

**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-23-R5-2020 Amendment #1

**PROJECT NUMBER :** P3.0

**PROJECT TITLE:** The Status of Caribou and Factors Influencing Their Populations

**PERIOD OF PERFORMANCE:** July 1, 2019 to June 30, 2021

**REPORT DUE DATE:** Submit to FAC August 27, 2021

**PRINCIPAL INVESTIGATOR: :** Phillip Perry, Region V Management Coordinator

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Authorities: 2 CFR 200.328  
2 CFR 200.301  
50 CFR 80.90

**II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.**

**The Status of Alaska Caribou and Factors Influencing Their Populations In  
Region V**

**Activities by Herd or Unit:**

**Unit 18**

Monitor herd dynamics using radio collars deployed on caribou in Unit 18 and other units as seasonal ranges of the Mulchatna and Western Arctic herds expand into Unit 18.

We conducted radio telemetry flights in June 2021.

Monitor caribou movements north of the Yukon River.

No flights were made to monitor caribou north of the Yukon during this reporting period.

Conduct fall aerial sex and age composition counts.

The results from the composition work will be reported in the Region 4 caribou grant.

Conduct spring aerial or ground based surveys of caribou in Unit 18 to assess recruitment and distribution.

No recruitment work was completed on this activity during this reporting period due to sparse distribution of caribou and difficult logistics.

Participate in photocensuses of caribou herds that use Unit 18.

Due to limited pilot availability no work was completed for this section during this reporting period.

Participate in radio collar deployments and sample collections from caribou from herds that use Unit 18. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

Mulchatna caribou were collared in Unit 17 during this reporting period. The results from those deployments are listed in the MCH section.

Monitor hunting and other mortality factors through harvest reporting, public contacts and field observations.

We supported the use of harvest reports/tickets through the license vendors and interviewed hunters when the opportunity presented itself. Hunting by registration permit RC503 was initiated in RY13 and reported harvest of the MCH (by permit) in RY 19 was 49 caribou in Unit 18.

Continue to improve communication with the public.

We discussed caribou issues with advisory committees, other agencies, and the public.

Develop updated population objectives in cooperation with the public and other agencies.

We discussed issues with other area and regional offices and agency biologists to address common needs related to the MCH, including population objectives.

#### **Teshkepuk Herd (Unit 26A):**

Conduct a photo census to estimate population size of the herd on a projected schedule: a minimum of 3 photo censuses every 5 years.

We did not complete a photo census during this reporting period. Weather on the north slope during late June 2021 and early July did not allow caribou to aggregate to the extent need to complete a census. The minimum count from 2017 was 56,255 caribou and the Rivest estimate was 55,614 with a standard error of 2909 caribou. Weather conditions were not favorable for conducting a photocensus in 2020 and 2021.

Monitor distribution, movements, and dispersal using satellite collar data, radiotelemetry data and aerial survey observations.

We prepared distribution maps throughout the year to monitor movements of satellite collared bulls and cows. Satellite collars and VHF radiotracking data revealed that a large proportion of the herd wintered in northeastern Unit 26A, with a smaller proportion

wintering in the eastern Brooks Range. After 4 years of calving in new areas relative to the 1990-2009 period, calving was primarily concentrated in areas west of Teshekpuk Lake in the summer of 2021 with some animals calving on the south side of the lake.

Monitor mortality (causes and rates) through field observations of collared individuals and investigation of large-scale die-off events.

We are still in the process of estimating the mortality rates for adult females, but preliminary indications are that mortality in 2020-2021 was not significantly different from previous years.

Develop updated population objectives and recommended regulations in cooperation with the public and other agencies.

We discussed population objectives in advisory committee meetings and regional advisory council meetings. A proposal was submitted to rescind the harvest reporting requirements for the communities of the North Slope, and the proposal was not adopted by the Board of Game. The Teshekpuk caribou herd operating plan was written and published in 2019.

Attend meetings with management agencies, oil companies, and caribou users with the intent of minimizing conflicts between the herd and major development projects.

We continue to work cooperatively with BLM, oil companies, and consultants to address management and mitigation concerns. We attended a government to government tribal consultation with the Native Village of Nuiqsut to discuss caribou related issues.

Capture bulls and cows to attach satellite, GPS, and conventional radio collars. Attempt to maintain a minimum sample of 70 known-aged females. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual).

Using an R-44 helicopter and hand-held net gun, we captured a total of 34 caribou 20 TCH female yearlings, 11 female recollared adults, and 3 recollared bulls. The collars that were used were PTT collars on bulls and GPS collars on cows. We used blindfolds and hobbling equipment to restrain caribou. No drugs were used. There were no mortalities associated with this capture project this year.

Weigh, measure and collect blood, fecal and hair samples from all captured caribou to gain information about the prevalence of diseases, parasites, contaminants and condition of the animals.

We collected blood and nasal swabs to analyze for diseases. We did collect fecal and hair samples, morphometric measurements from the caribou that were captured, and weights from 20 captured yearlings.

Conduct sex and age composition surveys during mid-summer and/or October.

We were unable to conduct fall composition surveys due to poor weather. The new management protocols are to start collecting this data only during times of reduced abundance

Conduct aerial surveys during April and May to assess short yearling recruitment and range-wide distribution.

Short yearling surveys were flown from April 28 to May 2, 2021. There were a little over caribou surveyed in 2021. The recruitment rate and mortality has not been fully analyzed at this time. Observations suggest that some of the caribou appeared to be skinny.

Conduct calving location and productivity aerial surveys in June.

Calving surveys were conducted on 6-8th June 2021. We located 80 adult cows. The results from this survey are not fully analyzed at this time.

Use satellite collar information to assess relative abundance of caribou from differing herds in hunt areas in order to better estimate herd-specific harvest rates.

The lack of recent community harvest data from subsistence division limits our ability to evaluate overall harvest patterns, or spatial relationships that allow prediction of harvest by herd. . However, efforts to distribute RC907 and collect RC907 reports are underway for RY2020, so this information may be available in the future. The North Slope Borough collected caribou harvest information through their caribou subsistence household surveys and their report contains harvest information from 2014-2018 which may provide some insight into harvest patterns (Person et al. 2018).

#### **Western Arctic Herd (Units 22, 23, 24, and 26A):**

Conduct a photo census to estimate herd size on a projected schedule of once every two years (2015, 2017, etc.). Censuses may be conducted more frequently if necessary.

On the 2nd of June 2019, Region 5 staff mobilized to Eagle Creek in preparation for the 2019 census, warm weather and insect development provided good aggregation conditions and the census was completed on July 7<sup>th</sup>. During the fall and early winter of 2019 ADF&G staff counted photographs enumerating 224,753 individual caribou. Using this minimum count, the Rigest results estimated the herd at 244,000 animals. A census was conducted in July 2021 and will be reported on the next cycle, the count has not been finalized to date.

Monitor distribution and movements using radiotelemetry data and aerial survey observations.

The WAH was radio-tracked throughout the reporting period by staff located in Barrow, Nome, Kotzebue and Fairbanks.

Deploy a sufficient number of radio collars to maintain a year-end sample size of at least 100 operational radio collars on living caribou. (All animal capture activities will follow the

protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

In October of 2020 an attempt was made to deploy collars on the WAH at Onion Portage, unfortunately, no caribou were captured or collared on the project. Facing a collar deficit going into the fall, arrangements were made for helicopter net-gun captures. Between April 6<sup>th</sup> and the 10<sup>th</sup>, 2021 a total of 54 caribou were collared bringing the sample size up to an acceptable level.

Conduct aerial surveys during April and May to assess short yearling recruitment.

We classified 3,514 caribou between April 27<sup>th</sup> and May 9<sup>th</sup>, 2021, and observed 17 short yearlings:100 adults, this ratio was in-line with the average since 1998. Winter distribution of the WAH required extensive efforts to spatially allocate sampling.

Conduct aerial surveys during June to monitor initial calf production and the distribution of calving areas.

We visually located 81 radio-collared female caribou during the calving period and observed a calving rate of 68% among those cows that were observed. The observed parturition rate was below what has been seen in recent years and close to the average of 70% since 1992. Recent efforts to account for udder distension as an indicator of parturition would indicate the calving rate was closer to 69%, based on observations of cows that likely gave birth then lost their calf prior to the time of observation.

Conduct helicopter surveys on a scheduled basis during October to assess fall composition and retrieve radio collars. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

No fall composition surveys were conducted during 2021, we are planning to conduct a fall survey in 2021.

Collect blood samples from approximately 50–100 captured caribou (annually) to monitor the incidence of selected diseases and pathogens. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

We collected blood samples from a portion of the caribou handled during the 2021 spring captures, however samples were invalidated due to inadequate storage and handling facilities in the field. We intend to adjust procedures in an effort to preserve samples in the field going forward.

Monitor hunting and other mortality factors through harvest reporting, collection of biological specimens and public contacts.

Fall subsistence harvest for the WAH likely decreased in all units except 26A, the greatest portion of the herd remained in the central Brooks Range and on the North Slope rather than moving south through the mountains onto the Seward Peninsula. Fewer than 10% of the collared animals crossed the Kobuk River. Lack of movement south of the Kobuk River has become increasingly more common since 2018. Winter and spring harvest appeared to have been more restricted given the lack of access to communities as well. Communities on the upper Kobuk and northwest portion of the Seward Peninsula seemed to be the exception.

ADF&G staff have made extensive efforts to inform Unit 22, 23 and 26A villages about the new registration caribou permits, RC 800 which went into effect in RY16, and RC 907 which went into effect in RY17. The new permits are designed to capture more accurate harvest information from resident hunters. A total of 890 RC907 and 550 RC800 permits were issued in RY19, we are in the process of collecting harvest information at the present time.

Collect caribou jaws to monitor the age structure for the herd and assess herd health through morphometric indices of jaw growth. Jaw samples will be collected from harvested caribou as well as natural mortalities.

Jaw sampling has been discontinued for the WAH, largely due to the inability to detect age structure and herd health given the lack of randomly sampled jaws.

Use public education programs and/or increased communication with the public to improve understanding of hunting regulations and the value of conserving caribou populations, and to obtain better harvest data through increased harvest reporting.

Department staff participated in state and federal advisory committee meetings within Game Management Units 22, 23, 24 and 26A summarizing the population status of the WAH during this reporting period. Due to travel restrictions imposed by covid, staff were unable to visit communities within the range of the WAH. Given these restrictions, staff worked to reach the public virtually including through participation in a Caribou Trails series of virtual presentations. Staff also participate in the productions of “Caribou Trails”, the publication of the Western Arctic Herd Working Group.

Make a presentation at the annual Reindeer Herders Association meeting and work with the reindeer herders to minimize caribou/reindeer conflicts that may be detrimental to caribou.

ADF&G staff provided a general update on the status of the WAH as well as providing information on the movements and distribution of caribou to the Reindeer Herders Association during their meeting in November 2021.

Involve students in the Onion Portage collaring project to improve public relations and support wildlife education. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

Due to uncertainties in caribou movements no schools were involved with the Onion Portage project in 2021.

Collect and analyze harvest data from selected communities within the range of the Western Arctic Caribou Herd through the Community-based Harvest Assessments program in cooperation with the ADF&G Division of Subsistence, Alaska Native organizations and other resource agencies.

We updated the harvest model for estimating harvest levels by incorporating the latest information (fall 2018) from household surveys from the following communities: Golovin, White Mountain, Selawik and Shungnak. These models indicate that the harvest of WAH caribou by people residing within the range of the herd has been 9,000-15,000 caribou annually.

Attend meetings with resource management agencies, oil companies, and caribou users with the intent of minimizing conflicts between the herd and major development projects.

We presented overviews regarding the population status of this herd to the WACH Working Group, and several subsistence advisory panels associated with development (e.g. Red Dog Mine, and BLM's NPR-A panels).

Participate with resource management agencies and the Western Arctic Caribou Herd Working Group to maintain a Cooperative Management Plan for the herd.

The 2019 Cooperative Management Plan was presented and accepted at the 2019 working group meeting.

Participate with State interests, resource management agencies, and the Western Arctic Caribou Herd Working Group to evaluate and recommend critical habitat designations for the herd.

Kernel analyses delineating seasonal ranges and dynamic Brownian Bridge Movement Models of WAH movement areas were updated.

### **III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.**

None

### **IV. PUBLICATIONS**

None

### **V. RECOMMENDATIONS FOR THIS PROJECT**

None

**Prepared by:** Phillip Perry

**Date:** 9/29/21