

Form Rev. 9.14.17

1. Program Number:

17100853

2. Project Title:

Pigeon Guillemot Restoration Research in Prince William Sound, Alaska, FY11 Amendment

3. Principal Investigator(s) Names:

David B. Irons, U. S. Fish & Wildlife Service (retired)

Robb Kaler, U. S. Fish & Wildlife Service

Daniel D. Roby, Oregon State University

4. Time Period Covered by the Report:

February 1, 2017-January 31, 2018

5. Date of Report:

February 7, 2018

6. Project Website (if applicable):

na

7. Summary of Work Performed:**Mink Trapping**

We trapped for the first time in the late winter and spring of 2014. Seventy-six mink were killed. During the 2015 trapping season 23 mink were killed. In 2016 we trapped on the Naked Island group in March and April, for a total of about 60 days. We trapped 7 mink (4 male, 3 female). Breakdown by island: Storey 0, Peak 5 (2 male, 3 female), Naked 2 (male). Total traps set about 400 for 17,274 trap-nights. Overall catch rate was 0.04 mink/100 trap-nights. Two non-target species were taken, a red back vole and a river otter. During the 2017 trapping season we were hampered by bad weather and mechanical problems with boat motors. However, unlike the three prior years there was snow to allow us to track mink. Due in part to issues mentioned, we put out only 139 traps for a total of 3,234 trap nights. We also focused more on looking for tracks rather than putting traps out where we found no tracks. Traps were put only in high use areas where mink were caught in the past. We caught no mink in 2017, but we found at least one set of mink tracks, the size of the tracks were consistent with the size of an adult male mink.

We used up to 30 trail cameras on Naked, Storey, and Peak islands during the trapping period to aid in searching for active mink. Each camera was out for one to four weeks.

The mink's heads were cut off and sent to UAF Museum for archival of tissue samples and skulls. Prey samples were opportunistically collected and preserved.

Attached are figures showing the trapping zones and where the traps were set (Fig. 1) and the historical guillemot colonies (Fig. 2).

Pigeon Guillemot Summer Surveys and Nest Searches

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.

This summer we counted 169 pigeon guillemots, up from 151 last year and 58 in 2012, control islands did not have a similar increase (See Table 1). We did not expect to see this large of increase in birds the first several years of trapping. The increase is almost certainly from immigration from other islands as it takes four years before a young guillemot will nest. We surveyed active nests and found 51 confirmed nests, last year we found 42. Colonies are starting to form again with up to 8 nests in one area. Productivity during the chick stage was high, around 90%, indicating that the adults could find enough food for their chicks. In contrast, the Black-legged Kittiwakes and Common Murres did poorly throughout Prince William Sound.

We used up to 30 trail cameras on Naked, Storey, and Peak islands during the trapping season and the summer period to look for mink and pigeon guillemots. Each camera was out from four to eight weeks.

We used up to seven playback systems to play calls of pigeon guillemot with associated decoys. Each sound system was out from four to eight weeks.

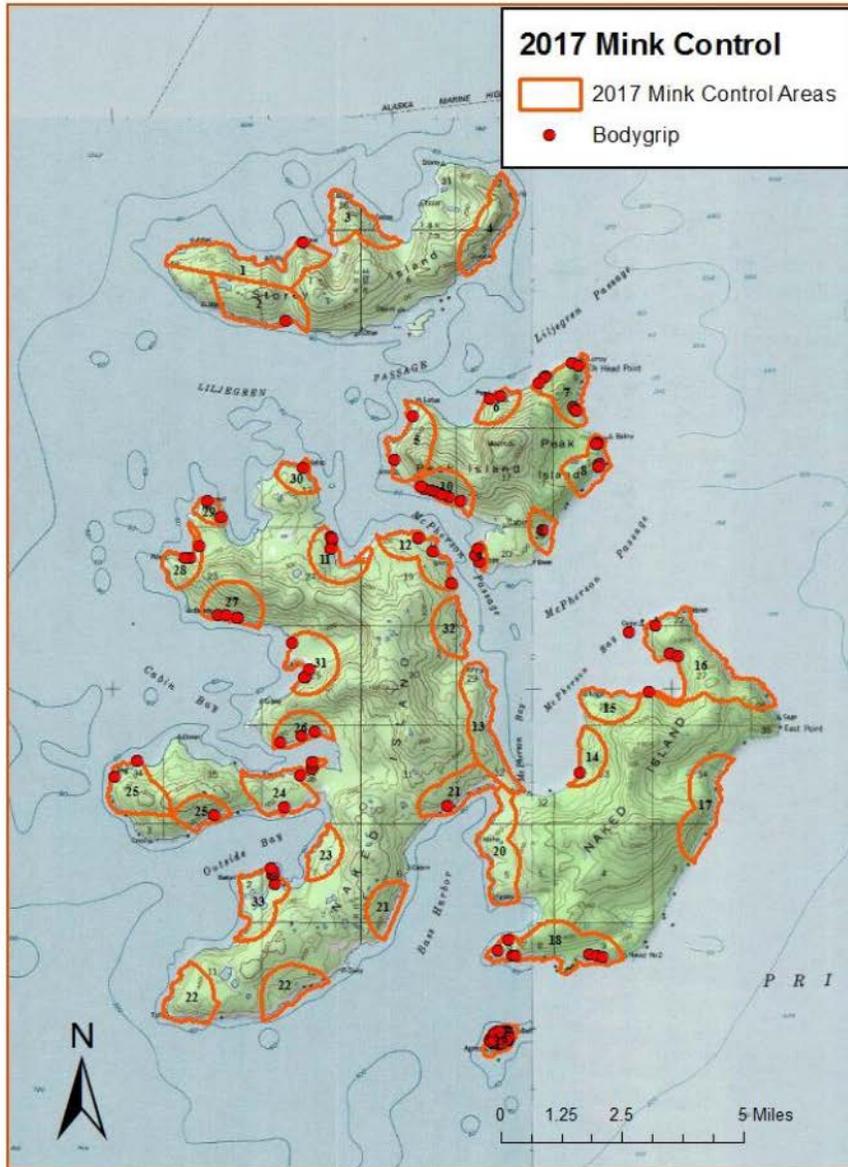


Figure 1. Map of trapping areas allowed by ADF&G in 2017, outlined in orange, and locations of bodygrip traps set in 2017, red dots. No mink were captured in 2017.

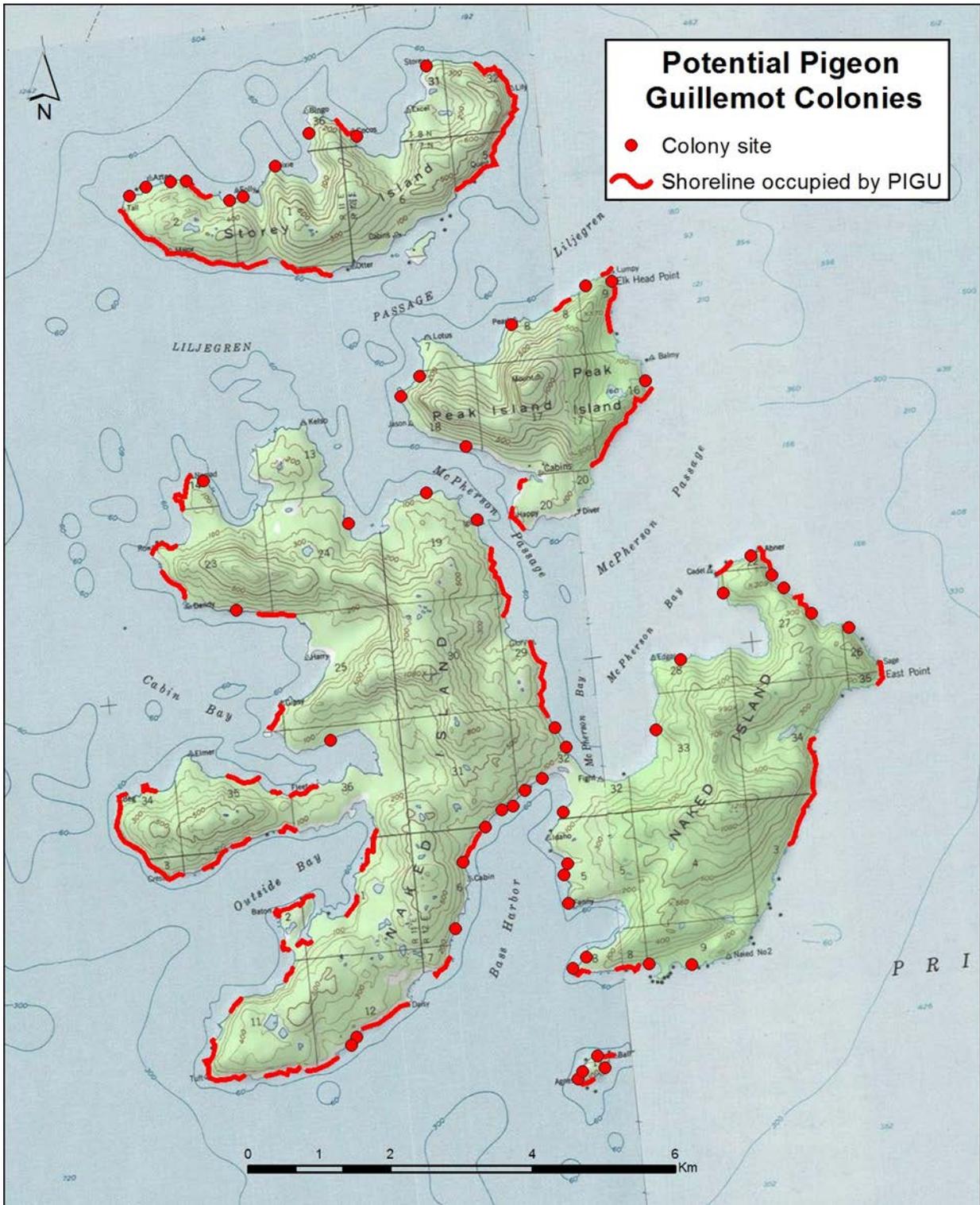


Figure 2. Map of potential pigeon guillemot colony sites on the Naked Island Group. These are a combination of historical colonies and current colonies.

Table 1. Results of Pigeon Guillemot Surveys at Naked Island Group and Control Island Group									
YEAR	NAKED ISLAND GROUP				CONTROL ISLAND GROUP				
	Naked Island	Peak Island	Storey Island	Naked Island Group Total	Smith Island	Little Smith	Seal Island	Fool Island	Control Island Group Total
2012 PIGU Survey	33	13	12	58	ns	ns	ns	31	ns
2013 PIGU Survey	39	15	13	67	151	36	53	25	265
2014 PIGU Survey	49	12	8	69	171	38	106	53	368
2015 PIGU Survey	59	18	18	95	178	27	54	56	315
2016 PIGU Survey	88	17	46	151	168	39	46	57	310
2017 PIGU Survey	101	11	57	169	189	32	47	57	325

Future Work: Summarize work to be performed during the upcoming year, if different from the original proposal. Describe any proposed changes in objectives, procedural or statistical methods, study area or schedule. NOTE: Significant changes in a project’s objectives, methods, schedule or budget require submittal of a new proposal subject to the standard process of proposal submittal, technical review and Trustee Council approval.

This will be the fifth and final year of field work for this project. This spring mink will be trapped on the Naked Island Group to reduce the numbers of mink and allow pigeon guillemots to breed successfully. Also a pigeon guillemot survey will be completed in May and guillemot nests will be located in July during the chick rearing season. Additionally, we will monitor reproductive success of the pigeon guillemots throughout the summer.

8. Coordination/Collaboration:

- A. Projects Within a Trustee Council-funded program**
 - 1. Within the Program**
NA
 - 2. Across Programs**

a. Herring Research and Monitoring

NA

b. Data Management

NA

c. Lingering Oil

N

B. Projects not Within a Trustee Council-funded program

None

C. With Trustee or Management Agencies

The FWS has acquired permits from ADF&G to remove mink and from the USFS to work on their land.

9. Information and Data Transfer:

A. Publications Produced During the Reporting Period

None

B. Dates and Locations of any Conference or Workshop Presentations where EVOSTC-funded Work was Presented

A talk was presented to the Prince William Sound Regional Citizens Advisory Council's Annual Science night in Anchorage. Additionally, 9 Middle School students from the Prince William Sound region embarked on a youth marine expedition which spend a day in July 2017 learning about the seabird restoration work at Naked Island.

The results of this project will be presented at the Pacific Seabird Group meeting in February 2019.

C. Data and/or Information Products Developed During the Reporting Period, if Applicable

None

D. Data Sets and Associated Metadata that have been Uploaded to the Program's Data Portal

None

10. Response to EVOSTC Review, Recommendations and Comments:

Science Panel Comments and Responses on Revised FY17-21 Proposal, September 2016

There are no project specific comments.

Science Panel Comments and Responses on Revised FY18 Proposal, September 2017

The Panel approves of the additional funding requested for a full field season to remove all mink from 70% of the shoreline where PIGU nested or currently nest. Again, the panel is very pleased with how quickly the population is increasing. As noted in past work plans, unless expanded trapping is permitted, the observed success will likely be temporary. A subsequent increase in the mink population resulting from only a partial eradication will probably, again, decimate the PIGU

population over time. As noted in last year's work plan, population projections of both predator and prey may be useful to evaluate the merits and timeliness of future management agency decisions regarding predator controls.

PI Response: None

11. Budget:

No differences this year, last year:

We decided to employ a graduate student to document the recovery of pigeon guillemots at the Naked Island Group rather than hire agency biologists. We have hired a graduate student at Oregon State University to work with Dan Roby and David Irons as advisors. To accomplish this, we did a contract (Intra-agency Agreement) between USFWS and the USGS Wildlife Cooperative Unit at Oregon State University. This resulted in a large decrease in the personnel costs and subsequent increase in the contract costs last year and it will be the same for this years. The overall cost of the project remains the same. Matching funds remain the same.

Please see provided program workbook.