Dall's Sheep

Background

The National Park Service (NPS) has monitored sheep populations within Yukon-Charley since the 1980s. The same 7 core areas have been surveyed since 1997. The last survey occurred in July 2023 and only 70 sheep were observed within the core survey areas, which represented a 78% population decline compared to the long-term average. Accurate Dall's sheep abundance and demographic data are critical for sustainable management of Dall's sheep populations and their harvest.

Figure 1. A picture of a Dall's sheep (NPS / Jared Hughey).

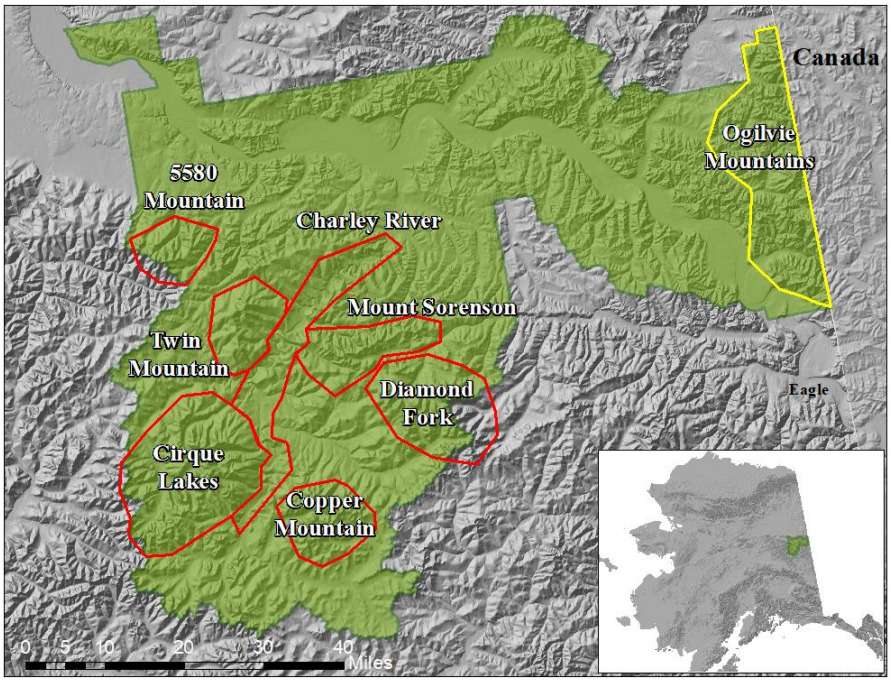

Figure 2. A map of Yukon-Charley Rivers National Preserve (green) and core sheep survey unit boundaries (red polygons). The yellow polygon represents the Ogilvie Mountains survey area.

Population Estimates

No aerial sheep surveys were conducted this summer due to federal funding freezes. However, sheep surveys were conducted on adjacent areas and population abundance was reported as stable but remained low. Funding was secured to conduct an aerial survey during the summers of 2026-28.

Management Actions

The Federal Subsistence Board closed sheep hunting on lands south of the Yukon River and within the Preserve during the 2023-25 seasons to aid the recovery of the sheep population.

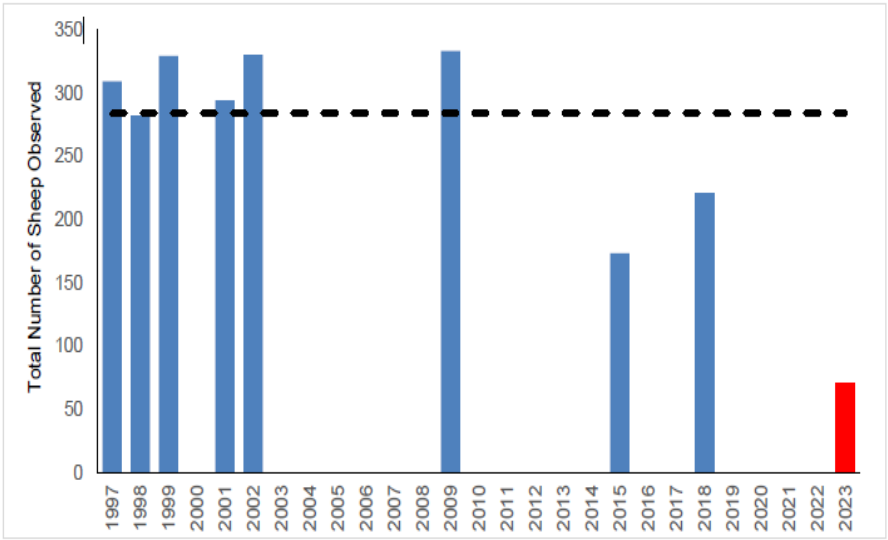

Figure 3. A bar graph depicting Dall's sheep population trends in the core 7-unit area of Yukon-Charley Rivers National Preserve, 1997-2018. Black dash line is the average for years prior to the 2015 population decline (i.e., 1997-2009) and the red bar is the current (2023) survey. Total number of sheep on y-axis and year on x-axis.

Moose

Background

Moose are an important subsistence species for people in the upper Yukon River drainage and the National Park Service has monitored moose populations within Yukon-Charley since the 1980s. Since 2003, surveys have been conducted every 3 years using the same protocols and over the same area. The last survey occurred in November 2022 and the next is scheduled for November 2025. NPS is also conducting a GPS collar study of adult female moose in the Preserve to understand adult survival, productivity, and movements. This year was the 6th season of monitoring calving and the 5th full year of monitoring adult survival and calf recruitment.

Population Estimate – Fall 2025

Yukon-Charley staff are currently planning to conduct a moose population survey this fall. The plan is to have 4 or 5 planes based in Eagle and Coal Creek when survey conditions are right. This is typically mid-November but has been as early as late October in the past. The last survey estimate in 2022 was 738 moose (90% confidence interval: 548-928; ± 26%) and a density of 0.24 moose/mi^2. The moose population trend over the last 20 years of GSPE surveys is suggestive of a generally stable but low-density population exhibiting fluctuations between survey periods. However, the recent downward trend in population adds importance to continuing survey efforts.

Collar Project Updates

NPS has 19 active collars on adult female moose in and around the Preserve. From May 1, 2024 – April 30, 2025, we had an adult survival rate of 81% and the 5 mortalities occurred in May, July, December, February, and March. We had strong calving in 2025: our calving rate based on GPS data was ~ 95% and our long-term average from 2020 – 2025 is about 80%. Our twinning rate of calves counted from aerial surveys was average at 47%. The timing of calving in spring has remained consistent in the 5 years of monitoring and the long-term average is May 20. We will monitor the calves this year for summer and winter survival. NPS plans to begin closing out the project by recapturing the animals and removing collars next spring. After we have finished collecting data, we plan to analyze everything and report back on some of the mechanisms underlying the population patterns we have observed.

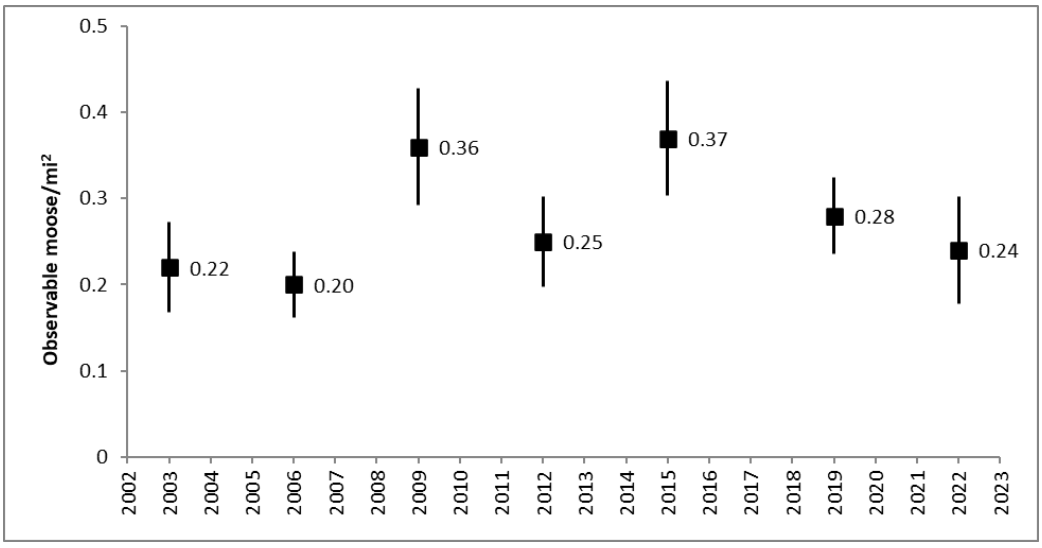

Figure 4. A graph of moose population density estimates from GSPE surveys from 2003 – 2022, Yukon-Charley National Preserve, Alaska. Observable moose/mi^2 on y-axis and years on x-axis.

Wolves

Background

The National Park Service has monitored the wolf population within Yukon-Charley for over 30 years, making it the third longest study of wolves in North America. Wolves are an apex predator and viewed as an important vital sign used to assess the health of the Preserve. The goal of the Wolf Monitoring Program is to assess population dynamics, monitor reproduction and survival, and track disease and genetic health.

Population Dynamics and Survival

Over the 2024 biological year (May 1, 2024 – April 30, 2025), we tracked 19 GPS collared wolves across 7 packs. Five of the 7 packs denned, but only 3 of the packs retained pups into the fall. Of the 19 wolves, 6 died (5 natural mortality and one trapped) and zero dispersed outside the Preserve resulting in a 68% survival and emigration of collared wolves. One pack disbanded during the fall after the deaths of both breeding adults. The fall and spring pack count averaged 5.8 and 5.7 wolves, respectively, lower than the long-term average of 7.4 and 5.0 wolves. The number of wolves monitored within the Preserve in the fall was 35 which represents a decline of 37% compared to the long-term average.

Figure 5. A picture of NPS biologist collecting measurements and biological samples on a sedated wolf (NPS / Matt Cameron).

Other Studies

Last year, we deployed 8 additional video GPS collars on wolves in the Preserve. The cameras were set to collect 30-second video clips every daylight hour between Nov-Mar. The goal of the overall project is to collect data on winter and summer diets, behaviors, and record social behaviors during the early pup-rearing season. We have retrieved videos from 14 wolves and are processing the results.

New Study Published

Genetic Connectivity in a Cooperatively Breeding Carnivore Between Two Protected Areas: We used a 30-year dataset of genetic samples from gray wolves (*Canis lupus*) in Alaska, USA, to examine genetic connectivity and diversity between Denali NP and Yukon-Charley. We found that the two populations were genetically similar and that dispersal events occurred between them even though they are > 450 km apart. We posit that intact ecosystems and a history of continuous distribution of wolves surrounding the affected regions likely maintained the genetic connectivity of wolves in the two protected areas.

Link to study overview:
https://www.nps.gov/articles/000/2-parks-1-wolf-population.htm

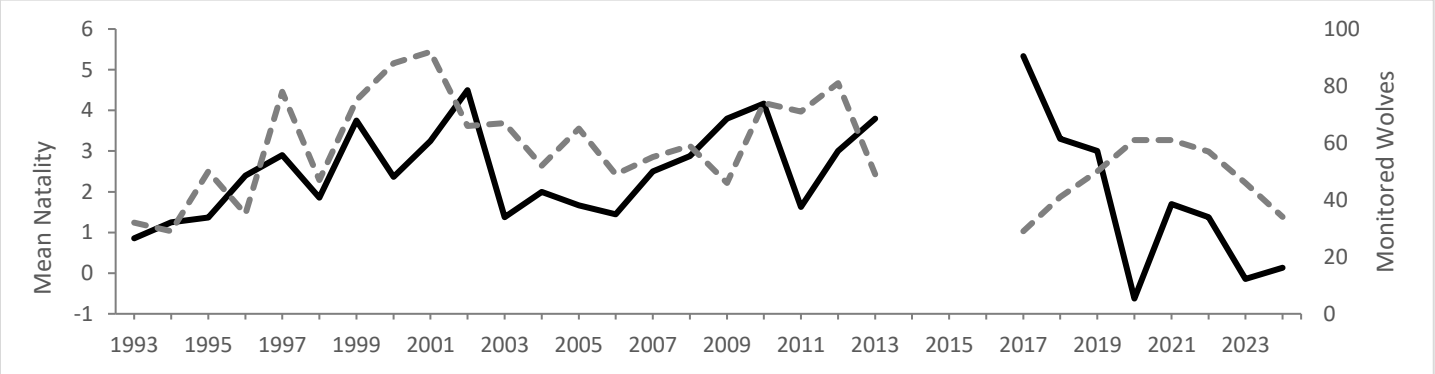

Figure 6. A line graph of the average number of wolves recruited into each pack over the summer (mean natality; solid black line, left side y-axis) and the total number of wolves monitored during the fall (dashed grey line, right side y-axis) in Yukon-Charley Rivers National Preserve. Years are on the x-axis.

Peregrine Falcons

Background

American Peregrine falcons in Yukon-Charley have been monitored nearly annually for 50 years. Yukon-Charley hosts one of the longest studied populations of wild Peregrine Falcons in the world and the species in named in the Preserve's enabling legislation, the Alaska National Interest Lands Conservation Act (ANILCA, 1980). Since 2005, the survey has been managed by the National Park Service Central Alaska Network's Long-term Monitoring Program in partnership with Yukon-Charley. This continues a program started by the US Fish and Wildlife Service in the 1970s. Surveys consist of boating 165 miles from Circle to Eagle and back to Circle twice a year (May/June and July) for two to three weeks per survey trip, stopping to observe likely nesting bluffs along the way. Biologists search for adult falcons and active nests, taking care to note the types of behaviors exhibited by detected individuals. When possible, biological samples (e.g., addled eggs, feathers, scat) are collected for contaminants and disease testing.

Figure 7. A picture of biologists surveying bluffs for Peregrine Falcons along the upper Yukon River in Yukon-Charley Rivers NP, 2025 (NPS / Melanie Flamme).

2025 Survey

Surveys were conducted in 2025 from May 29- June 10 and July 11-27. We detected a slight increase in the upper Yukon River peregrine population this year. A total of 87 sites were surveyed with 36 occupied territories. We detected 29 mating pairs and seven single birds for a total of 65 adults. Eleven nests comprised of 14 nestlings and three fledglings were also documented. This is up from just nine nestlings last year. An additional effort included collaborating with UAM Entomologist, Jessica Rykken, for a second year to collect valuable pollinator specimens from this understudied region.

Figure 8. A digi-scoping image of three Peregrine Falcon nestlings in a nest near Eagle, Alaska, 2025 (NPS / Melanie Flamme).

Trends

Peregrine falcons underwent a remarkable population recovery following the banning of DDT in the 1970s, a pesticide that reduced their reproductive success. The population in Yukon-Charley appears to have peaked in the early 2010s. Population trends since then have fluctuated, however preliminary data indicates a decline between 2020-2024, with a slight increase in 2025. Efforts are underway to improve the monitoring program's ability to assess this potential decline, including through advanced data analysis techniques, increased staffing for surveys, expansion of the surveyed area, and collecting additional samples for genetics, contaminants, and disease analyses.

Figure 9. A picture of Jessica Rykken, UAM Entomologist, collecting pollinators from the upper Yukon River while assisting biologists with Peregrine Falcon surveys (NPS / Melanie Flamme).

Cultural Resources

‘Lost’ sluice box relocated at Coal Creek

Historian Chris Allan met with long-time resident of Coal Creek and current facilities employee Mallie Hall both in summer 2024 and summer 2025 to discuss the processes specific to open-cut mining that took place after dredge activity ceased at Coal Creek. Hall was able to recall detailed accounts of everyday activity and he specifically recalled two sluice boxes in operation at Coal Creek. One sits near Coal Creek Camp and can be observed by visitors. The second was assumed washed away or buried by the creek over the years. Using LiDAR and aerial imagery, park archaeologist Whitney McLaren located the second sluice precisely where it was left sometime in the early 1980s.

Figure 12. A picture of NPS employee Mallie Hall in the relocated sluice box at Coal Creek (NPS / Whitney McLaren)

This summer, McLaren, Allan, and Hall returned to Coal Creek to document the newly relocated sluice. The rediscovery of this artifact provides insights into the mining techniques that shaped the landscape within the Coal Creek Historic Mining District. The sluice box appears to have been abandoned and includes the riffle assembly: steel riffles of angle iron, plastic “slick plates,” sections of expanded steel, and mats of Astroturf. Each of these layers helped to slow down the tumbling mixture of gravel and water to allow the gold to fall out of the mix. The twin examples of open-cut mining sluice boxes help illustrate a fascinating chapter in Coal Creek’s gold mining history.

Figure 13. A picture of a large nail next to a porcelain button, each orange flag in the background represents additional artifacts located at Charley’s Village during the 2025 visit. (NPS / Whitney McLaren)

Archaeological Monitoring

Since 2000, the cultural resources team has been monitoring erosion at the site of Charley’s Village. Formerly inhabited by the Hän Hwëch'in band led by Chief Charley, the village was destroyed by a spring flood in the early 20th century. The remains of the village are eroding into the Yukon River with continued spring flooding and other natural river actions. Cultural resource staff conduct periodic site monitoring and track ongoing changes as the river continues to expose more artifacts.

Enamelware, tin cans from food and tobacco, watch parts, glass, faunal remains, ammunition, tools, nails, other metal debris, notched logs, beads and buttons have been documented at the site since 1991. These findings provide insight into specific aspects of lifestyle and subsistence. Items of adornment, like two glass beads and a porcelain button recently found at the site provide insight into travel and trade networks along the Yukon River. The team is currently working with the Eagle Village Tribal Council to interpret and share these findings.

Figure 14. A picture of a closer look at the porcelain button found at Charley’s Village during the 2025 visit. (NPS / Whitney McLaren)

Other NPS News

Eagle Subsistence Working Group Meeting

The Eagle Subsistence Working Group met in Eagle at the Eagle Community School on January 28, 2025 to discuss the Yukon-Charley Rivers NP Superintendent's Compendium, public use cabins/preservation work, various biological surveys and resource monitoring projects, and the subsistence program for the Preserve. The next meeting is in the process of being scheduled for late October.

Eagle Community School Education/Outreach

While in Eagle for the Subsistence Working Group meeting, Yukon-Charley staff led school activities with all of the students. Activities included peregrine falcon identification, owl pellet dissections, an ungulate harvest exercise, and a caribou photo survey. Staff enjoyed getting to know the students and school staff and we plan on continuing future outreach.

Figure 10. A picture of NPS staff explaining how to dissect an owl pellet (NPS / Marcy Okada).

Brown Bear Book

A book titled Brown Bears in Alaska's National Parks: Conservation of a Wilderness Icon was recently published. Written by National Park Service staff across multiple Park and Preserve units, this book focuses on bear biology, human-bear interactions, monitoring methods, and the relationship between Alaskan indigenous cultures and bears.

For more information, contact kyle_joly@nps.gov

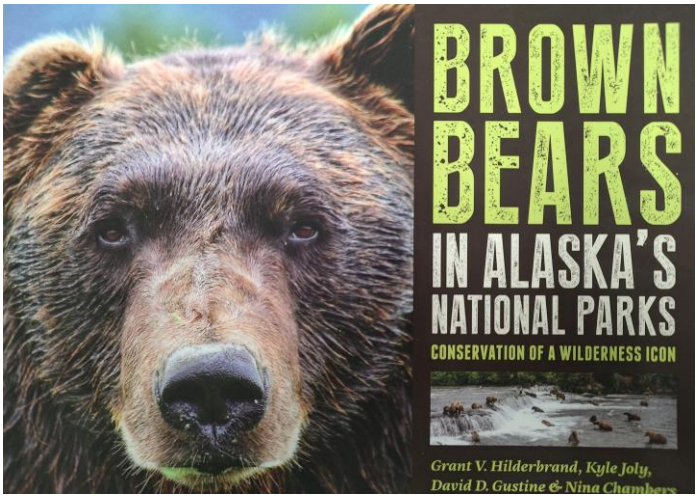

Figure 11. A picture of the book cover of Brown Bears in Alaska's National Parks: Conservation of a Wilderness Icon.

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