

**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-R-7-2019

PROJECT NUMBER: P2.0

PROJECT TITLE: Dall's sheep disease screening GMUs 13A and 14A

PERIOD OF PERFORMANCE: December 1, 2018-June 30, 2023

PERFORMANCE YEAR: October 1, 2020 – September 30, 2021, year 3 of a 5-year grant

REPORT DUE DATE: Submit to Coordinator December 7, 2021* Note: New report due date

PRINCIPAL INVESTIGATOR: Tom Lohuis

COOPERATORS: Heidi Hatcher, ADFG Glenallen; Chris Brockman, ADFG Palmer; Kyle Smith ADFG Anchorage; Dr. Douglas Whiteside, University of Calgary; Dr. Helen Schwantje and Dr. Caeley Thacker, British Columbia Ministry of Forests, Lands, Natural Resources and Development

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Recapture and sample 40 Dall's sheep (n=20 adult rams, 20 adult ewes) originally captured in Spring of 2019 in the Talkeetna Mountains, GMUs 13A and 14A.

ACCOMPLISHMENTS: Sheep were originally captured and fitted with GPS-iridium radio collars between February 26-March 1 2019, and again on April 5 2019. A total of 45 sheep were captured, with 40 collars deployed.

In 2021, our first scheduled capture session in February was cancelled due to high wind and storm conditions that made helicopter capture work impossible. Our second session was scheduled April 2-7, but wind and subsequent extreme avalanche conditions hampered our ability to successfully capture sheep. During the four days weather permitted limited capture operations, we handled 14 sheep. Five of those individuals had been captured and collared previously, the remaining 9 were new to the project and collared to replace mortalities.

OBJECTIVE 2: At each capture, collect blood sera and nasal swabs to document disease presence, animal health, and pregnancy status, collect and archive nasal swab and blood sera samples, and assess animal body condition via palpation score and ultrasound measurement of subcutaneous fat depth.

ACCOMPLISHMENTS: All animals that were handled were screened for health and disease. Sheep were screened for *Mycoplasma Ovipneumoniae* (M ovi) via both PCR to test for the presence of the *Mycoplasma* bacteria and ELISA to test for antibodies against the bacteria, and also screened via ELISA for Bovine Respiratory Syncytial virus (BRSV), Bovine Viral Diarrhea (BVD), *Brucella ovis*, Infectious Bovine Rhinotracheitis (IBR), Parainfluenza-3 (PI-3), Toxoplasmosis and Johne’s disease.

OBJECTIVE 3: Each year, we will conduct summer minimum count surveys to estimate lamb numbers which will be compared to pregnancy rates, lamb numbers in surrounding populations, and historic lamb numbers in the study area as documented by annual minimum count surveys

ACCOMPLISHMENTS: Summer minimum count surveys were flown in four of five count areas in July 2021. Results are detailed in table 1 below. Additionally, collared animals were monitored 1x/week via satellite collar download to check for mortalities.

Ewes were also checked via aerial telemetry approximately monthly weather permitting to validate satellite collar data for mortality and to determine lamb status.

OBJECTIVE 4: After collars remotely release from the animal, and are recovered in 2023, we will calculate survival rates, and assess dispersal, home range, and habitat selection of sheep in GMUs 13A and 14A.

ACCOMPLISHMENTS: No action was taken on this objective, as the project is still in progress. Once collars release from the animal we will analyze and summarize the data.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Disease screening results

0 of 14 Dall’s sheep tested positive via PCR for M ovi. Similarly, none of the handled animals had antibodies against the M ovi bacteria, which would have indicated that they had been exposed to the pathogen. None of the sheep we tested carried antibodies against BRSV, BVD, *Brucella ovis*, IBR, or Johne’s disease. 2/14 had antibodies against PI-3, and 10/14 had antibodies against toxoplasmosis, indicating exposure to those pathogens.

Table 1. Summer 2021 minimum count survey results

Area	Rams: 100 ewe-likes	Lambs:100 ewe-likes	Total Sheep
Kings River	Not flown		
Boulder Creek	38	35	139
Hicks Creek	29	40	118

Caribou Creek	73	32	232
Sheep Mountain	82	29	58
Total	54	34	547

- Note: Kings river count area not flown due to poor counting conditions and limited pilot/aircraft availability.

Animal Survival

One ewe and four rams died during the reporting period. One ewe and two rams were killed by avalanches; one ram in March 2021, and one ram and one ewe in April 2021. Two other rams died in November 2021; a definitive cause could not be assigned.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

In Spring 2021, poor weather and extreme avalanche conditions severely hindered our ability to capture and sample sheep and sample sizes were again limited. We will assess these results and how they will impact the project going forward.

IV. PUBLICATIONS

Coauthor and collaborator Dr. Caeley Thacker (BC ministry of Forest, Lands, and Natural Resource Development) presented her MS thesis research on this project at the 2020 (virtual) meeting of the Northern Wild Sheep and Goat Council in November 2020.

V. RECOMMENDATIONS FOR THIS PROJECT

Determine if reduced sample sizes due to COVID cancellations and weather delays will require us to reevaluate our progress and project timeline.

Prepared by: Tom Lohuis

Date: 12/7/2021