

**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 Research & Management

PROJECT NUMBER: 13.0

PROJECT TITLE: Analysis and interpretation of ungulate dietary composition and forage nutritional quality in Alaska

PERIOD OF PERFORMANCE: 04/01/2018 - 12/31/2022

PERFORMANCE YEAR: March 23, 2018 – December 31, 2022; year 1 of 3-year grant

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

PRINCIPAL INVESTIGATOR: William B. Collins – ADF&G Wildlife Physiologist II

COOPERATORS: Don Spalinger – ADF&G
Melissa Parry – ADF&G

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Complete dietary composition analyses for previously collected samples from the Togiak, Goodnews, Nushagak, and Coalville River moose populations.

ACCOMPLISHMENTS: We have obtained a lease for laboratory space, and we have established a fully functional nutrition laboratory in that space. We have hired a full-time laboratory biologist who is skilled in all the laboratory analyses we conduct. We have completed analyses for the following projects: Nelchina caribou, Nelchina moose, Southern Alaska Peninsula caribou, and Northern Alaska Peninsula caribou. We have completed analyses of all samples collected for the Alphabet Hills project (AKW-30 P1.0) to date. We have nearly completed analyses for the Colville River moose project. We have completed analyses for samples being sent to us from Region III's western Alaska moose habitat project.

OBJECTIVE 2: Determine forage nutritional quality for the diets determined in Objective 1.

ACCOMPLISHMENTS: We have begun testing DNA barcoding as a means for determining diet composition, and we are comparing that technique with micro histological, fecal alkane-alcohol, and bite-count methods for moose and caribou sample sets.

OBJECTIVE 3: Determine winter diets for Nelchina caribou wintering in the Tanana Hills from previously collected samples.

ACCOMPLISHMENTS: Laboratory analyses of these samples have been completed.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Completion of laboratory analyses necessarily precedes evaluation of ungulate diets and nutritional quality of browse samples. All of the above data sets are currently in different stages of analysis and interpretation for preparation of reports and publications.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

No SDRs or amendments were submitted during this performance year.

IV. PUBLICATIONS

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

V. RECOMMENDATIONS FOR THIS PROJECT

This project should be continued at least two more years, thereby enabling us to complete all laboratory analyses, interpretation and reporting for our current state-wide collections of more than 7000 fecal and forage samples. We recommend that these services continue to be extended to other ADF&G researchers, thereby enhancing the Department's ability to assess various large herbivore habitats by standardized means that allow legitimate comparisons to be made across areas and time periods.

Prepared by: William B. Collins, Wildlife Physiologist II

Date: 25 May 2019