

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

GRANT NUMBER: AKW-19

PROJECT NUMBER: 6.0

PROJECT TITLE: Mountain goat population genetics in Alaska

PERIOD OF PERFORMANCE: 1 July 2016–30 June 2020

PERFORMANCE YEAR: 1 July 2018–30 June 2019

REPORT DUE DATE: 1 September 2019

PRINCIPAL INVESTIGATOR: Kevin S. White

COOPERATORS: Aaron Shafer (Trent University), Glacier Bay National Park

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

JOB/ACTIVITY 1: Collect and archive hunter-harvested mountain genetic samples from throughout Alaska.

Accomplishments:

During July 2018-June 2019, we collected and archived 163 hunter-harvested mountain goat tissue samples. In addition, we collected and archived 20 samples associated with live-capture research activities (capture activities were conducted as part of a separate project). All samples were subdivided. One set of samples was sent to Trent University for analyses, the other set was archived at ADFG – DWC, Douglas, AK.

JOB/ACTIVITY 2: Collect genetic samples from the Cleveland Peninsula and other inadequately sampled areas.

Accomplishments:

Sample collection efforts on the Cleveland Peninsula were completed in June 2018 (2016-2018, n = 639 fecal pellet samples collected). A draft manuscript detailing the findings by Trent University has been written and submitted to ADFG for review. Additional sampling on the Cleveland Peninsula was not conducted during this performance period. In cooperation with the National Park Service, we collected 62 fecal pellet samples in previously inadequately sampled areas located in Glacier Bay and Wrangell St. Elias National Park during April-May 2019.

JOB/ACTIVITY 3: Conduct laboratory and statistical analyses to characterize mountain goat population structure, movement, and demography.

Accomplishments:

All samples collected were submitted to Trent University for genetic analysis. During August 2018-June 2019, approximately 900 samples were successfully genotyped. The total number of samples now suitable for analysis equals 2,359. Preliminary statistical analyses have been conducted. Associated final reporting documents are in the process of being prepared for publication and will be completed by the project end date.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Overall, 2,156 tissue samples (hunter = 1,795, research = 397) and 743 fecal pellet samples (Cleveland Peninsula = 639, Glacier Bay = 104) have been collected and submitted for analyses. In total, 1,743 tissue samples and 251 fecal pellet samples have been successfully genotyped. This combined with a larger repository (including pre-existing samples) at Trent University brings the total number to 2,359 samples that have been genotyped and passed quality control. Preliminary population-level analysis has been conducted at local (i.e. Cleveland Peninsula) and statewide spatial scales.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

None

IV. PUBLICATIONS

None.

V. RECOMMENDATIONS FOR THIS PROJECT

This project should be continued as described in the study plan and project statement.

Prepared by: Kevin White, Wildlife Biologist III

Date: September 1 2019