

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-29

PROJECT NUMBER: P10.0

PROJECT TITLE: Mulchatna Caribou Calf Survival and Mortality

PERIOD OF PERFORMANCE: 05/01/2018 – 06/30/2021

PERFORMANCE YEAR: March 23, 2018 – Oct. 31, 2022; year 1 of a 4-year grant

REPORT DUE DATE: Submit to Coordinator 1 June 2019; due to FAC 29 June 2019

PRINCIPAL INVESTIGATOR: Nick Demma – Wildlife Biologist III

COOPERATORS: Neil Barten – Wildlife Biologist III

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 caribou calving and post-calving ranges associated with the Mulchatna Caribou Herd (MCH)

ACCOMPLISHMENTS: We documented location and timing of use of primary calving areas. We documented location of primary calving areas by conducting aerial telemetry flights of radiocollared adult cow caribou and by examining GPS locations of adult cows during the peak calving period (mid-May). We documented timing of use of calving areas by regular telemetry flights and observations throughout the calving period to determine when caribou arrived and departed calving grounds.

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

ACCOMPLISHMENTS: We evaluated survival of MCH calves from birth to 4.5 months of age. We estimated survival of MCH calves by capturing and radiocollaring neonates, typically within 2 days of birth. Radiocollared calves were monitored daily by fixed-wing aircraft during May, biweekly during June, and seasonally thereafter (October, March, May) to determine status (alive or dead) based on pulse rate of collar. Radiocollared

calves were monitored periodically through May 2019 to determine proportion surviving 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 determined date, location, and proximal cause of death for radiocollared neonate mortalities from birth (capture) to approximately 2 weeks of age. We monitored older radioed calves through their first birthday to determine timing and location of mortalities. Our monitoring schedule for older calves is less intensive than for neonates and investigation of any mortalities typically occurs when we have a helicopter available in the area for other fieldwork (e.g., standard Survey and Inventory efforts). Therefore determining proximal cause of death for mortalities investigated weeks to months after time of death is unreliable.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

OBJECTIVE 1: GPS collar data showed that adult cows began arriving in the general vicinity of calving areas during the 2nd week of May 2018. We initiated field work on May 13, and observed concentrations of caribou forming and a few calves (approximately 0-3 days of age) in areas where calving has occurred in previous years. Telemetry data and observations indicated adult cows were still filtering into these calving grounds on May 13. Over the next few days calving concentrations became somewhat more defined. Areas with highest concentrations of calving caribou were in the upper Tikchik River basin (west calving ground) and the upper Mulchatna River, the upper South Fork Hoholitna River, and southwest of Tundra Lake (collectively, east calving ground). Similar to previous years, we also observed isolated groups (1-3 adult cows) with new calves scattered throughout MCH range in Game Management Units (GMUs) 17B, 17C, and 19B.

Most calving occurred during about May 10-25. By May 27, most cows and calves were in large nursery groups and their movements were getting more extensive within calving areas. On June 6, caribou from the west calving ground were moving west towards post-calving range. That same day caribou were still milling around the east calving ground between the upper South Fork Hoholitna and upper Mulchatna River. A telemetry flight on June 22 indicated that animals from the east calving ground had moved into post-calving ranges to the south and west.

OBJECTIVE 2: During 13-25 May 2018 we captured and collared a total of 84 neonates (east: n=40, west: n=44). The proportion surviving to June 1st was 0.62 from the east calving area and 0.61 in the west. The proportion of radioed calves collared from each calving area surviving to October 1 (4.5 months of age) was 0.46 (east) and 0.50 (west). The proportion of radiocollared calves surviving to 1 year of age will be determined in May 2019.

OBJECTIVE 3: During 14-27 May 2018 we investigated 30 mortalities of radiocollared neonates that died in calving areas within 2 weeks of birth. Proximal cause of death was primarily due to predation (87%, n=26). Predators responsible for killing the calves were preliminarily determined to be brown bear (n=14), black bear (n=2), unknown bear species (n=4), wolf (n=4), and unknown large predator (n=2). Two calves died of unknown causes, 1 drowned, and 1 starved.

Aerial monitoring flights during June-October detected 28 additional calf collars in mortality mode, signifying either calf mortalities or slipped/dropped collars. These collars were retrieved by helicopter in October and November. Blood residue on retrieved collars and/or other evidence at sites where collars were retrieved suggested that 22 of 28 were mortalities. Most mortality sites from the summer-fall period were too old to reliably determine cause of death when we retrieved those collars, but calf remains and predator scat at 3 sites appeared fresh during the October pick up. In all 3 of those sites the evidence indicated that brown bears had killed and eaten the calves within the previous few days. Separated and stretched collar bands, and lack of any blood residue, calf remains, or predator sign at sites where the other 6 collars were retrieved indicated that these collars likely dropped off of live calves.

We will retrieve any remaining mortality/dropped 2018 calf collars during May-June 2019.

II. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

The following amendment (Amendment #1) was submitted in June 2018:

Project 10.0: This project was initially funded at \$275,082 with project end date of 30 June 2021, though the project statement specifies that the amount requested will only cover the first year of the project and that additional funds will be needed to cover subsequent years. The existing funding will be spent as described in the project statement and will be exhausted during FY19. This amendment will add an additional **\$395,500** to the project and extend it through **FY22**. The request will supplement the funding already in place for FY19, fully fund field activities in FY20 and FY21 and fund project completion in FY22. Increasing the level of funding and extending the length of the project will allow the objectives described in the project statement to be addressed more thoroughly but no new objectives will be added.

IV. PUBLICATIONS

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

V. RECOMMENDATIONS FOR THIS PROJECT

Continue project as proposed through FY22.

IPR AKW-29 P10.0 MCH Cal Mortality FY19

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