

Wildlife Restoration
FINAL 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-29

PROJECT NUMBER: 8.0 Ptarmigan

PROJECT TITLE: Steese and Denali Highway Comparative Rock Ptarmigan Graduate Study

PERIOD OF PERFORMANCE: March 23, 2018 – October 31, 2022

PRINCIPAL INVESTIGATOR: Cameron J. Carroll

COOPERATORS: University of Alaska-Fairbanks

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE

OBJECTIVE 1: Collect data on adult female survival, nest initiation dates, clutch sizes, nest success, and hatch dates of rock ptarmigan adjacent to the Steese Highway (Unit 25C) and the Denali Highway (Unit 13B) for a comparative study looking at reproductive ecology of these two distinct populations.

ACCOMPLISHMENTS: A total of 177 rock ptarmigan hens (104 at the Steese Highway study site and 73 at the Denali Highway study site) were captured and radio-collared during the 2018 and 2019 field seasons. Of these 177 hens field personnel collected data from 110 hens (64 at the Steese Highway study site and 46 at the Denali Highway study site) on nest initiation dates, clutch sizes, nest success, and hatch dates. In 2020 and the beginning of 2021 a University of Alaska Fairbanks (UAF) graduate student has been compiling and analyzing the reproductive data and will produce a thesis that compares nest initiation dates, clutch sizes, nest success, and hatch dates between the two rock ptarmigan populations studied.

OBJECTIVE 2: Collect data on brood survival to 10 August (start of hunting season) for rock ptarmigan adjacent to the Steese Highway (Unit 25C) and the Denali Highway (Unit 13B) for a comparative study looking at reproductive ecology of these two distinct populations.

ACCOMPLISHMENTS: Between 2018 and 2019 a total of 69 hens with broods (36 at the Eagle Summit study site and 33 at the Denali Highway study site) were monitored to estimate brood survival to August 10. Ten (6 at the Steese Highway study site and 4 at the Denali Highway study site) of the 69 hens that were monitored for brood survival were collared post-

hatch to maintain a good sample size of hens with broods as collared hens died throughout the summer. The data is currently being analyzed and written up by a UAF graduate student.

OBJECTIVE 3: Collect data on sex ratios of rock ptarmigan chicks (based on analysis of egg-shell fragments) at time of hatch adjacent to the Steese Highway (Unit 25C) and the Denali Highway (Unit 13B) for a comparative study looking at reproductive ecology of these two distinct populations.

ACCOMPLISHMENTS: Egg-shell fragments and non-viable eggs were collected from nest bowls following successful hatch in June 2019. However, it was decided that analysis of the egg-shell fragments to determine sex ratios of chicks at hatch would not be required of the graduate student as part of their thesis requirements. Egg-shell fragments will be stored for analysis at a future date.

This report summarizes the data collected and progress made through year 3 of a 3-year project and is this project’s final performance report.

II. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS

This project was originally intended to have 3 field seasons; however, after the 2019 field season it was determined that the third field season would be eliminated. Therefore, the data collection that is summarized in section II above includes all data that will be analyzed for this project. However, this federal aid grant continued to support a graduate student through June 30, 2021, in their pursuit of a graduate degree from UAF. This report details the second significant change to this project. This change results in a budget reduction due to the decision by the project PIs not to have a 3rd and final field season in 2020. This decision was made over concerns regarding working conditions and field crew safety.

Changes requested

- Reduce total project budget from \$703,438.00 to \$562,562.20 (see original and revised budget tables below).

Original Budget (revised in 2018 under amendment #1)

Line	Direct Costs	UAF Match	Combined Costs
1000	\$24,767.00		\$24,767.00
2000	\$2,500.00		\$2,500.00
3000	\$407,268.00	\$135,237.00	\$542,505.00
4000	\$133,666.00		\$133,666.00
Total Project	\$568,201.00	\$135,237.00	\$703,438.00

Revised Budget (Final Budget)

Line	Direct Costs	UAF Match	Combined Costs
1000	\$63,683.95		\$63,683.95
2000	\$2,014.70		\$2,014.70
3000	\$318,458.14	\$110,520.38	\$428,978.50
4000	\$67,885.08		\$67,885.08
Total Project	\$452,041.87	\$110,520.38	\$562,562.25

III. PUBLICATIONS

None

IV. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED

Data from a related study conducted by ADF&G from 2015-2020 that examined seasonal movements and age-specific survival of rock ptarmigan near Eagle Summit is currently being analyzed and a research report is expected in 2022.

Prepared by: Cameron J. Carroll

Date: December 7, 2021