

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

GRANT NUMBER: AKW-29

PROJECT NUMBER: 9.0

PROJECT TITLE: Western Arctic Caribou Calf Mortality Evaluation

PERIOD OF PERFORMANCE: March 23rd, 2019 – March 23rd, 2020

PERFORMANCE YEAR: March 23rd, 2019 - June 30, 2020; year 2 of a 2-year grant

REPORT DUE DATE: May 29, 2020

PRINCIPAL INVESTIGATOR: Alex Hansen

COOPERATORS:

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Measure calf survival rates from birth through the first year of life with a primary focus on calving ground survival. It hypothesizes that brown bear predation rates will vary annually based on the portion of the historic calving ground used.

ACCOMPLISHMENTS:

During the reporting period we continued radio tracking efforts for the 2018 cohort through June and inspected mortality sites to determine cause of mortality. The final survival estimate for the 2018 cohort was 45%.

Between June 2nd and June 8th, 2019, a total of 74 neonates were captured and fitted with VHF collars (2019 cohort). A total of 70 collars were purchased for deployment, 4 of the collars were re-deployed on new calves following mortalities on the calving ground. Calves were radio tracked daily through June 8th. Calving ground survival was estimated at 95%. Following June 8th, radio-tracking efforts were reduced to more manageable intervals throughout the summer and into the fall. Radio-tracking efforts were minimal

during the winter and resumed during the spring. A total of 27 mortalities have been recorded during the reporting period, the final annual survival estimate is pending.

OBJECTIVE 2: Identify causes of mortality.

ACCOMPLISHMENTS:

For the 2018 cohort a total of 37 mortalities were detected, mortality sites were visited and cause was attributed as follows: unknown predator (11), brown bear (5), abandonment (4), wolf (3), unknown cause (9) and unable to retrieve (5).

Of the 27 total mortalities detected from the 2019 cohort, 20 of the mortality sites have been visited and the collars retrieved. During site visits all evidence was examined to accurately assign mortality cause. Cause of mortality to date is as follows; unknown predator (8), brown bear (3), wolf (2), unknown (4), capture (1), abandonment/birth defect (2). Only 4 mortalities were detected on the calving grounds. We anticipate visiting the outstanding mortalities over the course of the summer of 2020.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Year one of the study (2018), 76 neonates were collared, and radio tracked from the date of capture through June the following year. Calving ground survival was 87% compared to 95% survival for the 2019 cohort. The annual survival rate was estimated at 45% during 2018, the 2019 estimate is still pending.

Captures and initial radio-tracking efforts were successful for both cohorts, and we feel that cause of mortality has been determined with a reasonable degree of accuracy for all mortality events to date. Calving ground and post-calving aggregation mortality has been low with minimal predation events being detected through post calving aggregations for both cohorts. Late summer and early fall distribution made consistent radio-tracking challenging given the large geographic area the WAH covered. Winter distribution has been equally challenging with caribou being scattered over a large portion of the annual range. Efforts are currently underway to finalize radio tracking surveys to determine the final status of each marked individual for the 2019 cohort, preliminary results however would indicate that 2019 survival will likely be fairly similar to 2018.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

No significant developments, changes or amendments have been made to the project to date.

IV. PUBLICATIONS

None at the present time.

V. RECOMMENDATIONS FOR THIS PROJECT Field work will conclude June 2020, the final analysis of the data will continue into the winter of 2020.

Prepared by: Alex Hansen

Date: 5/11/20