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-6-2019

PROJECT NUMBER: F19AF00169

PROJECT TITLE: Close-kin Mark-Recapture Abundance and Vital Rate Estimation for Moose in Interior Alaska

PERIOD OF PERFORMANCE: January 1, 2020 – December 31, 2020

PERFORMANCE YEAR: January 1, 2020 – December 31, 2020: Year 2 of 4 year grant

REPORT DUE DATE: Final report due September 28, 2023

PRINCIPAL INVESTIGATOR:
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     Wildlife Conservation (DWC) (PCN 11-2050)
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Authorities: 2 CFR 200.328
         2 CFR 200.301
         50 CFR   80.90

I.   PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Determine if the DNA extracted from archived moose samples is of sufficient quality to identify single nucleotide polymorphisms in gene sequences.

ACCOMPLISHMENTS: We submitted two 96-well PCR plates of tissue samples from moose to Diversity Arrays Technology for DNA extraction and sequencing. The initial samples

were determined to be of high enough quality to proceed with further sampling to submit additional samples for DNA extraction and sequencing.

OBJECTIVE 2: Determine kinship among sampled moose using genetic information from Objective 1 and from additional sequenced moose samples.

ACCOMPLISHMENTS: None. Need additional samples analyzed from Objective 1.

OBJECTIVE 3: Develop a CKMR model for Interior Alaska moose.

ACCOMPLISHMENTS: None. Must complete Objectives 1 and 2 first.

OBJECTIVE 4: Assess model assumptions, precision, and biases of estimates.

ACCOMPLISHMENTS: None. Must complete Objectives 1-3 first.

OBJECTIVE 5: Document methods for future application of the CKMR model developed in Objective 3, including guidance on sampling protocol, analysis of samples, and interpretation of output.

ACCOMPLISHMENTS: None. Must complete Objectives 1-4 first.

II.   SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Initial tissues samples from moose teeth were submitted for DNA extraction and sequencing. Those samples were determined to be of high enough quality that DNA extractions from additional teeth are warranted. To date an additional 2,000 tissue samples have been prepared for extraction and sequencing, which will occur in April/May 2021.

III.   SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

None.

IV.   PUBLICATIONS

None.

V.   RECOMMENDATIONS FOR THIS PROJECT

None

Date: 3/25/2021