

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

GRANT NUMBER: AKW-R-2-2019

PROJECT NUMBER: 1.0

PROJECT TITLE: Alaska Hare Seasonal and Annual Movements

PERIOD OF PERFORMANCE: July 1, 2018 – June 30, 2023

PERFORMANCE YEAR: July 1, 2018 - June 30, 2019; year 2 of a 5-year grant

REPORT DUE DATE: Sept 1, 2019

PRINCIPAL INVESTIGATOR: Richard Merizon and Chris Barger

COOPERATORS: DWC-Threatened, Endangered, and Diversity Program, University of Alaska-Fairbanks

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

OBJECTIVE 1: Evaluate capture techniques applicable to Alaska hares.

ACCOMPLISHMENTS: Capture techniques for Alaska hares were evaluated in the remote area of the Selawik Hills, roughly 120 trail miles from Kotzebue. A variety of capture techniques were tested throughout the study area during the reporting period including: live box traps, snow fencing, drive netting, and bow nets. Specifically, 10 box style traps (single and double-doored) were deployed for a combined total of 160 trap days and no Alaska hares were captured, however they did venture near the traps. Additionally, we used 800ft of snow fencing with 6 double-doored box traps in an attempt to guide hares through the box traps for 42 trap days. Snow fencing in combination with box traps resulted in many snowshoe hare captures but no Alaska hare captures. Upon visual observation of an Alaska hare we deployed two drive nets (50m and 100m) by foot. Several attempts to drive an Alaska hare were unsuccessful. We also deployed 150m drive net across a small valley and used snowmobiles in an attempt to drive hares into the net. This was successful for snowshoe hares only. Lastly, we used two bow nets released either manually via string or by remoted triggered bow nets. This resulted in the capture of an Alaska hare within 1 day of trapping. We placed a GPS collar on this hare and over the following 6 days it returned to both bow nets sets multiple times a day. Once marked

with a collar, it was the only Alaska hare detected in the study area (via trail cameras and visual observations) on a daily basis.

Bait piles and live box traps were also deployed in late June in the Nome area after visually identifying an Alaska hare. In total, 40 trap days resulted in no captures and no visual observations of Alaska hares on trail cameras. To date, capture teams have had the most success with remotely triggered bow nets. In future years, capture teams will continue evaluating all methods and expand on different styles of bow nets and trapping conditions.

OBJECTIVE 2: Deploy 15-20 GPS collars over a three-year period (FY19, FY20, and FY21) in at least two study areas.

ACCOMPLISHMENTS: New GPS collars were designed specifically for Alaska hares by Cellular Tracking Technologies (CTT), which were used in conjunction with Telonics (TGW-40665) Golbalstar Systems standard collars. To date, two GPS necklace collars have been deployed on Alaska hares. Both animals were captured and collared south of Kotzebue. Despite the low number of captured and collared individuals an extraordinary amount of effort has been employed to locate, capture, and collar this species in multiple, extremely remote areas across western Alaska. This species exists at very low density, is nocturnal, and highly elusive making it a particularly challenging species to capture and apply radio collars. However, through trials of capture techniques, to date, it appears that bow nets, although time intensive, are the most effective means of capture moving forward.

OBJECTIVE 3: Estimate vital statistics including: survival, dispersal, and home range size.

ACCOMPLISHMENTS: No work has been completed towards this objective. This project is ongoing and principal investigators are still deploying radio collars, evaluating capture techniques, and collecting data. From the preliminary data, Alaska hares have quite large daily movements up to 5 linear kilometers. However, once Alaska hares make a large movement they tend to stay in within a localized area. Data collection is ongoing and will be reported in future Performance Reports.

OBJECTIVE 4: Publish results in an internationally recognized, peer-reviewed journal and attend professional conferences.

ACCOMPLISHMENTS: No work has been completed towards this objective. This project is ongoing and principal investigators are still deploying radio collars, evaluating capture techniques, and collecting data.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

This project is also related to and close coordination with State Wildlife Grant: AKW-SWG-T-32-1, P23.0. Fecal pellets were collected for genotyping in accordance with the above project. In

year 1 of 5 we captured two Alaska hares (first collars for this species) which were collared with GPS transmitters.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

No Significant Development Reports were submitted.

IV. PUBLICATIONS

Currently, there are no publications, web-based, or other media project updates regarding the status of this project or cursory findings.

V. RECOMMENDATIONS FOR THIS PROJECT This project completed its first year of field work and will continue 4 more years. This project will continue attempting to deploy additional radio collars and evaluate various capture techniques. Currently, there are no amendments or changes planned for this project.

Prepared by: Richard Merizon and Chris Barger

Date: 23 August, 2019