

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

GRANT NUMBER: AKW-29

PROJECT NUMBER: P10.0

PROJECT TITLE: Mulchatna Caribou Calf Survival and Mortality

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

PERFORMANCE YEAR: March 23, 2019 – March 22, 2020; year 2 of a 4-year grant

REPORT DUE DATE: Submit to Coordinator June 12, 2020; due to FAC June 29, 2020

PRINCIPAL INVESTIGATOR: Nick Demma

COOPERATORS: Renae Sattler, Alaska Department of Fish and Game

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Document location and timing of use of primary calving and post-calving ranges.

ACCOMPLISHMENTS: We accomplished this objective. During May 12-20, 2019 we located 71 radiocollared adult cow caribou to determine parturition status. During the same period we also captured and radiocollared 102 neonates. Distribution of parturient cows, newborn calf capture locations, and telemetry data were used to determine the location and timing of use of primary calving areas. Location and use of post-calving ranges were determined primarily by radio collar locations.

OBJECTIVE 2: Evaluate survival of MCH calves from birth to 1-year-of-age.

ACCOMPLISHMENTS: We made significant progress on this objective. During May 12-20, 2019 we captured and radiocollared 102 neonates and monitored them throughout the year with fixed-wing aircraft to determine survival status. We retrieved 80 collars that had switched to double pulse rates (indicating non-movement and a potential mortality) and examined each site for clues to animal fate (i.e., whether the animal died or slipped the collar) such as calf remains and blood residue on the collar, predator scat, tracks, and hair. We used this information to assign a fate for each calf and to calculate proportion

surviving. The last collar retrieval and site investigation for 2019 calves was scheduled for May 2020, which is outside this performance year. The collars retrieved in May will allow us to calculate the final survival period (i.e., birth to 1-year-of-age).

OBJECTIVE 3: Characterize mortality patterns (timing, location, cause of death) of calves from birth to 1-year-of-age.

ACCOMPLISHMENTS: We made significant progress on this objective. We captured and radiocollared 102 neonates shortly after birth and monitored them throughout the year with fixed-wing aircraft to determine survival status. During May 14-20, we retrieved 22 collars from recently captured neonates and examined each site for clues to animal fate. Most sites were investigated within 24 hours of collars switching to mortality mode. From remains and other clues at the sites, we assigned fate (alive, dead, unknown) and predator species when possible.

We also retrieved calf collars during October 12-13, 2019. We examined sites for remains and applied a chemical reagent to all collars that detects blood residue. This information was used to classify survival fate of each calf. We will conduct 1 more collar retrieval during May 2020 for this cohort. Once we have assigned fate for the collars retrieved in May 2020, we can finalize our characterization of annual mortality patterns for calves born in 2019.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

In May 2019, we ended monitoring of calf collars that were deployed in the previous performance year. Remaining collars in mortality mode were retrieved and sites investigated for clues to calf fates. Collar condition and whether remains were found determined fate assigned to calves. We used this information to finalize annual survival rates for the 2018 calf cohort.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

No SDRs or amendments were submitted for this project during this performance period.

IV. PUBLICATIONS

We are still in the data collection phase of the project and do not yet have any publications associated with this project.

V. RECOMMENDATIONS FOR THIS PROJECT

Project will continue for 2 more years.

Prepared by: Nick Demma

Date: 12 June 2020