

FY16 PROJECT PROPOSAL SUMMARY PAGE

Continuing, Multi-Year Projects

Proposals are due to the EVOSTC office by September 1, 2015. 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 Title: Pigeon Guillemot Restoration Research in Prince William Sound, Alaska

Project Period: February 1, 2016 – January 31, 2017

Primary Investigator(s): Dr. David B. Irons, Retired U.S. Fish and Wildlife Service, and Dr. Daniel D. Roby, U.S. Geological Survey – Oregon Cooperative Research Unit

Study Location: Naked, Storey and Peak islands in Prince William Sound, Ak

Project Website (if applicable): None at this time.

Abstract*: This project provides an opportunity to restore the population of Pigeon Guillemots (*Cepphus columba*) in Prince William Sound, Alaska, which has 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. We trapped for the first time in the winter and spring of 2014. Seventy-six mink were killed. During the 2015 trapping season 23 mink were killed in localized areas. The last three weeks only three females were trapped, none were pregnant although it was breeding season. That is an indication that there are so few mink left in the nesting areas that was difficult to find a mate. We expect it will take 3 trapping seasons to remove all mink from the nesting areas. After that will be conduct monitoring trapping to ensure the mink are gone from the nesting areas. This summer we counted over 90 pigeon guillemots, up from 74 last year, control islands did not have a similar increase. We did not expect to see this large of increase in birds this year. The warm water in the Gulf of Alaska may have contributed as other species were moving from the Gulf to PWS. We surveyed active nests and found about 30 confirmed nests and about 20 suspected nests, last year we found 11. Colonies are starting to form again with up to 6 nests in one area. Productivity during the chick stage was high, around 80%, indicating that the adults could find enough food for their chicks. This winter and spring we will trap again.

**The abstract should provide a brief overview of the overall goals and hypotheses of the project 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.*

Estimated Budget:**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	\$124,707.7	\$1,206,551.4

Non-EVOSTC Funds to be used: First line is from National Fish and Wildlife Fndn 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.*

Date: 27 August 2015

Reviewers will have available your annual report, original proposal, and this proposal during their review. However, to assist reviewers, please highlight or otherwise distinguish any new or additional information that was not included in your original proposal.

I. EXECUTIVE SUMMARY

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 provides an opportunity to restore the population of Pigeon Guillemots (*Cephus columba*) in Prince William Sound, Alaska, which has 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. We trapped for the first time in the winter and spring of 2014. Seventy-six mink were killed. During the 2015 trapping season 23 mink were killed in localized areas. The last three weeks only three females were trapped, none were pregnant although it was breeding season. That is an indication that there are so few mink left in the nesting areas that was difficult to find a mate. We expect it will take 3 trapping seasons to remove all mink from the nesting areas. After that will be conduct monitoring trapping to ensure the mink are gone from the nesting areas. This summer we counted over 90 pigeon guillemots, up from 74 last year, control islands did not have a similar increase. We did not expect to see this large of increase in birds this year. The warm water in the Gulf of Alaska may have contributed as other species were moving from the Gulf to PWS. We surveyed active nests and found about 30 confirmed nests and about 20 suspected nests, last year we found 11. Colonies are starting to form again with up to 6 nests in one area. Productivity during the chick stage was high, around 80%, indicating that the adults could find enough food for their chicks. This winter and spring we will trap again.

The population response of guillemots to mink eradication 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 did not support that as a first step. Now the plan is to remove all mink from the 70% of the shoreline where Pigeon Guillemots nested or currently nest.

II. COORDINATION AND COLLABORATION

A. Within a EVOTC-Funded Program

Provide a list and clearly describe the functional and operational relationships with other EVOSTC-funded program projects. This includes any coordination that has taken or will take place and what form the coordination will take (shared field sites or researchers, research platforms, sample collection, data management, equipment purchases, etc.).

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 in the future.

B. With Other EVOSTC-funded Projects

Indicate how your proposed project relates to, complements or includes collaborative efforts with other proposed or existing projects funded by the EVOSTC that are not part of a EVOSTC-funded program.

We are not aware of any such projects.

C. 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 proposed project 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.

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.

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.

III. PROJECT DESIGN – PLAN FOR FY16

A. Objectives for FY16

Identify the primary objectives for your project for FY16 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

If the project design has changed from your original proposal, please identify any substantive changes and the reason for the changes. Include any information on problems encountered with the research or methods, if any. This may include logistic or weather 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 or hypotheses that develop and prompt adjustment to the project.

There was no snow on Naked Island last winter, which made it impossible to do a survey of mink tracks in the snow. There may be no snow this winter. Track surveys help us identify where the remaining mink are. Without snow we will put out more trail cameras to identify locations with mink.

IV. SCHEDULE

A. Project Milestones for FY 16

For each project objective listed (III.A), specify when critical project tasks will be completed, as submitted in your original proposal. Please identify any substantive changes and the reason for the changes. Please format your information as in the following example:

Objective 1. Remove mink from pigeon guillemot nesting areas on Naked, Storey and Peak Islands.
To be met by January 2019

Objective 2. Monitor the guillemot population response to mink removal the Naked Island group.
To be met by December 2019

B. Measurable Project Tasks for FY 16

Specify, by each quarter of each fiscal year, when critical project tasks (for example, sample collection, data analysis, manuscript submittal, etc.) will be completed, as submitted in your original proposal. Please identify any substantive changes and the reason for the changes. Please format your schedule as in the following example:

FY 16, 1st quarter (February 1, 2016 - April 31, 2016)

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

FY 16, 2nd quarter (May 1, 2016-July 30, 2016)

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

FY 16, 3rd quarter (August 1, 2016 – October 31, 2016)

August-October: *Analyze data*

FY 16, 4th quarter (November 1, 2016- January 31, 2016)

January: *Attend AMSS*
Nov-Jan: *prepare for field season*

V. PROJECT PERSONNEL – CHANGES AND UPDATES

If there are any staffing changes to Primary Investigators or other senior personnel please provide CV's for any new personnel and describe their role on the project.

No Change

VI. BUDGET

A. Budget Forms (Attached)

Provide completed budget forms.

B. Changes from Original Proposal

If your FY16 funding request differs from your original proposal, provide a detailed list of the changes and discuss the reason for each change.

The requested amount is the same, but we have reduced personnel and commodities cost and increased contractual costs because we decided to have a graduate student from Oregon State University conduct the summer restoration portion of the project.

C. Sources of Additional Funding

Identify non-EVOSTC funds or in-kind contributions used as cost-share for the work in this proposal. 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.

National Fish and Wildlife Foundation	\$198,280 for conducting fieldwork (salary, gas, equipment)
USFWS in kind contributions	\$113,000 for salary, boats and equipment