2015 Alaska Fish and Wildlife Fund Grants

THE ARCTIC

The following projects seek to mitigate direct threats to species populations, filling key knowledge gaps, and building capacity that will allow people and species to adapt to a changing environment. Focal species include bearded seals, ringed seals, bowhead whale, polar bear, walrus, caribou, McKay's Bunting, Steller's and Spectacled Eiders, seabirds and Arctic breeding shorebirds.

1) **Development of an Arctic Waterways Safety Plan: Establishing Standards of Care for all Marine Traffic in the Arctic through Multi-stakeholder Engagement**
Wildlife Conservation Society
Award: $68,359.91
Matching Funds: $72,668.00
Total Project: $141,027.91

The Wildlife Conservation Society will produce a planning document that will ensure the implementation of the best Standards of Care for maritime activities in the United States Arctic. These Standards of Care will protect marine mammals (including bearded and ringed seals, bowhead whales, polar bears, and walrus) and indigenous subsistence hunters from the impacts of vessels transiting Alaska's Arctic waters.

2) **Optimizing a Technique for Detecting and Monitoring Polar Bear Dens in the Arctic Using Unmanned Aircraft Systems**
University of Alaska Fairbanks
Award: $129,119.00
Matching Funds: $25,000.00
Total Project: $154,118.00

The University of Alaska - Fairbanks will work to minimize negative human-polar bear interactions on the North Slope of Alaska by using reliable and effective methods for detecting and monitoring polar bears during the denning season, especially in areas near human activity (e.g., coastal communities, oil and gas fields). The applicant proposes a proof-of-concept study that uses an unmanned aircraft system (UAS) equipped with an infrared camera to: 1) estimate statistical relationships among environmental conditions and den detection probability, and 2) explore the utility of monitoring of bears with UAS.

3) **Occurrence and Range of Right Whales in the Bering Sea**
NOAA Fisheries, Alaska Fisheries Science Center
Award: $125,216.00
Matching Funds: $100,000.00
Total Project: $135,216.00

NOAA will analyze extensive existing acoustic data to assess the range of right whales in the Bering Sea (including whether they are common in the north near the Bering Strait), and the extent to which they use Aleutians passes. There is an urgent need to better understand the existing range and habitat use of the critically endangered population of right whales in the Bering Sea. Acoustic monitoring has suggested that right whales occur in the Bering in most months of the year, and historical records indicate they were found throughout this area as well as in the Aleutian Islands. Both of these issues relate to overlap with shipping and fishing gear and thus potential risk. The work will also improve knowledge of the occurrence of bowhead whales in the region.

4) **Point Lay Walrus Haulout Monitoring, Public Education, and Outreach Initiative**
U.S. Fish and Wildlife Service - Region 7
Award: $141,406.00
Matching Funds: $14,172.00
Total Project: $155,578.00

The U.S. Fish and Wildlife Service will assist the Native Village of Point Lay (NVPL) to continue their role as stewards of the nearby Pacific walrus haulout. The project will fund haulout management and monitoring efforts, and carcass surveys. The FWS will also plan and conduct a public outreach and education campaign, and work with the NVPL to develop a joint media strategy.

5) Anadromous Cataloging and Fish Inventory in Select Arctic Ocean Drainages
Alaska Department of Fish and Game
Award: $99,770.00
Matching Funds: $100,000.00
Total Project: $199,770.00

The Alaska Department of Fish and Game will conduct a rapid, systematic inventory of anadromous and resident fish distribution and associated aquatic and riparian habitat in select Arctic Ocean drainages within the National Petroleum Reserve – Alaska (NPR-A). Using established protocols, target streams will be selected to fill gaps in coverage of the State of Alaska's Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes (AWC) in freshwater habitats expected to support anadromous fish populations likely to be impacted by human activities.

6) Estimating Vital Rates of Red Knots
U.S. Fish and Wildlife Service - Division of Migratory Birds
Award: $49,352.00
Matching Funds: $97,193.00
Total Project: $146,545.00

The U.S. Fish and Wildlife Service will conduct the first year of a 3-year study to estimate vital rates of roselaari Red Knots. A multi-year project is necessary to meet minimum Mark-Recapture requirements and account for inter-annual variation in weather conditions at breeding areas. Specifically, the FWS will determine how age, weather, and habitat affect chick survival. The project work will also link seasonal and adult survival rates in relation to avian influenza infection. Accurate estimates of vital rates such as adult and chick survival are essential for understanding factors limiting roselaari populations. Observations of substantial brood reduction following adverse weather conditions suggest that low annual productivity may be a major factor limiting populations. Furthermore, low adult body mass at a spring staging area and confirmed high prevalence of avian influenza infection in adults at breeding areas in Alaska may indicate compromised survival.

7) Steller's and Spectacled Eider Recovery
US Fish and Wildlife Service
Award: $100,000.00
Matching Funds: $150,000.00
Total Project: $250,000.00

The U.S. Fish and Wildlife Service will recover Steller's and spectacled eiders through management, monitoring, and outreach. Arctic fox control will be used to increase reproductive success for Steller's eiders. The FWS will begin a new study to develop and test the effectiveness of non-lethal methods to reduce avian predation on Steller's eider nests.

8) Contemporary Iñupiaq Knowledge of Polar Bears in the Southern Beaufort Sea
Polar Bears International
Award: $84,235.83
Matching Funds: $23,396.44
Total Project: $107,632.27

Polar Bears International will lead a collaborative effort between social scientists, polar bear biologists, and tribal communities. The southern Beaufort Sea subpopulation of polar bears in Alaska has experienced some of the most significant declines in summer sea ice of any populations in the circumpolar Arctic. Effective mitigation of habitat loss and its secondary effects will depend on comprehensive monitoring, incorporating both conventional scientific studies and documentation of local or traditional ecological knowledge. Project work will fill critical knowledge gaps about polar bears in the context of rapid climate change, and build on recent successful documentation of Alaska Native observations of polar bears for the Chukchi and Bering Seas.

9) Genetics Based Mark-Recapture for Pacific Walruses
U.S. Fish and Wildlife Service
Award: $150,000.00

Matching Funds: $700,000.00
Total Project: $850,000.00

The U.S. Fish and Wildlife Service will continue work on a long-term genetics based recapture project initiated in 2011. This phase of the project will involve biopsy sampling of Pacific walruses hauled out on sea ice during the spring migration in both U.S. and Russian waters. In addition, FWS will continue to financially support the participation of up to three local subsistence hunters per year to participate in the field research effort and provide real world experience on approaching and sampling walruses, reading sea ice conditions, and providing a general understanding of walrus behavior. These hunters will also help to facilitate improved communication and collaboration between managers and local villages.

THE YUKON-KUSKOKWIM REGION

The following projects seek to conserve the salmon, waterfowl, and shorebirds sustaining the rich and diverse ecological landscape and the people who in the Yukon-Kuskokwim (Y-K) focal geography. Focal species for this geography are Chinook salmon, Steller's eider, and breeding shorebirds. NFWF seeks to support communities on the Y-K to find solutions that mitigate threats to resources and improve capacity for sustainable fish and wildlife management.

10) Yukon River Education and Outreach to Incorporate Alaska Natives into Conservation Oriented Fisheries Management
Yukon River Drainage Fisheries Association
Award: $176,968.35
Matching Funds: $157,000.00
Total Project: $333,968.35

The Yukon River Drainage Fisheries Association (YRDFA) will continue pre-existing education and outreach programs that YRDFA has utilized in the past while at the same time developing new efforts and approaches to strengthen and build upon. In year one, YRDFA will create educational workshops, produce educational materials, research and organize information regarding conservation practices and integration of Alaska Native people into western management systems. In year two, YRDFA will continue these efforts in addition to the coordination of a river wide meeting in an urban hub. YRDFA will conduct activities that support the program outcomes and support communities in their abilities to use educational materials to participate in fisheries management discussions and decision-making. Educational materials will be shared via social media and through the development of traditional print materials such as posters, post-cards, and brochures for maximum community support.

11) Yukon Delta National Wildlife Refuge Shorebird Distribution and Abundance - Year 2
Manomet, Inc.
Award: $95,394.70
Matching Funds: $95,395.00
Total Project: $190,789.70

Manomet, Inc. proposes to complete the surveys designed under the Program for Regional and International Shorebird Monitoring in the Yukon Delta National Wildlife Refuge, a critical shorebird nesting area.

12) Shorebirds in Alaska Native Cultures: Subsistence Harvest Estimates and Local and Traditional Knowledge
Alaska Department of Fish and Game
Award: $69,575.02
Matching Funds: $56,065.00
Total Project: $125,640.02

The Alaska Department of Fish and Game proposes to (1) compile and summarize available Alaska shorebird harvest data; (2) gather shorebird local and traditional knowledge (LTK); and (3) conduct outreach activities promoting communication and collaboration among stakeholders. Data analysis will summarize harvest data for all shorebird species, better account for local species identification systems (ethnotaxonomy), and identify considerations necessary for data interpretation. Harvest estimates will be produced for each of Alaska's regions and for the whole state (currently unavailable). Based on community and individual consent, key respondent interviews will be conducted in five communities in the Yukon-Kuskokwim Delta region to document shorebird LTK, and provide better understanding of shorebirds as cultural and subsistence resources. Written outreach materials and oral presentations will be produced and largely distributed in subsistence communities to increase awareness of shorebird conservation issues.

COOK INLET

The following projects seek to develop an estuary-wide approach to conservation planning for the Inlet and its watershed. NFWF seeks to conduct studies to monitor eulachon populations, assess threats to shorebird staging and non-breeding habitat, document patterns relating beluga distribution to the distribution of their prey, facilitate acquisition of improved hydrologic information, and conduct surveys and assessment using tools such as NetMap to increase miles monitored for the Anadromous Fish Catalog.

13) Photo-identification of Beluga Whales in Upper Cook Inlet – VII (AK)

LGL Alaska Research Associates, Inc.
Award: $150,000.00
Matching Funds: $0*
Total Project: $150,000.00*

LGL Alaska Research Associates, Inc. will continue to use photo-identification to assess and monitor individual and population characteristics of endangered Cook Inlet Beluga Whales in order to better understand them and their lack of recovery. Project results will help managers learn more about Cook Inlet Beluga Whales use of critical habitat, survival, reproduction, incidence of disease and trauma, and frequency of exposure to human activities that may be impeding recovery.

*This request is a budget increase amendment to an existing project. The amount listed does not include the original project award or matching contributions.

14) Susitna Eulachon Biomass

Alaska Department of Fish and Game
Award: $129,742.93
Matching Funds: $129,742.93
Total Project: $259,485.86

The Alaska Department of Fish and Game will estimate the run timing, age, sex and size composition and biomass of eulachon (Thaleichthys pacificus) spawning in the Susitna River watershed during May and June. Due to their high densities and lipid content, eulachon are an important food source for endangered Cook Inlet (CI) beluga whales (Delphinapterus leucas) during spring when their energy reserves are low. An egg-larval production method will be used to estimate the biomass of eulachon spawning in the watershed. This method estimates biomass using (1) eulachon egg-larval densities in the lower Susitna River, (2) Susitna River discharge during the eulachon spawning period and (3) eulachon sex ratio, average size and fecundity. Eulachon egg-larval densities will be estimated from biweekly plankton-net samples collected along transects across two major channels in the lower Susitna River. Sex ratio, average size and fecundity will be estimated from eulachon samples collected in each channel.

SALMON CONSERVATION AND FISHERIES

Commercial fishing and subsistence lifestyle are deeply engrained in Alaskan culture and economy. Recognizing the importance of salmon and fishing for Alaska, and the increasing global demand for Alaskan salmon and other seafood, the AK F&W fund includes a priority strategy to support the sustainable salmon projects beyond the three priority geographies described above.

15) Statewide Coordination of National Fish Habitat Partnerships in Alaska

Alaska Department of Fish and Game
Award: $125,000.00
Matching Funds: $5,000.00
Total Project: $130,000.00

The Alaska Department of Fish and Game (ADFG) will address fish habitat protection, restoration and enhancement needs throughout Alaska, including in the NFWF focal geographies, extending beyond the capacity of any one local, state and federal agency or land owner. While ADFG has been primarily engaged in conservation of fish habitat through NFHP and Alaska FHPs it has also been active with efforts to collaboratively advance the Alaska NFWF priorities. Any effort to protect and restore Pacific salmon, whether focused local or regionally, need the support, field expertise and scientific capacity that ADFG provides. In order to continue the long standing relationships with FHPs in Alaska, ADFG is requesting funds to sustain its existing statewide NFHP coordination capacity by funding a ½ time coordinator for 2 years. The objective of this funding is to support Alaska FHPs and continue efforts that and build consensus around shared conservation actions of NFHP and the NFWF Alaska Fund priority areas, e.g., anadromous fish conservation.

16) Fish Habitat Conservation through the Southeast Alaska Fish Habitat Partnership
Trout Unlimited, Inc.
Award: $58,220.00
Matching Funds: $58,220.00
Total Project: $116,440.00

Trout Unlimited, Inc. proposes to work with The Southeast Alaska Fish Habitat Partnership (SEAKFHP), which is uniquely positioned in the diverse, geographically segregated archipelago of Southeast Alaska to facilitate interagency fish habitat conservation activities. Under this request, SEAKFHP proposes specific coordination activities the partnership can perform to support fish habitat conservation efforts in Southeast Alaska: these include 1) SEAKFHP Coordination; 2) SEAKFHP Regional Project Inventory; 3) Conservation Strategies for Nearshore Areas and Estuaries in Southeast Alaska; and 4) SEAKFHP Partner Technical Support.

17) Shelikof Creek Stream Restoration Project
The Nature Conservancy – Alaska
Award: $41,780.00
Matching Funds: $41,780.00
Total Project: $83,560.00

The Nature Conservancy of Alaska proposes to improve instream spawning and rearing habitat for juvenile coho salmon, as well as other non-anadromous fish in Shelikof Creek. Salmon habitat in Shelikof Creek is currently in poor condition due to management activities in the 1960's that included harvesting riparian trees, constructing roads adjacent to the stream, and removing habitat-forming logs from the stream. Much of its complex pool and riffle habitat necessary for salmon production has disappeared and riparian trees adjacent to the stream were harvested leaving few large trees to form habitat necessary for coho survival and growth throughout the year. This project will replace many of the logjams that form productive habitats using nearby trees to improve coho and steelhead trout abundance for recreational and commercial fishing opportunities, and their resilience to stream and watershed disturbances, including climate change.

18) Enhancing Fish Passage and Implementing Snow Melt Filtration to Benefit Salmon and Migrating Shorebird Habitat on Alaska's Copper River Delta
Copper River Watershed Project
Award: $359,674.04
Matching Funds: $117,480.00
Total Project: $477,154.04

The Copper River Watershed Project will restore connectivity to 1.5 kilometers of upland stream channels, replacing a culvert at mile 17 of the Copper River Highway with a stream simulation culvert, in order to ensure access to spawning and over-winter rearing habitat for coho salmon that support commercial and subsistence drift gillnet fisheries and sport fishing. Project work will demonstrate that application of best management practices to managing snow in a developed community will improve the water quality of snowmelt discharges that flow directly into the inter-tidal zone of Orca Inlet, which serves as forage habitat for migrating shorebirds and salmon. Snow storage site improvements will include re-grading the site to direct drainage to a sediment trap, construction of the sediment trap, and re-vegetating the adjacent hillside to add capacity for vegetative filtration of melting snow.

19) Comparative Performance in Migration and Reproduction among Wild and Hatchery Pink Salmon in Prince William Sound
Prince William Sound Science Center
Award: $95,912.02
Matching Funds: $265,000.00
Total Project: $360,812.02

The Prince William Sound Science Center will use stable carbon and nitrogen isotope analyses to examine associations between at-sea foraging and performance variation in migration and reproduction between wild and hatchery Pink Salmon in PWS. The project goal is to produce research that directly addresses knowledge gaps in Alaskan sustainable marine fisheries that will benefit salmon conservation and the commercial salmon industry. Given the extensive current field campaign that includes both ocean and stream sampling of returning adult fish, a unique opportunity exists to expand research questions that examine whether or not hatchery- or wild-origin is an important predictor of variation in other fitness correlates not currently considered.