

**Wildlife Restoration OPERATING GRANT
FINAL 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-B-R4-2020

PROJECT NUMBER : P1.77

PROJECT TITLE: Assessment of Social and Environmental Factors Associated with Moose Vehicle Collision and Moose Movement in the Matanuska-Susitna Valley of Alaska – Phase II

PERIOD OF PERFORMANCE: July 1, 2020 to June 30, 2021

REPORT DUE DATE: Submit to Coordinator August 24, 2021; due to FAC Sept 1, 2021

PRINCIPAL INVESTIGATOR: Jeff Stetz – ADFG Wildlife Biologist IV

COOPERATORS: Dr. Terry Messmer, Utah State University
Luke McDonald– USU PhD Candidate

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERIOD OF PERFORMANCE

OBJECTIVE 1: Determine how various site and landscape-level environmental, topographic, and climatic factors are associated with moose-vehicle collisions in the Matanuska-Susitna Valley of Alaska between 2016-2021. These analyses will include important additional data not previously considered such traffic volume, speeds, and patterns of road construction.

ACCOMPLISHMENTS: Data collection from GPS collars, MVC site investigations, and development of spatial covariates were completed in late spring of 2021. Analyses are nearly complete as of this report.

OBJECTIVE 2: Identify important moose movement corridors, assess seasonal moose distribution, and identify important rutting, calving, and foraging areas relative to existing and proposed human developments in order to inform decisions about when and where to permit targeted moose hunts.

ACCOMPLISHMENTS: As with the Objective 1, data collection was completed during spring 2021 with statistical analyses nearing completion.

OBJECTIVE 3: Complete a human dimensions study of people who have been involved in a MVC. This survey would assess actual costs associated with the damage and the willingness to pay for certain mitigation options, determine human behavior patterns prior to MVCs, and enhance our understanding of driver perceptions and knowledge about MVCs to build a better public awareness campaign.

ACCOMPLISHMENTS: As with other Objectives, data collection was completed in 2021 with statistical analyses nearing completion.

OBJECTIVE 4: Estimate the rate of unreported MVCs in the Matanuska-Susitna Valley to provide a better understanding of the severity of the issue. A more accurate number could improve outreach efforts if members of the public realize the risk is higher than previously perceived.

ACCOMPLISHMENTS: We recorded all reported MVCs (i.e., through the dispatch system) and documented MVCs that were encountered during additional search efforts and via opportunistic sightings. We will continue to record all MVCs, regardless of reporting status, and attempt to model the data if adequate sample sizes allow or provide a course-scale correction factor otherwise. Preliminary data suggest that the number of non-reported MVCs will be too low to allow meaningful estimation of the total number of events. We may be able to pool events across years, however, to increase sample size, although this would require additional assumptions about annual patterns.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

With regard to the first three objectives, all data have been collected and analyses are ongoing. The PhD student leading the analyses is scheduled to defend his dissertation during the Fall of 2021. We will continue to collect data on reported and non-reported MVCs through spring 2022, at which point we will reassess sample sizes.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

An amendment was finalized on 11/04/2020 to update the remainder of the budget forecast to reflect changes in how GPS data charges were paid (Amend # 2 USU COOP-19-146). To reduce data costs, USU pre-paid charges to the collar company (Vectronic) early in the study. Although

the overall budget did not change substantively, the specific accounting did. No changes to objectives were made.

IV. PUBLICATIONS

There have been no publications from this phase of the MVC research. Previous publications were noted during the appropriate reporting period.

V. RECOMMENDATIONS FOR THIS PROJECT

No changes to the project statement are required at this time. The project is scheduled to be completed during the 2021-2022 performance period.

Prepared by: Jeff Stetz

Date: 18 August 2021