

**Wildlife Restoration MULTI-YEAR GRANT  
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 115526  
Juneau, AK 99811-5526

**Alaska Department of Fish and Game  
Wildlife Restoration Grant**

**GRANT NUMBER:** AKW-R-10-2019, F19AF00506

**PROJECT NUMBER:** this grant contains one project

**PROJECT TITLE:** Emperor Goose Harvest and Management in Alaska

**PERIOD OF PERFORMANCE:** 15 February 2019–30 June 2023 (entire grant)

**PERFORMANCE YEAR:** 1 April 2020–30 September 2021

**REPORT DUE DATE:** 28 December 2021

**PRINCIPAL INVESTIGATOR:** Liliana C. Naves [Alaska Department of Fish and Game (ADF&G),  
Division of Subsistence]

**COOPERATORS:** Lara Mengak and James Fall (ADF&G Division of Subsistence), Jason  
Schamber (ADF&G Division of Wildlife Conservation).

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Authorities: 2 CFR 200.328  
2 CFR 200.301  
50 CFR 80.90

## **I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR**

In this reporting period (1 Apr 2020–30 Sep 2021), lingering public health concerns related to the COVID-19 pandemic required flexibility, creativity, and additional work to redesign and adapt data collection methods to several project components so they could be completed without travel and in-person interaction. Despite these challenges, we completed all data collection planned for this project and advanced in analysis and reporting.

Lara Mengak was hired into the Division of Subsistence in June 2020 as a Wildlife Biologist-II and has joined the staff for this project replacing Jacqueline Keating who changed positions in Dec 2019.

### **Objective 1: Complement and Summarize Subsistence Harvest Data**

#### **(a) Community Subsistence Harvest Surveys**

Data collection was originally planned to be conducted with staff visits to communities and in-person household interviews. Due to public health concern related to the COVID-19 pandemic and inability to travel to communities and visit households, we redesigned survey methods and data collection materials, contracted with Local Research Assistants (LRAs) to deliver survey packages to households, households completed the survey on their own and returned completed surveys by mail. Sampling involved delivering survey packages to all households in all communities or Census Designated Places (CDPs), except that in the Kodiak at Large surveys were distributed to a sample of ~320 addresses randomly selected. Participation rates in surveys can be low. Thus, we also planned for project staff to conduct interviews by phone to complete additional harvest surveys and boost sample sizes in individual communities.

Continued communication with tribal councils and obtained community consent to conduct the survey in the additional communities of Kodiak, Old Harbor, Port Lions, Larsen Bay, Sand Point, Saint Paul, and Adak. Developed and deployed survey outreach and communication materials and approaches to ensure adequate participation in the survey by local households. Redesigning the harvest survey form required acquisition of illustrations for bird identification. Contracted with a scientific illustrator via a partnership with the Chugach Regional Resources Commission (CRRC) to acquire the bird illustrations. Project staff assembled about 3,700 household survey packages.

Worked with local tribal councils to identify qualified LRAs. Contracted with 13 LRAs in the communities or Census Designated Places (CDPs) of Kodiak City, Kodiak at Large, Womens Bay, Old Harbor, Port Lions, Larsen Bay, Sand Point, Saint Paul, and Adak. Harvest surveys in the community of Unalaska were combined with a concurrent project conducted by the ADF&G Division of Subsistence to minimize survey burden and increase data collection efficiency. Developed lists of addresses for each community to inform sampling design and track local distribution of surveys to households. Compiled and printed aerial images of communities to verify lists of addresses and for use by LRAs when distributing surveys to households. Developed materials to train LRAs. Assembled and shipped data collection materials to LRAs. Remotely trained LRAs and supported their work. LRAs delivered surveys to ~2,600 households in 9 communities/CDPs in Apr–Jun 2021. Project staff managed LRAs' payment. Tracked mail return of completed surveys. Besides the mail returns, we acquired and managed contact information for households in surveyed communities for the complementary phone interviews. We conducted phone survey follow-ups in May–Jun 2021. A total of 566 household surveys

were completed, 75% by mail returns and 25% by phone interviews. Household participation rates were adequate and varied 15%–81% across communities, with higher rates in smaller communities.

Completed double data entry and verification. Scanned original surveys for electronic archival. Completed preliminary data analysis to generate harvest estimates at the community level. Upcoming stages of data analysis will involve integrating 2020 harvest estimates at community level to generate annual harvest estimates at the region level.

(b) Regional Subsistence Harvest Overview

During this reporting period we focused on other project components. Initial work on this project component was conducted in the previous reporting period. Upcoming work on this component will involve including data from the 2020 survey (item 1.a above) with other available data to generate harvest estimates at the region level across years.

**Objective 2: Provide Information on Age and Sex Composition for Fall-Winter Harvest**

Data collection was completed in fall 2019 in the Cold Bay Area as scheduled (previous reporting period). Data collection in fall 2020 and 2021 was canceled due to impacts of the COVID-19 pandemic on research work including limited activities at Cold Bay by our partners at the U.S. Geological Survey-Alaska Science Center.

**Objective 3: Gather Stakeholders' Perspectives**

(a) Fall-Winter Permit Holder Mail Survey

Completed data analysis and draft report. Coordinated review of draft report by management partners and updated report accordingly. Prepared and submitted manuscript for publication as peer-reviewed article (Sep 2021, currently in review stage). We shared project results with partners at the Alaska Migratory Bird Co-Management Council and other management partners.

(b) Subsistence Users Focus-Group Interviews

Data collection for this project component was originally planned as in-person, focus group interviews. Due to public health concern related to the COVID-19 pandemic and inability to travel to communities and conduct in-person interviews, we redesigned survey methods to allow data collection to be conducted as individual key respondent interviews by phone.

Developed interview methods and questions. Coordinated review of interview methods by partners within the Alaska Migratory Bird Co-Management Council (AMBCC) and updated methods accordingly. Coordinated with AMBCC regional partners to identify interview candidates. We identified 117 interview candidates and were able to contact 51 of them. Mailed interview materials in advance to candidates that agreed to participate in an interview. Follow up to schedule and conduct the interview. We completed 37 interviews in Dec 2020–Jun 2021. Interviews were audio-recorded, transcription of interviews for data analysis is ongoing.

(c) Biologists/Managers/Conservation Professionals Mail Survey

To optimize input and interaction with participations, we converted the expert opinion survey originally planned as a single contact to a Delphi process with 3 iterative survey rounds. Identified a pool of 115 potential participants including biologists, managers, and conservation professionals in federal, state, Alaska Native, and non-governmental organizations. Implemented online survey using the platform Qualtrics. After each of the three survey rounds, participants were provided with preliminary survey results for further input. The Delphi process was completed in Dec 2020. This survey included 70 participants in round 1, 55 in round 2, 54 in round 3. We completed preliminary data analysis. As of Sep 2020 we are working on a draft report, a draft results abstract is provided below.

**II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.**

(a) Community Subsistence Harvest Surveys

Harvest surveys were completed in the communities or Census Designated Places of Adak, Akutan, Saint Paul, Sand Point, Kodiak City, Womens Bay, Balance of Kodiak, Port Lions, Larsen Bay, and Unalaska. Data analysis and reporting is ongoing.

(b) Regional Subsistence Harvest Overview

Data analysis is ongoing and preliminary harvest estimates are not available at this time.

(c) Fall-Winter Permit Holder Mail Survey

This project component is largely completed. A report was completed (Appendix 1) and a manuscript was submitted for publication as an article in a peer-reviewed journal (currently under review).

(d) Subsistence Users Focus-Group Interviews

Data collection was converted to individual key respondent interviews conducted by phone. Data collection was completed, audio-recorded interviews are being transcribed for data analysis.

(e) Biologists/Managers/Conservation Professionals Mail Survey

Survey format was converted to an iterative Delphi process. Three rounds of surveys were conducted. Data analysis is complete. Reporting and publication is ongoing.

**III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.**

SDR #1 Was submitted in August 2019 to update budget allocation. No other SDRs or amendments have been submitted.

#### IV. PUBLICATIONS

Naves LC, Schamber JL, Mengak LF, Keating JM, and Fall JA (2021) Fall-winter emperor goose harvest management in Alaska: hunter participation and perspectives. Draft report. Alaska Department of Fish and Game Division of Subsistence, Anchorage. [Provided as Appendix 1 to this report].

Mengak LF, Naves LC, and Schamber JL (2021) Prioritizing emperor goose harvest management actions and information needs in Alaska using the Delphi Technique. Draft report. Alaska Department of Fish and Game Division of Subsistence, Anchorage. This report is currently under review, a draft abstract is provided below.

**Abstract.** Emperor Geese (*Anser canagicus*), found only in Alaska and Siberia, are an important traditional resource in Alaska and a sought-after species for many harvesters. Emperor Goose harvest was re-authorized in Alaska in 2017 after a 30-year closure. As Emperor Goose numbers remain limited, harvest management is being closely evaluated. We used a Delphi process, an iterative group communication technique, to elicit expert opinion on Emperor Goose population status, information gaps, research and information priorities, and conservation and harvest management actions. In three successive survey rounds, participants with diverse types of expertise and from varying geographic locations were able to communicate and learn from each other while working as a group to address these complex topics. We identified 115 potential participants representing research and management by federal and state agencies, universities, Alaska Native representation in management, and non-governmental conservation organizations. Seventy participants responded to the first survey round (response rate=62%). We tracked and compared responses between these groups to identify differences and similarities between these groups. Exploration of these differences reveal areas where increased collaboration and communication may be needed. Improving harvest estimates and determining the impact of harvest on Emperor Geese were the top two research priorities. The top ranked conservation and harvest management action was to improve education and outreach for hunters. Results of this study will be used for the 5-year review of the Emperor Goose management plans. The inclusion of multiple types of expertise helped capture the many voices involved in the collaborative management of this species. Keywords: adaptive co-management, co-management, Delphi Technique, Emperor Goose *Anser canagicus*, expert opinion, harvest management, human dimensions, hunting.

#### V. RECOMMENDATIONS FOR THIS PROJECT

This project is on track for completion in SOA FY23 as scheduled and we don't have any recommendations at this time.

**Prepared by:** Liliana C. Naves and Lara Mengak

**Date:** 20 December 2021