

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

GRANT NUMBER: AKW-10 Wildlife Restoration FY2016

PROJECT NUMBER: 3.51

PROJECT TITLE: Evaluating management strategies to enhance harvest from southwest Alaska Caribou Herds

PROJECT DURATION: 1 July 2011 to 30 June 2016

REPORT DUE DATE: 1 September 2016

PRINCIPAL INVESTIGATOR: Nick Demma

WORK LOCATION: GMUs 9, 10, 17, 18, 19, Southwest Alaska

I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT

OBJECTIVE 1: Estimate production, survival, recruitment, and causes of mortality of neonates.

We accomplished our objective of monitoring adult females during the calving period to estimate age-specific calf production. We evaluated summer calf survival and fall calf recruitment by conducting sex/age composition surveys during October.

OBJECTIVE 2: Evaluate survival of female caribou.

We continued to monitor radiocollared cows in the Southwest Alaska caribou herds to evaluate survival of adult cows.

OBJECTIVE 3: Evaluate survival and growth of male caribou.

We analyzed data to evaluate survival and growth of male caribou in the Mulchatna caribou herd (MCH). We have estimated seasonal and annual survival of bull caribou for several calf cohorts from 2006 to 2014.

OBJECTIVE 4: Report findings in appropriate scientific and popular venues.

We have reported findings of adult and calf survival, causes of calf mortality, and growth of bull caribou at intra- and inter-agency meetings, at public meetings, in other informal settings and in response to inquiries from the public.

II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD

JOB/ACTIVITY 1: Calf production, survival and cause of mortality of neonates.

We determined pregnancy status of 36 known-age radiocollared cows \geq 2yo during mid-May 2016 to estimate age-specific calf production in MCH. Overall pregnancy rate of \geq 3-year-old cows was 83%. Younger age classes (2- and 3-year-olds) continued to be parturient (14% and 89% respectively), which is indicative of good nutritional condition.

We evaluated summer MCH summer calf survival and fall calf recruitment by conducting fall age/sex composition surveys. Fall 2015 MCH calf:cow ratio was 29 calves:100 cows, indicating moderate summer calf survival and fall recruitment.

JOB/ACTIVITY 2: Adult cow survival.

We captured and radiocollared 1 adult MCH cow in October 2015 and 23 MCH short yearling calves during April 2016 to augment our sample for estimating annual female survival.

JOB/ACTIVITY 3: Evaluate growth and survival of male caribou.

We radiocollared 20 MCH adult bull caribou during October 2015 and 2 MCH adult bulls in April 2016 to supplement our sample of bulls for evaluating annual survival.

JOB/ACTIVITY 4: Report findings in appropriate scientific and popular venues.

We presented findings at ADFG regional meetings, to the interagency Mulchatna Caribou Herd Working Group, and through informal public contacts. We gave a radio interview in fall 2015 to provide information about the ecology, status, and management of the Mulchatna caribou herd, and other herds throughout Alaska.

We coauthored a paper describing the effect of a new capture drug combination on Mulchatna caribou.

We are currently drafting an ADFG Wildlife Technical Bulletin summarizing the findings of the MCH bull growth and survival study. Goal for completion is spring 2017.

III. PUBLICATIONS

Lian, M., Beckmen, K. B., Bentzen, T. W., Demma, D. J., & Arnemo, J. M. (2016). THIAFENTANIL–AZAPERONE–XYLAZINE AND CARFENTANIL–XYLAZINE IMMOBILIZATIONS OF FREE-RANGING CARIBOU (RANGIFER TARANDUS

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Annual Research Performance Report

GRANTI) IN ALASKA, USA. *Journal of Wildlife Diseases*, 52(2), 2015–04–101.
<http://doi.org/10.7589/2015-04-101>

IV. RECOMMENDATIONS FOR THIS PROJECT

Continue as planned.

Prepared by: Nick Demma

Date: 18 August 2016