

ALASKA SEA GRANT PROJECT SUMMARY

Unifying the Vision: Advancing an Alaskan Regional Marine Research Plan

METHODOLOGY

- Provide a conduit for stakeholder participation and input into the formation and implementation of the Alaska Marine Ecosystem Forum-Aleutian Islands Regional Marine Research Plan.
- Establish a Regional Coordination Group to oversee planning and implementation of the research and information strategy.
- Conduct a bottom-up needs assessment with broad user and stakeholder input
- Identify research and information gaps.
- Develop a research and information plan for the region that prioritizes actions according to management-critical needs.
- Develop coordination mechanisms to ensure the transfer of technology and information to the appropriate end users.
- Provide an ongoing platform for coordination, collaboration, and resource sharing among participants, and mechanism for continued input of ideas, needs, and concerns by stakeholders.

RATIONALE

The Regional Coordination Group, in concert with the Alaska Marine Ecosystem Forum and assisted by Alaska Sea Grant and the Alaska Ocean Policy Coordinator, would undertake a bottom-up research and information needs assessment with broad user and stakeholder input. From such an assessment, research needs and information gaps would be identified and prioritized according to management-critical needs.

Principal Investigators

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Project Summary

This proposal details a process by which Alaska's coastal stakeholders, user groups, coastal residents and other interested parties can participate in governmental efforts to develop an Aleutian Islands Regional Marine Research Plan. This plan will address the interdisciplinary (ecology, oceanography, fisheries, social, economic, engineering) research and information needs for this region of vital importance to the State of Alaska and the nation.

Further, it is the desire of all participants in this effort that an Aleutian Islands planning effort serve as a model for the development and implementation of a statewide marine research and information plan, should funding become available.

The 2004 U.S. Commission on Ocean Policy (USCOP) report, *An Ocean Blueprint for the 21st Century*, urged federal and state agencies, regional fishery

management councils and other relevant stakeholders to collectively craft regional marine research plans that advance the concept of ecosystem-based management. The USCOP report identified NOAA as the nation's lead marine research entity. NOAA has accepted that charge, and to begin implementation of the USCOP report, NOAA identified eleven regional marine ecosystems that encompass all U.S. waters. Alaska is designated as a single region in this context.

NOAA has asked its National Sea Grant Program to work through its 31 state Sea Grant programs to solicit regional marine research plans. This proposal is the Alaska Sea Grant College Program response, submitted following close consultation with state and federal resource agencies, the Chair of the North Pacific Fishery Management Council, and Alaska Governor Frank Murkowski's Ocean Policy Sub-cabinet.

Given the enormity and complexity of the several large-scale marine ecosystems of the state, and the unique differences and needs among them, participants in this proposal believe it necessary to deviate from the national perspective that Alaska is one ecosystem or region. As such, this proposal brings focus to the marine research and information needs of the 1,200-mile long Aleutian Islands Archipelago—an ecosystem in itself much larger than nearly all other U.S. maritime regions defined by NOAA and National Sea Grant for this purpose. This focus on the Aleutian Islands arises from the stated preference by state and federal resource managers that marine research planning begin with this underserved region. Responding to this grassroots feedback is necessary for a larger, statewide, effort to be effective.

To this end, this proposal leverages modest funding requested from the National Sea Grant Program with funds from the NPFMC and the State of Alaska to conduct with stakeholder involvement an inventory of current research, identify knowledge gaps, and present a suite of recommendations for research and information needed for ecosystem management within the Aleutian Island Archipelago. This effort will form the basis, and serve as a model, for the development and implementation of a statewide marine research planning and information effort.

I.) Introduction/Background/Justification

Alaska's enormous size, coupled with research needs that vary widely across the state, require a phased approach to developing a statewide research plan. In preparing this proposal, meetings held with state and federal resource managers revealed a strong preference that this process begin by defining an ecosystem-driven research and information plan for the Aleutian Island Archipelago. Importantly, while other Alaska regions have highly focused research programs, no Alaska region is managed through an ecosystem-based research approach. In 2005, the National Marine Fisheries Service, together with the North Pacific Fishery Management Council and the Alaska Department of Fish and Game, began efforts to develop the Aleutian Island Fishery Ecosystem Plan. The Aleutian Islands Ecosystem Forum (AIEF) was created to facilitate this effort. As detailed in Attachment I, this body has since evolved into a chartered

statewide effort under the new Alaska Marine Ecosystem Forum (AMEF). Its initial task is still to develop an Aleutian Islands Regional Marine Research Plan. When complete, it will be the first ecosystem-based management plan in the state. Together, these agencies envision that this proposal will leverage their efforts to expand and complete this planning effort.

Regional Setting:

At more than 586,000 square miles, Alaska is the largest U.S. state, with more land area than Montana, California, and Texas combined. Alaska's vibrant marine ecosystems span more than 34,000 miles of coastline, more than double the rest of the nation combined. Alaska's marine waters encompass the distinct ecosystem-regions of the Bering Sea-Aleutian Islands, Gulf of Alaska, Chukchi Sea and Beaufort Sea (western Arctic Ocean). Of the world's 64 Large Marine Ecosystems, four are within Alaska's exclusive economic zone. Fully 74 percent of the nation's continental shelf—some 600 million acres—lies off Alaska, an area larger than Alaska's terrestrial landmass. From these diverse ecosystems, fishermen catch nearly half the nation's seafood, a dockside harvest valued at \$1.2 billion in 2004. Alaska's magnificent coast yields nearly 15 percent of the nation's oil supply and fuels a billion-dollar per year tourism industry that draws nearly one million visitors annually. Dozens of coastal communities are deeply rooted, economically and culturally, to the sea.

Alaska's oceans are considered by the U.S. Environmental Protection Agency to be generally free of pollution, largely because the state is not a host to major industrial complexes, its low human population, and its expansive undeveloped land mass.

Alaska has a resident population of about 662,000; many live in or near the coastal city of Anchorage (pop. 260,000). Alaska's other large cities include Fairbanks (pop. 83,000), Juneau (pop. 31,000), Ketchikan (14,000) and Kodiak (pop. 3,500). Of these, all but Fairbanks are coastal cities. Many Alaskans live in small communities, primarily near the coast or along major rivers that support anadromous fish such as salmon. Approximately 15 percent of Alaska residents are indigenous Natives, in contrast to less than one percent for the nation. Many Alaska Natives live in small, remote communities along the coast or major rivers, and still practice traditional subsistence lifestyles centered on the harvest of flora, fish and wildlife, including seaweed, fish, shellfish, seals, whales, seabirds, and terrestrial mammals.

Alaska's economic engine is fueled primarily by resource extraction. Together, oil and gas development, commercial fishing, timber harvests, as well as gold and zinc mining generated \$31 billion in economic activity in 2004. Tourism and government/military, air cargo, and service businesses also are important. About 83 percent of the state's annual \$2 billion budget is derived from royalties on oil and gas primarily from the Arctic North Slope and delivered to markets through the 800-mile trans-Alaska pipeline to Valdez on the state's Southcentral coast.

The Bering Sea-Aleutian Island Ecosystem:

The emerald-green Aleutian Islands are a stunningly beautiful and remote area of the state, extending some 1,200 miles westward from the Alaska Peninsula on mainland Alaska to the Commander Islands of Russia. The Aleutian Island Archipelago consists of some 300 islands. It is often called the Ring of Fire because of the 57 active volcanoes that dominate the region's seascape.

Surrounding these islands are some 885,000 square miles of ocean-ecosystem that support the largest commercial fisheries (salmon, crab, halibut, pollock, cod and other groundfish) in the United States, and an unparalleled array of marine mammals and seabirds.

Steller sea lions, sea otters, fur seals, killer whales, numerous whales including the highly endangered northern right whale, and countless millions of seabirds inhabit the region.

Communities along the Aleutians are typically small and predominately populated by indigenous Aleut Natives, who have called the region home for more than 9,000 years. Aleuts have endured significant historical events including the enslavement, rape and murder by Russian fur traders, invasion by Japanese forces and whole-scale relocation by the United States during WWII, and the transformation of Amchitka Island into an underground test-bed for nuclear weapons during the Cold War.

Today, residents, including many non-Natives, pursue active subsistence lifestyles and participate in commercial fishing for salmon, crab, halibut, cod, pollock and other groundfish.

The islands host some 8,200 year-round residents, with about half living in the region's largest community of Unalaska. The Unalaska port of Dutch Harbor is known internationally for its high volume of fisheries landings. In 2004, the latest year for which data is available, 886 million pounds of seafood worth \$155 million dollars was landed at Dutch Harbor, making it the nation's second largest fishing port behind New Bedford, Massachusetts.

Because the Great Circle Route that passes through the Aleutian Islands provides the shortest shipping route between Asia and western North America, the Aleutian's also play host to a large and growing international shipping trade. Each year, more than 4,500 freighters and container ships ply the Great Circle Route passing through a region that has been identified as critical habitat for the northern right whale. While ship-strike mortality of whales has not been recently documented in the Aleutian Islands, ship-strikes by marine transport vessels are among the largest sources of mortality for threatened whale stocks along the Atlantic seaboard and can be anticipated to be an increasing important threat to North Pacific whales.

Alaska's marine and coastal ecosystems, together with the rest of the circumpolar north, face significant resource management and stewardship challenges. To follow is a representative summary of the major statewide environmental realities, resource issues and public safety concerns that resource managers, policy makers and resident stakeholders face.

Statewide Environmental Realities

Climate Change:

During the past century, Alaska's climate has warmed an average of about four degrees Fahrenheit, and it is expected to warm as much as 10 degrees during the next century. To date, this warming has caused nearly all of the state's glaciers to recede and has triggered the melting of near-surface permafrost, which has impacted everything from road and home construction to oil exploration and subsistence lifestyles.

Seasonal sea ice is today thinner, forms later in winter, and melts earlier, posing unique problems for sea-ice dependent species such as seals and polar bears, as well as Alaska Natives who travel on the ice during subsistence hunting and fishing activities. On average, Alaska's winters are about a week shorter than in previous decades. These and many other climate-induced impacts are highlighted in a comprehensive report by the international Arctic Council's Arctic Monitoring and Assessment Programme working group, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment, 2004*. Together, climate change poses unique challenges to resource managers, disaster planners, and engineers, as well as local and state policy makers.

Currently, there is no coordination or planning of research needs to address all the impacts of climate change in Alaska. Oceanographic changes, some the result of natural cycles believed to be influenced by rapid climate warming caused by anthropogenic activities, have dramatically reshaped the Bering Sea ecosystem, and may be contributing to the rapid changes in the abundance and distribution of marine mammals, seabirds, fish and shellfish. In recent decades, Steller sea lions have declined by some 90 percent in the Bering Sea-Aleutian Islands. The western stock is now listed as an endangered species. Sea otter populations in the Aleutian Islands and fur seal populations in the Bering Sea have also declined precipitously. The Aleutian Islands, home to more than 40 million seabirds, has witnessed dramatic seabird die-offs and population declines. While much research has been done and is being done, scientists say much still needs to be learned, such as understanding the connections between physical oceanographic processes and responses to climate change by marine species.

Alaska's remote, sparsely populated coastal communities also face important environmental challenges in the coming decades as a result of climate change. As sea ice is lost due to climate change, shorelines, which in the past had a protective buffer of pack ice to thwart winter storms, now lay exposed to rapid erosion due to the assault of unimpeded storm surges. In coastal and large river communities such as Shishmaref, Kivalina, Unalakleet, and St. Michael, erosion of coastline and riverbanks have destroyed homes, businesses and even cemeteries.

Dozens of coastal communities will likely have to be relocated over the next years, according to a report by the Arctic Monitoring and Assessment Programme. The Bering Sea village of Shishmaref already has begun planning for a possible relocation, at a cost estimated at several hundred million dollars. Presently, Alaska does not have a comprehensive state management plan

dedicated to erosion control or mitigation, nor state legislation requiring such a plan; however state expertise and local knowledge exists to help build such a plan. Targeted environmental and engineering research is needed to develop innovative, cost-effective ways to monitor, control, and prevent erosion.

Finally, climate change also brings as the potential of exposing northern seas routes for global transportation of goods, a longer growing season and less severe weather in some areas.

Although there is a need for assessment of government and social institutions in anticipation of continued changes, to date, research on possible changes in economic activities in response to continued climate change has largely been left to private industry and other nations.

Population Growth: Coastal Communities and Economies:

Many of Alaska's environmental concerns stem from the steady growth of the state's resident and visitor population, and corresponding increases in demand for services such as harbor expansion, breakwater construction, housing and hotels, water and sewage, roads, bridges and other infrastructure. Similarly, in rural Alaska water, sewage treatment and disposal, garbage disposal, and energy production infrastructure is lacking and made more difficult and expensive by remoteness, harsh weather conditions, and meager local government funding and expertise. In 2005, Alaska's population was pegged at 662,000 people. Alaska's population grew by 14 percent from 1990-2000, slightly faster than the U.S. average. The state's population is projected to grow another 13 percent by 2010. Much of the growth is expected to occur in Southcentral coast/railbelt region (Anchorage, Mat-Su, and Kenai Peninsula).

Currently, more than three-quarters of Alaskans live within the coastal zone, with the largest population living in the coastal city of Anchorage (pop 260,000). Yet, little is known about Alaska's nearshore ecosystem. Alaska Governor Frank Murkowski, in comments to the U.S. Ocean Commission on the draft Ocean Blueprint, said there was a "lack of adequate knowledge about the structure and function of coastal habitats" and that there is a need for "better on-going monitoring."

Fisheries:

Alaska fisheries are considered to be among the best managed in the world. Alaska incorporates the best available science and a public participation process. However, despite nearly uniform success in sustaining the biological stocks that underpin the fisheries and in improving the economic value of some fisheries, the value of other fisheries has declined and the social and economic impacts on the state's coastal communities have been mixed. For example, falling salmon prices in recent years have rocked the industry and led to the loss of thousands of harvesting and processing jobs, and reshaped coastal communities. Management decisions that have altered allocation of fish resources or restricted fishing to alleviate possible competition with threatened

and endanger populations of marine mammals and to avoid damages to unique benthic communities have had serious impacts on Aleutian Island communities. However, more research must be done to fully understand the impacts of management or allocation decisions on community social and economic fabric.

Oil, Gas, Timber and Mineral Development:

New hard-rock mines either proposed or under way within the coastal zone, such as the Kensington Mine near Juneau and the Pebble Mine proposed for the Bristol Bay watershed, have potential for known and unknown habitat impacts. While industry-funded studies are under way, little is known about the potential impacts of the proposed Pebble Mine open pit project that will lie within the spawning watershed of the nation's largest wild population of sockeye salmon. The Kensington Mine is being developed along the Inside Passage near Juneau in Southeast Alaska.

Although these mining operations will undergo a rigorous and protective environmental permitting process, more can and should be done to shape national standards to the uniqueness of Alaska's terrain and climate. In order to create, set, or change standards, directed and purposeful research should be performed and disseminated.

Along the Arctic Coast, research is needed to better understand the impact of proposed future offshore development on terrestrial and marine communities including whales, polar bears, fish, and Alaska Natives. As climate change shortens the winter exploration season, better science is needed that will lead to the development of new road construction and transportation techniques and technologies that do not harm the tundra. Such techniques would be immediately applicable to the rapid expansion of the road systems in and around Alaska's growing population centers.

Marine and Coastal Habitat Protection:

Alaska has made important strides in its efforts to prevent and respond to marine oil spills since the 1989 *Exxon Valdez* spill. Yet, oil spills can and do still happen. In 2004, the *Selendang Ayu*, a Singapore soybean freighter, ran aground in a winter storm on Unalaska Island in the Aleutian Island chain. The freighter broke in half and spilled 335,000 gallons of oil and fuel, along with much of its soybean cargo. The spill exposed problems remaining in state and federal efforts to mitigate the certain risk of spills in this remote region, which serves as a major international shipping route to Asia (known as The Great Circle Route).

Chief among the non- governmental proposals for risk mitigation is an Aleutian Island vessel monitoring system and pre-placement of response equipment. Additional research is needed on the impacts of oil spills on the region, as well as training and educational information for residents and first responders.

To date, funding is in the process of being secured to conduct a U.S. Coast Guard and Alaska Department of Environmental Conservation joint assessment of the *Selendang Ayu* response and shipping risks and needs in the region.

Maintaining Alaska's relatively pristine water quality while promoting sustainable and cost effective development has been a leading priority of state resource agencies. As Alaska's population increases, the need to have a baseline of coastal and fresh water quality takes on immediate importance. The Environmental Protection Agency's Environmental Monitoring and Assessment Program has completed a baseline sampling and analysis for coastal water and sediment contaminants for the entire nation, except in Alaska. Without the most basic baseline information, which the rest of the county has already completed, Alaska will have difficulty assessing the levels of pollutants and other changes in any of our large marine ecosystems.

According to the Alaska Community Action on Toxins, there are an estimated 2,000 toxic sites—including six federal Superfund sites, fifteen radioactive waste dumps, and nine chemical weapons dumps in Alaska. The sites are the result of activities by the U.S. military and the Federal Aviation Administration. Many of these sites are located within the coastal zone. As one example, Cold War underground nuclear tests, including the largest underground test in U.S. history on the Aleutian Island of Amchitka, have left fishermen, Aleut Natives, scientists, and policy makers concerned about the possibility of nuclear contamination reaching the vital Bering Sea ecosystem, and ultimately to humans. In their 2005 U.S. Department of Energy report, the Consortium for Risk Evaluation with Stakeholder Participation CRESP found no evidence of above-background levels of radiation leaking from Cold War underground nuclear blast sites.

However, the Amchitka site is predicted to inevitably leak radionuclides into the coastal and marine environment. Discussions between the State of Alaska and the federal Department of Energy are underway to develop a long-term stewardship program for the island that includes research and monitoring.

Coastal Disasters and Public Safety:

As one of the most geologically active regions in the world, Alaskans live under constant threat of volcanic eruptions, earthquakes, and tsunamis. Alaska has more active volcanoes than any other state. While most are in the distant Aleutian Islands, two active volcanoes lie within 200 miles of Anchorage. Eruptions from these volcanoes have occasionally disrupted air traffic and left the city coated in ash. At the time this document was prepared in early 2006, scientists were monitoring a major eruption of Mt. Saint Augustine in Cook Inlet, some 150 miles southwest of Anchorage. An eruption in 1986 sent ash 40,000 feet into the atmosphere, disrupted air traffic and resulted in ash accumulating as far north as Fairbanks, 500 miles north of the volcano.

Alaska experiences earthquakes every day. While most are minor, others are felt in Alaska's major cities and coastal communities. In 2002, a quake measuring 7.9 on the Richter scale splintered road and rail service to the state, causing millions of dollars in damage and triggering a shut down of the trans-Alaska pipeline, but thankfully there were no injuries.

Alaska's low-lying coastal communities are at most risk for potentially

disastrous impacts of an earthquake-generated tsunami. Many remember well the 1964 earthquake and resulting tsunamis that killed more than 100 people in Anchorage, Kodiak, Valdez, Seward, and other communities.

While the state has disaster preparedness plans, more research is needed to better understand, predict, and prepare for coastal disasters. Alaska Sea Grant funded the state's first inundation model that reconstructed the 1883 tsunami generated by a massive landslide during a volcanic eruption of Mt. St. Augustine. That research has since been greatly expanded upon by University of Alaska and NOAA researchers through the NOAA National Tsunami Hazard Mitigation Program. This effort has yielded, among other outcomes, tsunami inundation maps for some Alaska coastal towns. But far more work must be done to better understand and predict how future tsunamis will impact Alaska's coasts.

Toward a Statewide Marine Research Plan: Focus on Aleutian Islands

Because of the immense geographic nature of the state's marine environment, focus on the state as a single, distinct region is impractical, and likely impossible. Rather, an Alaska marine research and information plan must unify the specific needs of the state's major ecosystem-regions. This can only be done once the needs of each major region have been identified and prioritized. While other regions of the state have research programs, a comprehensive research plan for the Aleutian Islands does not yet exist. This proposal seeks funding to accomplish this task.

The Bering Sea-Aleutian Islands have been the focus of several studies in recent years; North Pacific Fishery Management Council's Aleutian Island Fishery Ecosystem Forum; an integrated ecosystem research program by the North Pacific Research Board called "Response of the Bering Sea Ecosystem to Climate Change"; State of Alaska's Bering Sea Ecosystem Project report called "Working Together for the Future"; the 2005 Volume 14 of Fisheries Oceanography journal called "Oceanography and Ecology of the Aleutian Archipelago." This proposal focuses on the most recent scientific endeavor: the NPFMC effort to create a marine research planning and information-sharing forum focused on the Aleutian Island ecosystem.

Aleutian Island Marine Research Planning

In November 2005, the North Pacific Fishery Management Council (NPFMC) invited all the state and federal agencies with some jurisdiction in the Aleutian Islands to meet and respond to the President's U.S. Ocean Action Plan.

The goal of the meeting was to determine whether and how increased federal-state-NPFMC collaboration could improve research and management of marine ecosystem components and further support sustainable use of the Aleutian Islands ecosystem. In this meeting the Aleutian Island Ecosystem Forum (AIEF) was created. To further discuss the need for collaboration, a steering committee was designated from the larger group to meet on February 2, 2006. At the February meeting a charter was drafted for the creation of a

statewide marine ecosystem forum, with an initial focus on the Aleutian Island ecosystem and the marine issues that face that region. The draft charter was brought back to the full group for further discussion and review in April 2006, and is included as Attachment I to this revised proposal. As envisioned in their draft charter, this organization is now called the Alaska Marine Ecosystem Forum, and has a statewide focus.

Agencies that sent representatives to the initial Forum meeting included the North Pacific Fishery Management Council, NOAA Fisheries, US Fish & Wildlife Service, US Coast Guard, Environmental Protection Agency, Minerals Management Service, US Forest Service, US Army Corps of Engineers, Department of Defense's Alaskan Command, US Geological Service, Alaska Ocean Policy Cabinet, Alaska Department of Fish and Game, Alaska Department of Environmental Conservation, Alaska Department of Natural Resources, Alaska Department of Commerce, Community and Economic Development, and Alaska's Office of the Governor.

As can be seen from the list of participants noted above, the AMEF consists primarily of government entities with management responsibilities for the region. This proposal, if funded, provides a mechanism for meaningful participation and input into the plan from non-governmental interests including Alaska Native groups, fishermen, coastal community residents, seafood processors, marine shippers, recreational tour and charter operators, environmental groups and other users and stakeholders with an interest in the health and vitality of the ecosystem. We anticipate creation of a stakeholder committee, consisting of Native groups, fishermen, community leaders, and others, that will provide ongoing input, advice and traditional ecological knowledge to help guide development and implementation of the final research plan. Further, such a committee will help ensure long-term involvement of stakeholders. Increasingly, researchers have come to rely on local involvement in research for such purposes as observing, monitoring, and data collection. A stakeholder committee can also provide a mechanism for ensuring this level of participation by stakeholders in the research funded under the plan.

Several ocean ecosystem themes in the Aleutians that may require greater federal-state-Council coordination are described below.

Hazardous Material Spills:

Several agencies have been involved in the response to the 2003 *Selendang Ayu* oil and soybean spill near Unalaska, and a number of agencies and interest groups have discussed options for reducing the risk of future spills of hazardous materials in the Aleutian Islands. The AMEF may be a very useful forum for identifying appropriate actions under the jurisdiction of the participating agencies. The AMEF would discuss the measures that are in place to minimize such risks, current initiatives by the participating agencies (or other groups) to develop additional measures, and any actions that might be taken by the participating agencies to promote the implementation of effective measures.

User Conflicts:

The Aleutian Islands ecosystem supports a wide variety of human uses: fisheries, shipping, national defense, tourism, etc. Are present uses of the Aleutian Islands ecosystem in conflict, either in discrete areas or throughout the Aleutian Islands? The AMEF would identify existing or potential user conflicts and opportunities to minimize such conflicts.

International Resource Management:

The Aleutian Islands ecosystem borders international waters and the Russian Exclusive Economic Zone. The AMEF could evaluate whether any activities outside of U.S. jurisdiction may adversely affect the Aleutian Islands ecosystem, and if so could bring pertinent issues to the attention of the U.S. Department of State for possible bilateral or multilateral discussions, as appropriate.

Special Status for the Aleutian Islands Ecosystem:

After developing a better understanding of the roles of each agency in Aleutian Islands activities and identifying issues of common concern, the AMEF could explore whether establishing some type of special status for the Aleutian Islands (or a portion thereof) under state and/or federal law might support shared objectives for management of the Aleutian Islands ecosystem (recognizing that the NPFMC is already moving forward with such an initiative relative to its fisheries jurisdiction).

Great Circle Shipping Route, oil spill risk/preparedness:

Trans-Pacific ships travel along the shortest route between Asia and North America, commonly referred to as the Great Circle Route. Vessels passing through the Aleutian Island chain increase the odds that wrecks, oil spills, or loss of human life will occur. This inherent risk requires assessment and action by the U.S. Coast Guard, and the State of Alaska. Precautions should be taken to reduce the possibility of ecological damage in the Aleutian Islands, and may include actions that require the participation of the International Maritime Organization and other Pacific nations. A vessel tracking system, including tracking of fishing vessels, may be part of the solution to minimize environmental risk.

Marine mammals:

Critical habitat for Steller Sea Lions (under the purview of NMFS and ADF&G) in the Aleutian Islands is primarily located in state waters (0-3 nm from shore). These areas are closed to commercial fisheries, and re-opening to fishing may trigger an ESA Section 7 consultation and closure of other commercial fishing areas as a form of mitigation. Sea otters (under the purview of USFWS and ADF&G) in the Aleutians were recently listed as threatened under ESA, but cause of decline is currently unknown. North Pacific Right Whale critical habitat is undergoing designation and may interact with shipping routes.

Human and fishery health risk around Amchitka Island:

Amchitka Island was the site of three underground nuclear tests between 1965 and 1971. Radionuclides are expected to leak from the island, but the timeframe for leakage is unknown. Radionuclides could contaminate a wide range of species, and could impact subsistence and commercial fisheries in the surrounding area. Consistent, long-term monitoring is needed to detect leakage. A plan to deal with the repercussions of eventual leakage should be developed.

Living and Non-living Resource Mapping, Information Collection, Environmental Quality Monitoring, and Research:

A number of state and federal agencies are responsible for managing the use of the natural resources of the Aleutian Islands, and enforcing standards for the Aleutian Islands air, land and water quality. Accurate and reliable resource information is needed to support agency resource management and pollution control missions. Funds to collect and analyze resource information is limited and will never be sufficient to acquire the data and apply the science needed to predict the outcomes of agency decisions with complete certainty. Resource data collection, monitoring and research needs to be targeted, cost-effective, and directed toward specific goals, objectives and management priorities. As a practical matter, the risk to Aleutian Islands ecosystem from past, present, and future uses must be taken into account when allocating limited funds to environmental monitoring, scientific investigation, and applied research.

Regional Haze Planning:

Regional haze refers to haze that impairs visibility in all directions over a large area. The distance that one can see is limited because of tiny particles in the air absorbing and scattering sunlight, which in turn degrades color, contrast, and clarity of the view. On July 1, 1999 the Environmental Protection Agency announced a rule designed to protect and improve visibility in 156 national parks and wilderness areas throughout the country. The Regional Haze Rule only affects Class I national parks and wilderness areas. Alaska has only four Class I areas subject to the rule, they are:

- Denali National Park and Preserve
- Tuxedni Wilderness Area
- Simeonof Wilderness Area
- Bering Sea Wilderness Area

Simeonof Wilderness Area lies within the Aleutian Islands ecosystem. States must develop long-term plans for reducing pollutant emissions that contribute to visibility degradation and within the plans establish goals aimed at improving visibility in Class I areas. Haze caused by all sources of pollutants that impair visibility including haze caused from smoke, vehicles, electric utility and industrial fuel burning, and other activities that generate pollution must be addressed. DEC is developing a State Implementation Plan to deal with the haze

in Class 1 areas. See: <http://www.dec.state.ak.us/air/anpms/as/rh/rhhome.htm>

II.) Proposed approach

Blueprint for an Alaska Region Marine Research Plan:

At minimum, each region will be expected to:

- Provide a conduit for stakeholder participation and input into the formation, implementation, and ongoing evolution of an Alaska Marine Research Plan.
- Establish a Regional Coordination Group to oversee planning and implementation of the research and information strategy.
- Conduct a bottom-up needs assessment with broad user and stakeholder input.
- Identify research and information gaps.
- Develop a research and information plan for the region that prioritizes actions according to management-critical needs.
- Develop coordination mechanisms to ensure the transfer of technology and information to the appropriate end users, and feedback from users to stay abreast of needs and concerns.
- Provide an ongoing platform for coordination, collaboration, and resource sharing among participants.

Who would be involved:

To initiate the statewide planning effort, an Alaska Marine Research Planning Regional Coordination Group, consisting of Doug DeMaster, NOAA Alaska Fisheries Science Center; Denis Wiesenburg, Dean, University of Alaska Fairbanks School of Fisheries and Ocean Sciences; Stephanie Madsen, Chair, North Pacific Fisheries Management Council; and Kurt Fredriksson, Commissioner, Alaska Department Environmental Conservation, would be convened. At this meeting, members would define overarching goals for a statewide plan and confer with members of the Alaska Marine Ecosystem Forum. AMEF would facilitate efforts of the Alaska Marine Research Planning Regional Coordination Group to develop an Aleutian Island regional research plan, with stakeholder input. The AMEF steering committee currently consists of:

North Pacific Fishery Management Council

Stephanie Madsen, Chair

Diana Evans, Fishery Analyst

Bill Wilson, Protected Resources Specialist

NOAA Fisheries

Sue Salvesson, Assistant Regional Administrator for Sustainable Fisheries

Jon Kurland, Assistant Regional Administrator for Habitat Conservation

Joe McCabe, NOAA General Counsel

John Olson, Habitat Conservation

Alaska Ocean Policy Cabinet

Heather Brandon, Ocean Policy Coordinator

Department of Environmental Conservation

Kurt Fredriksson, Commissioner

Department of Natural Resources

Ed Fogels, Acting Deputy Commissioner

Randy Bates, Acting Director, Office of Project Management & Permitting

Department of Commerce, Communities, and Economic Development

Al Clough, Deputy Commissioner

US Fish and Wildlife Service

Leonard Corin, Fisheries and Ecological Services Supervisor

Environmental Protection Agency

Marcia Combes, Director, Alaska Operations Office

Minerals Management Service

Kate Wedemeyer, Fisheries Oceanographer, Environmental Studies Section

Bureau of Land Management

Gary Reimer, Field Manager, Anchorage Field Office

Alaskan Command

Jerome Montague, Native Affairs and Natural Resources Advisor, Alaskan Command

US Geological Survey

Joy Geiselman, Deputy Chief, Biology/ Geography Office, Alaska Science Center

Assessing and Prioritizing Needs-Identifying Gaps:

The Regional Coordination Group, in concert with the AMEF and assisted by Alaska Sea Grant and the Alaska Ocean Policy Coordinator, would undertake a bottom-up research and information needs assessment with broad user and stakeholder input. From such an assessment, research needs and information gaps would be identified and prioritized according to management-critical needs. Stakeholder and user input would be gathered from coastal community meetings, workshops, focus groups, surveys. Several individual users and stakeholders will be identified and asked to serve on a committee to assist and guide this effort. We also anticipate the Alaska Sea Grant Marine Advisory Program agents in coastal communities will aid in the effort to solicit community involvement in order to build a real sense of ownership of the plan.

Information-Technology Transfer and Products:

Communication and information transfer among participating research entities and all stakeholder groups will be an integral part of this effort. To enhance public involvement and understanding of the research plan among scientists, stakeholders, policy makers, the media, and the larger public, Alaska Sea Grant will undertake a significant communication and outreach effort. Through the combined capabilities of its outreach specialists in the Alaska Sea Grant Marine Advisory Program and Education Services unit and working with outreach specialists from participating groups, Alaska Sea Grant's role will include, but not be limited to, providing forums, town meetings and other conduits for public participation and involvement, compilation and publication of the research plan, logistical support for meetings, news media outreach, and web site support.

To begin, Alaska Sea Grant will convene a statewide outreach and communications "summit" meeting, attended by the professional outreach specialists who work for the participating research agencies and groups. This will be a first step toward forming cooperative outreach strategies and tactics among the different research groups, aimed at efficiently gathering and conveying stakeholder input to the AMEF, and disseminating information back to stakeholders. Funds budgeted in this proposal provide for this critical component.

Funds within this proposal budget provide for establishment and maintenance of a dedicated web site. The web site would contain information such as a description of the overall project and its goals, drafts of the plan that are out for public comment, schedules of meetings and workshops, lists of committees and their members, copies of existing marine research plans, and links to major agencies and programs that conduct marine research, among other components to be defined as the need arises.

The primary deliverables from this proposal are:

1. Compilation of meaningful stakeholder input.
2. Assessment of the agencies' and organizations' current ocean and coastal research priorities, research plans, and statewide research funding.
3. Production of a comprehensive inventory of current ocean-related research efforts in the Aleutian Islands, and a corresponding prioritized assessment of current and future interdisciplinary research that is needed to fill information gaps.

Alaska Sea Grant outreach specialists will work closely with their cohorts in partner organizations to produce these products. Alaska Sea Grant also will employ the most appropriate means of communication to maintain a feedback loop to the stakeholders, to ensure they remain abreast of decisions by the AMEF and other entities involved with research in the subject region(s). This loop will also allow for continued flow of information from stakeholders back to AMEF.

Ongoing Collaboration:

The Aleutian Marine Ecosystem Forum, as strengthened by this planning effort, would serve as a platform for ongoing coordination, collaboration, and resource sharing. The North Pacific Fishery Management Council plans to

support and participate in this group for the foreseeable future as a key vehicle for implementing an Aleutian Islands research and information plan, and for soliciting efforts to improve the plan. We anticipate that the committee of stakeholders developed and cultivated under this proposal will continue to be a focal point for the AMEF's efforts to maintain contact with user groups.

Organization:

The Regional Coordination Group will collaborate with the NPFMC efforts to create an Aleutian Islands Ecosystem research and information plan. The Alaska Sea Grant Director will serve as the primary facilitator to the Regional Coordination Group. The Ted Stevens Chair of Marine Policy at the University of Alaska Fairbanks School of Fisheries and Ocean Sciences will serve as an effective liaison to the coordination group. The State of Alaska Ocean Policy Coordinator will coordinate state agency participation in this process, and will be the plan's lead writer, with assistance from the Alaska Sea Grant Information Officer. Alaska Sea Grant staff specialists will provide web site development expertise, oversee publication of work products, including the final research plan, and lead the effort to communicate the research planning effort to all interested parties. The Alaska Sea Grant Marine Advisory Program personnel in Aleutian Island communities will take a leading role in coordinating community involvement in the plan, including community informational meetings, and assist with dissemination of the final products.

The Alaska Regional Coordination Group will employ a variety of tools to secure public input to the marine research plan. It is anticipated that a schedule of town meetings and workshops will be held with the assistance of the Alaska Sea Grant Marine Advisory Program in communities in and near to the Aleutian Islands. We also envision establishment of a stakeholder committee consisting of Alaska Natives, fishermen, community leaders and others with a vested interest in the plan. This committee will serve as an important conduit for bringing issues, concerns, community needs and ideas to the fore. Such a group can also help ensure the inclusion of local residents and stakeholders in research that results from the implementation of the plan. Interested persons also will have the option of calling in to the meetings to express views. In addition, a web site-based comment submission form will be created.

In its report, *A Century of Ecosystem Science; Planning Long-term Research in the Gulf of Alaska*, the National Research Council outlined elements of a robust, scientifically sound, effective marine research plan. To the extent practical, it is anticipated that the regional coordination group will consider the principles and guidelines within this NRC report.

Addressing Organizational Challenges

The North Pacific Fishery Management Council have joined with federal and state agencies with ocean and coastal management and regulatory jurisdiction to discuss the formation of a regional collaborative body – initially called the Aleutian Islands Marine Ecosystem Forum. After the first meeting in November 2005, the state-federal-council group formed a steering group to draft

a charter. In drafting the charter, the steering group determined that the charter and the forum created by the charter should cover the entire state and all the marine ecosystems in the state. In April 2006, the full state-federal-council group discussed the draft charter for an Alaska Marine Ecosystem Forum (AMEF), which would first focus on the Aleutian Island area. Therefore, if the collaborative efforts undertaken in the Aleutians were successful, they could be expanded to other large marine ecosystems in Alaska under the umbrella of the AMEF. The draft charter is enclosed and we anticipate it will be finalized and signed over the summer 2006, with the first official meeting in September 2006. Should Alaska Sea Grant receive this grant, Dr. Allee would attend and share the vision of the grant with the AMEF at the September meeting.

The state, federal and council members of the AMEF was briefed on this grant proposal during the April 2006 meeting. The Alaska Ocean Policy Cabinet members – who support this grant proposal – are also members of the AMEF and the AMEF steering committee.

The federal and state agency and council members of the AMEF are aware that the National Sea Grant Regional Research and Information Planning grant—if awarded to Alaska Sea Grant—would support the AMEF in its efforts to share research and management priorities, share information and collaborate on work in the Aleutian Islands marine ecosystem. Should this grant be awarded to Alaska, it could be a key factor in making the AMEF's initial work in the Aleutians a success and also a model for regional collaboration initiated by regional and local entities.

Process for developing regional priorities:

Most agencies and programs with marine research responsibilities throughout the state have developed research plans, and those plans have been reviewed for this proposal. Further, the State of Alaska and the North Pacific Research Board separately undertook in late 2005 a review of their research needs. The State of Alaska identified some 40 management-critical areas where additional research is needed. Sixteen of these areas are directly connected to marine resource management. These documents are included in this proposal as Appendix II. State and NPRB efforts constitute a vital step toward identifying a wide range of marine research needs. A major task of the Regional Coordination Group will be to sort through the many needs, look for common ground, develop criteria by which to prioritize within specific discipline areas (i.e.: ecology, oceanography, fisheries, social, economic, engineering), and identify which of the many priorities apply to the Aleutian Island Ecosystem.

Finalizing Priorities:

The Regional Coordination Group and the AMEF will meet on a schedule to be set by members to discuss progress and chart future work. The Regional Coordinating Group will work to achieve consensus on priorities. This will be done through a process that defines management-critical priorities within the various discipline needs. Prioritization will begin after a thorough effort to identify needs and gaps in research and information is complete, and a rigorous effort is

made to solicit public review. Public comments will be evaluated and incorporated into the plan. It is anticipated that the full report will be published and disseminated as outlined within the communications section of this proposal.

Writing/Reviewing the plan:

Alaska Ocean Policy Coordinator will lead the effort to draft the marine research plan, with guidance, supervision, and help from the Regional Coordination Group and the AMEF membership. Review drafts will be announced and circulated for public comment as required by federal regulation. As outlined in the Communications section of this report, Alaska Sea Grant communications staff and Marine Advisory Program specialists will take an active role in soliciting community involvement in both the preparation of the plan and review of the drafts. In addition, interested parties will be able to send reviews through a dedicated web site comment form.

Developing support to implement plan:

The initiative to develop an Aleutian Island ecosystem research and information plan comes from state and federal resource managers and stakeholders themselves. These people also are key participants in the development of the research and information plan. As such, we believe they will wish to implement the plan they create for themselves. Looking ahead, we believe a successful Aleutian Island Ecosystem Research Plan will serve as a model that can be applied to the other regions of the state where diverse research needs are being addressed, but which presently lack a formal means for collaboration. With expected future funding, Alaska Sea Grant looks forward to working with the other major marine regions within the state to achieve a unified vision regarding marine research.

Evaluating Success

We will initiate a process to identify measures and outcomes and evaluate performance in order to determine success at the end of the five-year project period. Indices of project success will include:

1. Conduct a broad user-group and stakeholder needs assessment .
2. Develop a research plan for the Aleutian Island region which prioritizes actions based on management critical needs
3. Identify research and information gaps.
4. Develop a communication vehicle that would transfer the technology developed within the Alaska Marine Ecosystem Forum.
5. Set the stage for expansion to the other regions within Alaska and take steps to identify and secure future funding based upon the AMEF emerging as the appropriate coordinating entity.
6. Coordinate, facilitate and produce a publication for agencies, researchers, user groups and stakeholders that characterizes the research portfolio by Alaska region.

APPENDIX I

Federal-State-Council Meeting Summary and Draft Charter

April 3, 2006, 1-4 pm
Department of Natural Resources Conference Room, Anchorage, AK

The following people attended the meeting. Underlined participants represented their agency.

North Pacific Fishery Management Council

Stephanie Madsen, Chair
Diana Evans, Fishery Analyst
Bill Wilson, Protected Resources Specialist

NOAA Fisheries

Sue Salvesson, Assistant Regional
Administrator for Sustainable Fisheries
Jon Kurland, Assistant Regional
Administrator for Habitat Conservation
Joe McCabe, NOAA General Counsel
John Olson, Habitat Conservation

Alaska Ocean Policy Cabinet

Heather Brandon, Ocean Policy
Coordinator

Department of Environmental Conservation

Kurt Fredriksson, Commissioner

Department of Natural Resources

Ed Fogels, Acting Deputy Commissioner
Randy Bates, Acting Director, Office of
Project Management & Permitting

Department of Commerce, Communities, and Economic Development

Al Clough, Deputy Commissioner

US Fish and Wildlife Service

Leonard Corin, Fisheries and Ecological
Services Supervisor

Environmental Protection Agency

Marcia Combes, Director, Alaska
Operations Office

Minerals Management Service

Kate Wedemeyer, Fisheries
Oceanographer, Environmental Studies
Section

Bureau of Land Management

Gary Reimer, Field Manager, Anchorage
Field Office

Alaskan Command

Jerome Montague, Native Affairs and
Natural Resources Advisor, Alaskan
Command

US Geological Survey

Joy Geiselman, Deputy Chief, Biology/
Geography Office, Alaska Science
Center

Meeting Summary

The group met to continue discussion of a proposal to create an Ecosystem Forum in Alaska, focusing on the Aleutian Islands marine ecosystem area. The purpose of the Forum would be to improve coordination and collaboration among Federal and State agencies.

Following the initial meeting in November 2005, a Steering Committee of six entity representatives met to draft a strawman Charter for the Ecosystem Forum. The Committee's report, and the strawman Charter, were presented to the Federal-State-Council group at this

meeting. At the recommendation of the Steering Committee, the Charter has been broadened to create an Alaska Marine Ecosystem Forum. The initial focus of the Forum will remain on the Aleutian Islands marine ecosystem, however, if it proves to be successful, the Forum may extend its focus to other Alaska marine ecosystem areas. This is in line with the initial concept of using the Aleutian Islands ecosystem area as a pilot case.

The Committee made several other recommendations, including condensing considerations of the objectives and function of the Ecosystem Forum, as discussed at the November 2005 Federal-State-Council meeting, into six statements of purpose for the Forum. These are included in the draft Charter. Additionally, the Committee recommended that signatories to the Charter be limited to Federal and State entities with jurisdiction over activities within the marine ecosystem. The Forum may solicit participation by local and tribal governments, and other public or private entities, at its discretion.

The group discussed the Steering Committee's report, and modified the Committee's work to create the draft Charter which can be found on the following pages. The draft Charter will continue to be revised by entity representatives by email.

The continuing issue of the North Pacific Fishery Management Council's role in the Forum was discussed. The Council is not legally considered to be a Federal agency, although it recommends to the Secretary of Commerce the management actions that result in regulation of fishery activities in the Alaska federal waters. As a result, depending on the nature of the Forum's activities, the Council's participation in the Forum may trigger the need for Federal Advisory Committee Act (FACA) compliance. The Federal and State agencies present at the meeting strongly support the Council's substantive and ongoing involvement in the Forum. Recognizing the desire of the group, NOAA General Counsel, working with DOC General Counsel, is reviewing the draft Charter to determine if changes can be made that will both satisfy FACA requirements and allow the active participation of the Council in the Forum.

Once the Charter has been finalized, it will be circulated among agency representatives for signature. It is hoped that the first meeting of the Alaska Marine Ecosystem Forum may take place in September 2006.

Alaska Marine Ecosystem Forum

DRAFT CHARTER

Background

The marine ecosystems off Alaska's coast support a diverse natural environment and a multiplicity of human activities. With national initiatives calling for more systematic collaboration on ocean-related matters, the Alaska Marine Ecosystem Forum (AMEF) brings together Alaska's Federal and State agencies to address issues of shared governmental responsibilities related to the marine ecosystems off Alaska's coast. The Alaska Marine Ecosystem Forum promotes the collective aim of Federal and State agencies to achieve sustainable management and use of Alaska's marine ecosystems in the most effective and efficient manner, consistent with the missions of those agencies. Through coordinated and cooperative understanding, the Alaska Marine Ecosystem Forum seeks to ensure that the interests of the people, biota, and physical environment of Alaska's marine waters are well served.

Alaska's state and federal waters form part of several large marine ecosystems, each with distinct natural processes and human activities. In order to allow the Alaska Marine Ecosystem Forum to fully engage with the issues of an area, and effectively target opportunities for coordination and collaboration, the Alaska Marine Ecosystem Forum will focus on a designated marine ecosystem area. Each area will be identified through mutual agreement of the signatories, and will be described in addendums to this document.

The Alaska Marine Ecosystem Forum does not create enforceable legal obligations, but rather is intended to facilitate member agencies working together to promote awareness and mutual goals, address issues of shared governmental responsibilities, resolve problems where appropriate, and to further intergovernmental communications regarding programs and activities that are the primary responsibility of individual agencies. The activities of this Forum shall be consistent with applicable Federal and State laws and regulations and are subject to the availability of duly appropriated funds. Nothing in this agreement is intended, nor shall it act, in any way to alter, impede, or interfere with the authorities and procedures of the agencies involved in carrying out their regulatory and law enforcement responsibilities, authorities, or missions.

Role

Through the Alaska Marine Ecosystem Forum, the member agencies will keep abreast of existing and emerging issues relating to human activities and natural processes affecting Alaska's ecosystem areas. Its primary role is to enhance coordination in support of the sustainable management of Alaska's marine ecosystems.

The Alaska Marine Ecosystem Forum is being established so that:

- Member agencies are aware of salient regional issues, existing or potential user conflicts, and relevant ecosystem developments;
- Member agencies may achieve efficiencies by coordinating ecosystem efforts, reducing or removing duplicative effort; and sharing unclassified information, resources and goals; and
- Activities undertaken or contemplated by member agencies are complementary where possible and achieve effective results for ecosystem sustainability and utilization.

Purpose

The Alaska Marine Ecosystem Forum will allow Federal and State agencies to share information and increase coordination on common issues within a designated marine ecosystem area. The current area of focus will be identified in addendums to this document. The Alaska Marine Ecosystem Forum will provide the following opportunities:

1. **Forum to Share Priorities:** Each agency can share its priorities for research, use, and management of resources, as appropriate. Increasing awareness and coordination among agencies and the public may lead to partnership opportunities and setting shared priorities.
2. **Forum to Share Data:** Provide an efficient forum for sharing information about human activities and natural processes affecting the specified marine ecosystem. The Forum will discuss how synthesizing and sharing existing, unclassified, data and information could be accomplished; and will identify sources of such information-sharing (website; bibliographies of scientific research; contact information within agencies by issue; information on present, past, future activities for help with NEPA cumulative impact studies; present and future research plans and research priorities; and opportunities for partnership).
3. **Forum for Joint Problem Solving:** Allow agencies to discuss problems to be solved or to share lessons learned from previously solved problems.
4. **Forum to Identify Opportunities for Joint Work:** Identify cooperative conservation opportunities that can be pursued at an agency-to-agency level.
5. **Forum Without Jurisdiction:** The Forum would not have independent jurisdiction or authority, would not regulate any activity, and no agency would be required to obtain approval of other Alaska Marine Ecosystem Forum members before acting.
6. **Forum to Solicit Advice and Recommendations:** Promote open communication between government agencies and with marine ecosystem residents and other stakeholders. The Forum may solicit advice and recommendations from non-member entities.

Membership and member responsibilities

Federal and State agencies with jurisdiction over activities within the marine ecosystem are eligible to become members of the Alaska Marine Ecosystem Forum.

Agencies that agree to become members of the Alaska Marine Ecosystem Forum agree to the following:

- to work in good faith to share pertinent, unclassified, information with other AMEF participants;
- to consider relevant information in order to make well informed decisions;
- to consider indirect consequences for other components of the ecosystem;
- to facilitate open discussion of ways to resolve potential conflicts between competing uses of the ecosystem area; and

- to help inform other interested governmental and non-governmental organizations, and provide an opportunity for contribution to regional marine ecosystem forum meetings and discussions.

Officers and organization

The AMEF will have two officers, a chair and a vice-chair. The term of chairmanship will be one year, and the vice-chair will become chair the following year. One officer will be from a Federal agency, and the other from a State agency, resulting in a rotating Federal/State chairmanship. The Alaska Marine Ecosystem Forum membership will approve the choice of officers.

The chair, with the help of the vice-chair, will be responsible for organizing meetings of the AMEF, including setting the agenda, inviting presentations, and any follow-up. The chair may request assistance from member agencies as appropriate.

Meeting and procedures

Meetings of the Alaska Marine Ecosystem Forum should minimally take place once a year, and may be held more frequently at the discretion of the officers. The meetings will follow a pre-determined agenda, and will be led by the chair. Robert's rules of order will not be enforced.

Meeting topics may include both agency reports and focused issues. Staff members of AMEF agencies and representatives of non-member entities may be invited to present to the Ecosystem Forum. Public comment will not be accepted at the meetings, except by invitation, or at the discretion, of the chair. From time to time, the AMEF may choose to hold public workshops to solicit comment on specific topics of interest to the AMEF.

To the extent that resources permit, the Alaska Marine Ecosystem Forum will maintain a webpage describing the mission of the Forum and information relevant to meetings. Should resources become available, the Alaska Marine Ecosystem Forum may develop the webpage into a tool for information-sharing both among agencies and with the public.

Expenditures

Each member will bear its own expenses associated with membership in the Forum. Nothing in this Charter will be construed as obligating any of the members to expend in any fiscal year any sum in excess of the monies appropriated by Congress, or the State of Alaska as the case may be, to the member's participation in the Forum.

Alaska Marine Ecosystem Forum Proposed Signatories

The following agree to the charter as described above, for the mutual benefit of the Federal and State agencies represented. This document will come into effect for each agency upon the signature of its representative. The signatories will review this document every two years, and amendments may be developed and implemented by mutual agreement at any time. Participation by any signatory agency may be terminated upon 30 days notice to the chair.

Federal

Regional Administrator,
National Marine Fisheries Service, Alaska
Region

Regional Director,
U.S. Fish and Wildlife Service, Region 7

Regional Director,
Minerals Management Service, Alaska
Outer Continental Shelf Region

Regional Director,
National Park Service

State Director,
Bureau of Land Management

Regional Administrator,
Environmental Protection Agency, Region
10

Regional Forester,
U.S. Forest Service

District Commander,
17th Coast Guard District

Commander,
Alaskan Command

District Engineer,
U.S. Army Corps of Engineers, Alaska
District

State

Commissioner,
Department of Fish and Game

Commissioner,
Department of Environmental Conservation

Commissioner,
Department of Natural Resources

Commissioner,
Department of Commerce, Community and
Economic Development

ADDENDUM 1

Focus: Aleutian Islands Marine Ecosystem Area

The Aleutian Islands marine ecosystem area encompasses the Alaskan waters surrounding the Aleutian archipelago from Unimak Island to Attu. The Aleutian Islands provide a unique permanent and migratory habitat for many species of seabirds, marine mammals, pelagic and demersal fish species, and are thought to harbor the highest abundance and diversity of cold water corals in the world; the Aleutian Islands also have a rich cultural heritage. The region is poised to change as military, shipping, fishery, and community development activities proceed in the coming decade. The unique features of the Aleutian Islands marine ecosystem make it an appropriate candidate for further coordination among the Federal and State agencies that manage and regulate the activities that take place there. The Alaska Marine Ecosystem Forum (AMEF) will support Federal and State collaboration in the Aleutian Islands marine ecosystem.

The statements of purpose set out in the AMEF Charter document will guide the activities of the Forum with relation to its Aleutian Islands marine ecosystem area focus. In addition, the Forum has identified the following issues that may be topics of importance for the Forum. Although the following list provides a guideline of topics that may be addressed by the Forum, it is not intended to preclude any member, with the concurrence of the chair and vice-chair, from introducing new topics to the Forum's agenda.

Improved Understanding of Each Entity's Responsibilities

Each participating agency should provide a brief presentation to the AMEF to highlight its primary responsibilities and objectives, its activities affecting the Aleutian Islands, and any major issues in which it is currently involved that may influence the Aleutian Islands marine ecosystem. The presentations would increase awareness of common interests or conflicting goals, and may highlight topics that warrant enhanced collaboration among the participating agencies.

Hazardous Material Spills

Several agencies have been involved in the response to the *Selendang Ayu* spill, and a number of agencies and interest groups have discussed options for reducing the risk of future spills of hazardous materials in the Aleutian Islands. The AMEF may be a very useful forum for identifying appropriate actions under the jurisdiction of the participating agencies. The AMEF could discuss the measures that are in place to minimize such risks, current initiatives by the participating agencies (or other groups) to develop additional measures, and any actions that might be taken by the participating agencies to promote the implementation of effective measures.

User Conflicts

The Aleutian Islands ecosystem supports a wide variety of human uses: fisheries, shipping, national defense, tourism, etc. Are present uses of the Aleutian Islands ecosystem in conflict, either in discrete areas or throughout the Aleutian Islands? The AMEF could identify existing or potential user conflicts and share information about opportunities to minimize such conflicts.

International Resource Management

The Aleutian Islands ecosystem borders international waters and the Russian Exclusive Economic Zone. The AMEF could evaluate whether any activities outside of U.S. jurisdiction may adversely affect the Aleutian Islands ecosystem, and if so could bring pertinent issues to the attention of the U.S. Department of State for possible bilateral or multilateral discussions, as appropriate.

Great Circle shipping route

Trans-Pacific ships travel along the shortest route between Asia and North America, commonly referred to as the Great Circle Route. Vessels passing through the Aleutian Island chain increase the odds that wrecks, oil spills, or loss of human life will occur. This inherent risk requires assessment and action by the EPA, US Coast Guard, and the State of Alaska. Precautions should be taken to reduce the possibility of ecological damage in the Aleutian Islands, and may include actions that require the participation of the International Maritime Organization and other Pacific nations. A vessel tracking system, including tracking of fishing vessels, may be part of the solution to minimize environmental risk.

Marine mammals

Critical habitat for Steller Sea Lions (under the purview of NMFS and ADF&G) in the Aleutian Islands is primarily located in state waters (0-3 nm from shore). These areas are closed to commercial fisheries, and re-opening to fishing may trigger an ESA Section 7 consultation and closure of other commercial fishing areas as a form of mitigation. Sea otters (under the purview of USFWS and ADF&G) in the Aleutians were recently listed as threatened under ESA, but cause of decline is currently unknown. North Pacific Right Whale critical habitat is undergoing designation and may interact with shipping routes.

Human and fishery health risk around Amchitka Island

Amchitka Island was the site of three underground nuclear tests between 1965 and 1971. Radionuclides will leak from the island, but the timeframe for leakage is unknown. Radionuclides could contaminate a wide range of species, and could impact subsistence and commercial fisheries in the surrounding area. Consistent, long-term monitoring is needed to detect leakage. A plan to deal with the repercussions of eventual leakage could be developed.

Living and Non-living Resource Mapping, Information Collection, Environmental Quality Monitoring, and Research

A number of state and federal agencies are responsible for managing the use of the natural resources of the Aleutian Islands, and enforcing standards for the Aleutian Islands air, land and water quality. Accurate and reliable resource information is needed to support agency resource management and pollution control missions. Funds to collect and analyze resource information is limited and will never be sufficient to acquire the data and apply the science needed to predict the outcomes of agency decisions with complete certainty. Resource data collection, monitoring and research needs to be targeted, cost-effective, and directed toward specific goals, objectives and management priorities. As a practical matter, the risk to Aleutian Islands ecosystem from past, present, and future uses must be taken into account when allocating limited funds to environmental monitoring, scientific investigation, and applied research.

Regional Haze Plan

Regional haze refers to haze that impairs visibility in all directions over a large area. The distance that one can see is limited because of tiny particles in the air absorbing and scattering sunlight, which in turn degrades color, contrast, and clarity of the view. On July 1, 1999 the Environmental Protection Agency announced a rule designed to protect and improve visibility in 156 national parks and wilderness areas throughout the country. The Regional Haze Rule only affects Class I national parks and wilderness areas. Alaska has only four Class I areas subject to the rule, they are:

- Denali National Park and Preserve
- Tuxedni Wilderness Area
- Simeonof Wilderness Area
- Bering Sea Wilderness Area

Simeonof Wilderness Area in the Aleutian Islands ecosystem. States must develop long-term plans for reducing pollutant emissions that contribute to visibility degradation and within the plans establish goals aimed at improving visibility in Class I areas. Haze caused by all sources of pollutants that impair visibility including haze caused from smoke, vehicles, electric utility and industrial fuel burning, and other activities that generate pollution must be addressed. DEC is developing a State Implementation Plan (SIP) to deal with the haze in Class 1 areas. See:

<http://www.dec.state.ak.us/air/anpms/as/rh/rhhome.htm>

Avian Flu and Influenza Pandemics

Influenza pandemics occur when there is a major change in the structure of a strain of influenza virus such that most (or all) of the world's population is susceptible to infection. Of the three influenza pandemics in the 20th century, two (1957 and 1968) occurred as a result of major changes in the genetic composition of the virus through the recombination of genetic elements from avian and human influenza strains, and one (1918) occurred as a result of adaptive mutations that allowed the virus to be efficiently transmitted first from birds to humans and then from person-to-person. At some point in the future, the world will be faced with another pandemic caused by a strain of influenza virus that spreads rapidly and causes extraordinarily high rates of illness and death—higher, in fact, than virtually any other natural health threat.

Bird migration is one of the possible routes of introduction of avian flu into North America, and an estimated six million birds representing 42 species arrive in Alaska annually. The State of Alaska has prepared a strategy to prepare for and respond to an influenza pandemic, which addresses five key pandemic preparedness and response elements.

Special Status for the Aleutian Islands Ecosystem

The NPFMC is currently moving forward with an initiative to establish special status for the Aleutian Islands ecosystem relative to its fishery management jurisdiction. The AMEF could explore how Federal or State agencies might support shared objectives for management and sustainability of the Aleutian Islands ecosystem.