

**EVOSTC FY17-FY21 INVITATION FOR PROPOSALS
FY18 PROPOSAL SUMMARY PAGE**

Proposals requesting FY18 funding are due to shihway.wang@alaska.gov and elise.hsieh@alaska.gov by August 23, 2017. Please note that the information in your proposal and budget form will be used for funding review. Late proposals, revisions or corrections may not be accepted.

Project Number and Title

Project Number: 18100853

Title: Pigeon Guillemot Restoration Research in Prince William Sound, Alaska

Primary Investigator(s) and Affiliation(s)

Robb Kaler, U.S. Fish and Wildlife Service

Dr. David B. Irons, Retired U.S. Fish and Wildlife Service

Dr. Daniel D. Roby, U.S. Geological Survey – Oregon Cooperative Research Unit

Date Proposal Submitted

October 05, 2017

Program Abstract

This project is providing an opportunity to restore the population of Pigeon Guillemots (*Cepphus columba*) in Prince William Sound, Alaska, which had fallen by more than 90% at the Naked Island Group since 1989. A restoration plan for Pigeon Guillemots in PWS was prepared to address the species' lack of population recovery following injury by the 1989 *Exxon Valdez* oil spill. Predation on nests and adults by mink is now the primary limiting factor for guillemot reproductive success and population recovery at the most important historical nesting site for guillemots in PWS (i.e., the Naked Island group). Mink on the Naked Island group are descended in part from fur farm stock and arrived on the island group during the 1980s. The goal of the project is to remove all mink from the Pigeon Guillemot nesting areas and allow for recovery to occur. **FY18 is the 5th year of the 5-year project.** We trapped for the first time in the winter and spring of 2014, at which time 76 mink were killed. During the 2015 trapping season 23 mink were killed in localized areas. During the 2016 trapping season seven mink were killed. Five were trapped on Peak Island and two were trapped on Naked Island, no mink were trapped on Storey Island. During the 2017 field season we caught no mink, but we had snow for the first time in 4 years and we saw mink tracks. While we believe few mink remain in the pigeon guillemot nesting areas, we will trap again in 2018. Counts of pigeon guillemots at Peak, Naked and Story Islands has more than doubled since 2014; 69 birds in 2014, 95 birds in 2015, 151 birds in 2016 and 169 in 2017! Numbers of pigeon guillemots counted at control islands did not have an increase. We did not expect to see this large of increase in birds this quickly. We surveyed for breeding guillemots and found the number of nests had more than quadrupled since 2014; 11 nests in 2014, 30 nests in 2015, 39 nests in 2016 and 52 in 2017. Colonies are starting to form with up to 10 nests in one area. Productivity during the chick stage was high, around 80%, indicating that the adults could find enough food for their chicks.

**The abstract should provide a brief overview of the overall goals and hypotheses of the Program and provide sufficient information for a summary review as this is the text that will be used in the public work plan and may be relied upon by the PAC and other parties.*

EVOSTC Funding Requested* (must include 9% GA)					
FY14	FY15	FY16	FY17	FY18	TOTAL
\$396,655.8	\$391,205.8	\$154,014.5	\$139,967.7	\$159,813.5	\$1,241,657.30
USDA-FS Permitting Costs			\$9,810.0	\$13,623.9	

Non-EVOSTC Funds to be used, please include source and amount per source: First line is from National Fish and Wildlife Foundation Grant, second line is USFWS in kind support.					
FY14	FY15	FY16	FY17	FY18	TOTAL
\$218,280.0	\$198,280.0	\$204,580.0	\$215,580.0	\$214,580.0	\$1,051,300.0
\$173,000.0	\$173,000.0	\$113,000.0	\$98,000.0	\$98,000.0	\$655,000.0

*If the amount requested here does not match the amount on the budget form, the request on the budget form will be considered to be correct.

1. EXECUTIVE SUMMARY
Please provide a summary of the Program’s overall goals as submitted in your original proposal. If there are highlights that you would like to include from the Program’s FY17 work, please include them here.

Please provide a summary of the project including key hypotheses and overall goals, as submitted in your original proposal. If there are additional highlights that you would like to include since you submitted your annual report, please include them here. Also, please list any publications that have been submitted and/or accepted since you submitted your annual report. :

This project is providing an opportunity to restore the population of Pigeon Guillemots (*Cephus columba*) in Prince William Sound, Alaska, which had fallen by more than 90% at the Naked Island Group since 1989. A restoration plan for Pigeon Guillemots in PWS was prepared to address the species’ lack of population recovery following injury by the 1989 *Exxon Valdez* oil spill. Predation on nests and adults by mink is now the primary limiting factor for guillemot reproductive success and population recovery at the most important historical nesting site for guillemots in PWS (i.e., the Naked Island group). Mink on the Naked Island group are descended in part from fur farm stock and arrived on the island group during the 1980s. The goal of the project is to remove all mink from the Pigeon Guillemot nesting areas and allow for recovery to occur. **FY18 is the 5th year of the 5-year project.** We trapped for the first time in the winter and spring of 2014, at which time 76 mink were killed. During the 2015 trapping season 23 mink were killed in localized areas. During the 2016 trapping season seven mink were killed. Five were trapped on Peak Island and two were trapped on Naked Island, no mink were trapped on Storey Island. During the 2017 field season we caught no mink, but we had snow for the first time in 4 years and we saw mink tracks. While we believe few mink remain in the pigeon guillemot nesting areas, we will trap again in 2018. Counts of pigeon guillemots at Peak, Naked and Storey Islands has more than doubled since 2014; 69 birds in 2014, 95 birds in 2015, 151 birds in 2016 and 169 in 2017! Numbers of pigeon guillemots counted at control islands did not have an increase. We did not expect to see this large of increase in birds this quickly. We surveyed for breeding guillemots and found the number of nests had more than quadrupled since 2014; 11 nests in 2014, 30 nests in 2015, 39 nests in 2016 and 52 in 2017. Colonies are starting to form with up to 10 nests in one area. Productivity during the chick stage was high, around 80%, indicating that the adults could find enough food for their chicks.

The population response of guillemots to mink eradication in the guillemot nesting areas at the Naked Island group is measurable through the comparison of historical and recent guillemot population surveys completed at the Naked Island group and the Smith Island group (mink-free islands) using a Before–After–Control–Impact design. Although a precise prediction of the guillemot population response to mink eradication is not possible, the time expected to population recovery can be estimated. If the expected increase in guillemot productivity from mink eradication is realized and model assumptions are correct, guillemot population at the Naked Island group will double within 5-10 years following mink.

The National Fish and Wildlife Foundation provided \$1,051,300 in support of this project to restore Pigeon Guillemots.

Change from original proposal: The plan was to eradicate all mink from islands but ADF&G granted approval for trapping along only 70% of the shoreline where Pigeon Guillemots nested or currently nest, which will hopefully keep mink out of those areas for a long time.

2. COORDINATION AND COLLABORATION

A. With the Herring and Long-Term Monitoring Program

Provide a list and clearly describe the functional and operational relationships with the Programs. This includes any coordination that has taken or will take place and what form the coordination will take. Describe how the proposed program will communicate and collaborate with the Programs to ensure compliance with data and reporting policies.

B. With Trustee or Management Agencies

Please discuss if there are any areas which may support EVOSTC trust or other agency work or which have received EVOSTC trust or other agency feedback or direction, including the contact name of the agency staff. Please include specific information as to how the subject area may assist EVOSTC trust or other agency work. If the Program requires or includes collaboration with other agencies, organizations or scientists to accomplish the work, such arrangements should be fully explained and the names of agency or organization representatives involved in the project should be provided. If your proposal is in conflict with another project, note this and explain why.

A. The Gulf Watch, Continuing the Legacy: Prince William Sound Marine Bird Population Trends project produces a sound-wide estimate for Pigeon Guillemots, which will be used to monitor the population recovery at the sound-wide scale. We may be able to share a summer campsite next year.

B. Implementation of this plan requires coordination with agencies with authority and responsibility of the Naked Island group, American mink, and Pigeon Guillemots (See below). Monitoring of Pigeon Guillemots is being conducted by the U.S. Fish and Wildlife Service. Permits for eradication of mink at the Naked Island group are being obtained from both the Alaska Department of Fish and Game and the U.S. Department of Agriculture – Forest Service. Mink removal is being conducted by the U.S. Department of Agriculture – Wildlife Services or other contractor.

Authority and Responsibility
U. S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service mission is “to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.” Along with other Federal, State, Tribal, local, and private entities, the Service protects migratory birds, endangered species, certain fish species, and wildlife habitat. The Service is the primary agency responsible for the conservation of the Pigeon Guillemot and its habitat as authorized by the Migratory Bird Treaty Act. The US Fish and Wildlife Service is responsible for seabirds in Alaska. They have a monitoring program to assess the status and trends of seabirds. They have also spent more than 30 years eradicating introduced predators from seabird islands in the Aleutians and other places. Much of their work has taken place on lands they manage and little USFWS money has gone to PWS, although they have supported the EVOSTC work in PWS since the oil spill. The contact person is Robb Kaler, a PI on this project.

Alaska Department of Fish and Game

The mission of the Alaska Department of Fish and Game is to “protect, maintain, and improve the fish, game, and aquatic plant resources of the state, and manage their use and development in the best interest of the economy and the well-being of the people of the state, consistent with the sustained yield principle.” The Department is responsible for maintaining a harvestable surplus of fish and wildlife species, including furbearers and marine forage fish.

U.S. Department of Agriculture Forest Service

The mission of the Forest Service is “to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” The Forest Service is responsible for the management of the 5.4 million acre Chugach National Forest that includes nearly all of the Naked Island group, along with most of the rest of the land area of Prince William Sound.

3. PROGRAM TECHNICAL DESIGN – PLAN FOR FY18

A. Objectives for FY18

Identify the primary Program objectives for FY18 as submitted in your original proposal.

B. Changes to Project Design

If the Program design has changed from your original proposal, please identify any substantive changes and the reason for the changes. Include any information on problems encountered, if any. This may include logistic or technical challenges, budget problems, personnel issues, etc. Please also include information as to how any problem has been or will be resolved. This may also include new insights that develop and prompt adjustment to the overall Program.

A. Objectives for FY18

Identify the primary objectives for your project for FY18 as submitted in your original proposal.

Objective 1. Remove mink from pigeon guillemot nesting areas on Naked, Storey and Peak Islands.

Objective 2. Monitor the guillemot population response to mink removal the Naked Island group.

B. Changes to Project Design

Specify when critical program tasks will be completed. Reviewers will use this information in conjunction with annual program reports to assess whether the program is meeting its objectives and is suitable for continued funding.

B. Measurable Project Tasks for FY18

Specify, by each quarter of each fiscal year (February 1 – January 31), when critical program tasks will be completed.

FY 18, 1st quarter (February 1, 2018 - April 31)

There was no snow on Naked Island the last three winters, which made it impossible to do a survey of mink tracks in the snow. Track surveys help us identify where the remaining mink are. Without snow we put out more trail cameras to identify locations with mink. This past winter we finally had snow and identified at least one mink that we did not catch. Without snow for three years it has made the trapping of the mink slower than expected. Also, we have been restricted to trapping only 70% of the shoreline, which has also slowed meeting our objective of mink in the pigeon guillemot nesting areas. The field season and trapping effort was originally proposed to be reduced by 50% compared to FY16. However, given that this is the last year of this 5-year project and we want to ensure that there are no mink in the pigeon guillemot nesting areas, we propose a full trapping season for FY18 and increased the budget to reflect this.

4. SCHEDULE

A. Program Milestones for FY18

, 2018)

February to April: *Trap mink*
March: *Annual report*

FY 18, 2nd quarter (May 1, 2018-July 30, 2018)

May: *Trap mink*
May-June: *Pigeon Guillemot Survey*
July: *Nest search. productivity*

FY 18, 3rd quarter (August 1, 2018 – October 31, 2018)

August-October: *Analyze data*

FY 18, 4th quarter (November 1, 2018- January 31, 2018)

January: *Attend AMSS*
Nov-Jan: *Analyze Data and begin writing report*

5. PROJECT PERSONNEL – CHANGES AND UPDATES

If there are any staffing changes to the Team Leads or any other senior personnel please provide CV's for any new personnel and describe their role in the Program.

No Change from last year

6. Budget

A. Budget Forms (Attached)

Provide completed budget forms.

B. Changes from Original Proposal

If your FY18 funding request differs from your original proposal, provide a detailed list of the changes and discuss the reason for each change.

C. Sources of Additional Funding

Identify non-EVOSTC funds or in-kind contributions used as cost-share for the work in this Program. List the amount of funds, the source of funds, and the purpose for which the funds will be used. Do not include funds that are not directly and specifically related to the work being proposed in this proposal.

A. See Attached Budget Forms

B. The requested amount for USFWS is increased \$19,846 from last year for USFWS. There was no snow on Naked Island the past three winters, which made it impossible to do a survey of mink tracks in the snow. Track surveys help us identify where the remaining mink are. Without snow we put out more trail cameras to identify locations with mink. This past winter we finally had snow and identified at least one mink that we did not catch. Without snow for three years it has made the trapping of the mink slower than expected. We have also been restricted to trapping only 70% of the shoreline, which has also slowed meeting our objective of removing mink in the pigeon guillemot nesting areas. We have increased the budget to include more resources for trapping in 2018 than originally planned. Also, at the request of the USDA-FS we added \$13,623.9 to cover the cost of them writing a permit for us to camp on Naked Island.

C.

National Fish and Wildlife Foundation	\$215,580 for conducting fieldwork (salary, gas, equipment)
USFWS in kind contributions	\$98,000 for salary, boats and equipment