular name Oneida Rock in the aftermath of the wreck, with the name becoming official in the USC&GS survey of 1901. Fifty of the passengers and the crew of 28 survived. (MMS, American Merchant Ships, 1850-1900, Frederick C. Matthews, & US Customs casualty report)

Samalga I., 1919, Aug. 4th, schooner *Lettie* stranded and lost on Samalga Reef. (MMS)

Sanak I. group, 1890, Aug. 17th, schooner *Spencer F. Baird* stranded in gale 2.5 mi. E of Sanak I. in gale while trying to make harbor. (MMS)

Sedanka I. (Biorka I.), 1794, May 10th, Japanese junk *Wakamiya Maru* wrecked at Unalaska Island after drifting disabled for six months from Japanese waters. The crew of 15 men survived the ordeal, spent ten months on Unalaska, and then was taken to Okhotsk, Russia. (The Wreck of the *Wakamiya Maru*, published in English by Stewart Culin in 1920). **Seguam I.**, 1989, Aug. 10th, 32' F/V *Kamakaze* wrecked. (MMS)

Shemya I., 1762, Russian vessel *Sv. Petr i Pavel* wrecked at Shemya I., most of the crew survived. **Shemya I.**, 1943, June 11th, Japanese submarine *I-24* sunk by US forces. (MMS)

Shemya I., 1958, Oct. 22nd, American fuel barge *Barge #18* wrecked at Shemya I. at the head of Alcan Harbor while being towed by the tug *Wando* (MMS).

Shemya I., 1988, Dec. 6th, 139' steel F/V *Opty* wrecked near the dock at Alcan Harbor. (USFWS internal memo).

Tigalda I., 1898, Aug. 7th, American square-rigged ship *Guardian* stranded on rocks N. of Tigalda I. in dense fog, crew of 23 rescued with some rowing 23 miles to Unalaska. (U.S. Customs records, Seattle, C.L. Andrews, Marine Disasters of the Alaska Route, 1916)

Ugamak I., 1900, July 26th, two masted Canadian schooner *Minnie* driven onto a reef in dense fog. The crew escaped to shore in lifeboats and later rescued. (MMS)

Ugamak I., 1929, Feb. 12th, 4383 ton American steam freighter *Alloway* ran aground on the north side of Ugamak I. following engine failure. The crew of 35 was rescued but the ship and cargo of lumber were lost. (U.S. Customs Report of Casualty, Port of Unalaska)..

Ulak (Delarofs), 1964, Dec. 1st, 521' Liberian steamship *San Patrick* wrecked on Ulak I. and broke up quickly with loss of its entire crew of 32.

Ulak (Delarofs), 1987, March 8th, steel 123' F/V *Birgit N.* grounded at Patton Cove, Ulak I., crew rescued, vessel became a total loss.

Uliaga I., 1987, May 6th, 227' South Korean fish processor *Tae Woong # 603*, grounded at Uliaga I., crew of 49 rescued, vessel became a total loss. (Aleutian Eagle, 5/21/87)

Umnak I., 1764, Jan. 1st, Russian ship *Sv. Ioann* burned by Aleuts in Nikolski Bay after they took what they wanted. (MMS)

Umnak I., 1764, Russian ship *Trinity* wrecked on Umnak I. (Frederick A. Zeusler, Explorers Journal, 1960)

Umnak I., 1851, May 17th, ship *New Bedford* ran aground near Umnak I. (MMS)

Umnak I., 1879, Dec. 5th, schooner *Bella* stranded at N. entrance in a storm. (MMS)

Umnak I., 1902, Sept. 6th, schooner *J.B. Ward* parted anchor chains in a gale, stranded and was wrecked at Inanudak Bay. (MMS)

Umnak I., 1927, May 10th, 39 GT gas screw *Everett Hays* stranded at Nikolski. Vessel and cargo of tin cans and cannery supplies were total losses. (MMS)

Umnak I., 1933, Jan 24th, the diesel screw *Umnak Native* parted its anchor chain in Inanudak Bay. The engine wouldn't start and the vessel went down in Cemetery Cove.

Unalaska I., 1790, Oct. 1st, Russian vessel *Tri Sviatitelia* broke up in Kashega Harbor in strong Northerly storm. Much of the cargo was salvaged. (MMS)

Unalaska I., 1801, Jan 1st, Russian vessel *Sv. Arkhistrati Mikhail* lost. (MMS)

Unalaska I., 1802, Jan. 1st, Russian vessel *Predpiiatiie Sv. Alexandry* lost. (MMS)

Unalaska I., 1894, Aug. 20th, American schooner *Two Brothers* stranded on SE side of Constantine Bay when sails were carried away by wind,. (C.L. Andrews, Marine Disasters of the Alaska Route, 1916), (MMS)

Unalaska I., 1898, Mar. 1st, American side-wheel steamer *Eliza Anderson* stranded in Unalaska Bay, eventually broke up. (C.L. Andrews, Marine Disasters of the Alaska Route, 1916)

Unalaska I., 1914, May 21st, gas screw *Pandora* took on water in strong SW gale. Anchor line was cut in an attempt to save vessel but it was blown ashore and wrecked in a cove 6 miles from Biorka Pass. (MMS)

Unalaska I., 1922, Nov. 17th, gas screw *Lister* stranded and wrecked at Cape Makushin. (MMS)

Unalaska I., late 1940's, the burned out hulk of the American steamship *Northwestern* sank at it's mooring at the head of Captains Bay. The decommissioned ship was moored in Dutch Harbor as a floating dormitory and power station during WWII and was bombed by Japanese aircraft.

Unalaska I., 1989, Jan 11th, 275' Korean F/V *Chil Bo San #6* grounded; 54 crewmembers rescued. (MMS)

Unalga I., 1980, Nov. 26th, 90' steel F/V *Mary Jane* wrecked.

Unimak I., 1896, Sept. 7th, American schooner *Hueneme* struck a rock near Scotch Cap, Unimak I. during SE squalls and immediately started to break up. Crew rescued but ship and cargo lost.

Unimak I., 1901, Aug 7th, four masted schooner *James Sennett* stranded 2 miles above Scotch Cap due to strong tide rips and fog. The captain manned a boat and sailed to Dutch Harbor and then to Seattle for assistance. He went back to attempt salvage of the vessel but found it had broken up. (MMS)

Unimak I., 1902, December 6th, 27 ton American schooner *J.B. Ward* wrecked on Unimak I. (C.L. Andrews, Marine Disasters of the Alaska Route, 1916)

Unimak I., 1907, Sept. 30th, American schooner *Glen* stranded at E. Anchor Cove, Unimak I.

Unimak I., 1908, Jan. 8th, American schooner *John F. Miller* wrecked at E. Anchor Cove while attempting to salvage *Glen*, 10 lives lost.

Unimak I., 1909, Apr. 30th, American square-rigged ship *Columbia* wrecked at Unimak Bay, Unimak I. in dead calm with a load of cannery supplies. (MMS)

Unimak I., 1917, May 14th, the 1,898 ton American sailing ship *St. Francis* stranded 1 mi. S. of Middle Point, Unimak I. after missing a tack. All 281 crew and cannery workers made it to shore. (MMS)

Unimak I., 1919, May 13th, 307 ton American three masted schooner *Premier* stranded at Cape Lutke, 18 miles E. of Scotch Cap due to thick weather and adverse currents and broke up immediately. The crew was rescued by the steamer *Kvichak*. (MMS)

Unimak I., 1942, Mar. 18th, Alaska Steamship liner *Mt. McKinley* wrecked at Scotch Cap, Unimak I. No loss of life but the ship became a total loss.

Unimak I., 1943, Nov. 21st, Russian steamship *Turksib* wrecked at Seal Cape, Unimak I., no loss of life, ship became total loss.

Unimak I., 1943, American salvage ship *USS Rescuer (ARS-18)* wrecked at Seal Cape, Unimak I. while attempting to salvage *SS Turksib*, one crewmember killed.

Unimak I., 1955, Aug. 10th, 256 ton oil screw *North King* stranded between Sennett Point and Scotch Cap. (MMS)

Unimak I. 1957, Nov. 4th, 180' *Cordova Salvar* stranded at Cape Sarichef. (MMS)

Unimak I., 1965, Nov. 26th, 7252 ton Alaska Steamship Lines *SS Oduna* wrecked at Cape Pankof, Unimak I., no loss of life, cargo salvaged, ship became a total loss.

Unimak I., 1985, Dec. 6th, 75' F/V *Pacific Voyager* struck a rock at Cape Pankof and broke up. (MMS)

Unga I., 1889, June 28th, schooner *Edward S. Webster* stranded on an uncharted rock off entrance to Coal Harbor. Crew escaped to Sand Point, Popof I. (MMS)

Unga I., 1889, Sept. 15th, two-masted schooner *Island Belle* stranded on the S. shore of Unga Harbor due to missed stays, change of wind, and heavy seas. (MMS)

Unga I., 1892, Aug. 31st, schooner *Active* stranded at Morosco Bay, N. coast in strong gale and rough seas. (MMS)

Unga I., 1905, schooner *Mary Ann* wrecked on W. side of Unga Harbor in hurricane force winds. Barometer was 27.85. (MMS)

Wosnesenski I., 1904, Dec. 27th, schooner *Lesnoy* wrecked on NW end in NW gale. (MMS)