



NATIONAL CONSERVATION LANDS

Alaska
Fiscal Year 2023: Annual
Manager's Report

Steese

National Conservation Area



Map



Figure 1: Map of the two units of the Steese National Conservation Area in interior Alaska.

Accomplishments

In fiscal year (FY) 2023, the Bureau of Land Management's (BLM) Eastern Interior Field Office (EIFO) began implementation of the travel and transportation management plan (TTMP) for the Steese National Conservation Area (NCA). EIFO set up and staffed booths at Alaska's two largest outdoor shows where more than 10,000 contacts were made. The public received maps, access to digital resources, and face-to-face discussion with the staff at the booths. Other TTMP outreach objectives were met through social media posts, posters, flyers, and participating hunter outreach forums hosted by Fort Wainwright. The EIFO made tremendous efforts in marking approximately 100 miles of routes designated by the new TTMP. Also, new regulatory signage and boundary markings were installed along primary entry points for the Steese National Conservation Area (NCA). These implementation efforts were very effective in decreasing new adverse impacts caused by off-highway vehicles (OHV).

The EIFO began working on the Birch Creek Wild and Scenic River (WSR) comprehensive river management plan. The decision record is expected to be signed in mid FY2024.

Assessment, Inventory and Monitoring efforts continued within the Steese NCA in 2023. Following the riparian and wetland protocol, eight sites were completed by ABR, Inc. - Environmental Research & Services. All sites were remote and required access by helicopter.

BLM staff and a volunteer were able to plant approximately 130 *Carex bigelowii* plugs and 160 *Eriophorum scheuchzeri* plugs on OHV-damaged sections of the Pinnell Mountain National Recreation Trail (NRT) near Eagle Summit. The native seed for this effort was procured by BLM Alaska and plugs were grown at the Alaska Plant Material Center.



Figure 2: Transplanting alpine tundra plants in a restoration area along the Pinnell Mountain National Recreation Trail.

Challenges

This year BLM continued habitat rehabilitation and public outreach in response to the off-highway vehicle damage on the non-motorized Pinnell Mountain NRT that occurred during the Fortymile caribou hunt in the fall of 2020. EIFO capitalized on the successful outreach efforts from the previous three years.

EIFO staff and regional scientists are learning more about effective restoration methods in fragile tundra ecosystems. Plants in high alpine tundra ecosystems are typically slow growing. Lichen, which are an important caribou food source, typically grow less than 1 mm per year. It will likely take multiple decades to restore native vegetation to the areas that have been impacted and permafrost thaw may be permanent. To understand effectiveness in restoration efforts of the habitat adjacent to the Pinnell Mountain NRT, EIFO developed partnerships in 2021 with the University of Alaska and Salcha-Delta Soil and Water Conservation District.

Title to submerged lands below navigable waters in the state passed to the State of Alaska at statehood based on the equal footing doctrine, the Submerged Lands Act, and the Alaska Statehood Act. BLM previously determined that Birch Creek is navigable below the confluence with South Fork Birch Creek and non-navigable above. In 2018, the State of Alaska asserted that the waters above the South Fork confluence are also navigable and filed a Notice of Intent to file a quiet title action lawsuit to the submerged lands above the confluence. In March 2024, the State of Alaska filed an updated Notice of Intent which added three Birch Creek tributaries to the waters asserted in the 2018 assertion. A similar case, previously filed by the State of Alaska for portions of the Fortymile Wild and Scenic River (WSR), is currently working its way through the judicial system with the Department of Justice. Judicial navigability findings from the Fortymile case, expected in 2024, could have impacts to future management of rivers on federally administered lands in Alaska.



Figure 3: Downloading data from a soil temperature monitoring station used to assess the impacts to permafrost soils from off-highway vehicle use.

Visitors

Visitation in the Steese NCA decreased from last year's high visitor numbers, with an estimated 29,235 visits and 117,539 visitor days in FY2023 according to data from BLM's Recreation Management Information System. This is approximately a 2% decrease from the previous year. The decrease in visitors is likely linked to the decrease in the caribou harvest quota from the previous three years. Many Steese NCA visitors stay on the highway and enjoy the scenery from waysides during short visits. Others leave the highway to enjoy the NCA's undeveloped areas, where visitors generally stay a few days to a week.

The Steese NCA has become a prime destination for hunters seeking caribou, moose, sheep, bear, gamebirds, and waterfowl. Winter hunting and trapping are also common activities. The NCA sees its highest levels of visitation during the fall big-game hunts that attract hunters from many parts of the state and from around the world. This year, the BLM continued the hunter access outreach and education program that included contacting hunters near the highway to promote knowledge of the NCA and motor vehicle limitations. Patrolling the FY2023 caribou hunts along the Steese Highway, BLM staff made over 500 outreach contacts.



Figure 4: Public outreach during hunting season regarding limitation for off-highway vehicles.

Partnerships

BLM partnered with Salcha-Delta Soil and Water Conservation District to revisit alpine caribou habitat plots established in 2012. Evaluating differences in the plots will help the BLM to understand habitat changes in response to high caribou populations. Together, the BLM and conservation district crews accessed thirty sites by helicopter.

BLM continued collaboration with Alaska Department of Fish and Game (ADF&G) and Yukon Environment to monitor Fortymile caribou distribution and movements (through satellite GPS collars), population condition and trend (including survival, parturition, animal condition, herd composition, and census). The BLM also continued a cooperative agreement with the ADF&G to facilitate those efforts. Results from this work are crucial to manage and coordinate the State of Alaska caribou hunt and the federal subsistence Fortymile caribou hunt, especially in this time of reduced regional caribou populations.

The EIFO worked closely with the U.S. Geological Survey (USGS) Water Resource Division, National Weather Service's (NWS) River Forecast Center, and Alaska Department of Environmental Conservation to inventory stream flow and monitor water quality and meteorological conditions in the Steese NCA. These collaborative working relationships benefit all cooperating agencies through data sharing and coordinated field logistics, significantly reducing individual agency costs for field-travel and equipment.



Figure 5: Monitoring water quality.

Science

In cooperation with the USGS and the NWS, the BLM utilizes stream gage stations to document water conditions on Birch Creek WSR providing real-time data to the public for planning recreational boating trips as well as monitoring flood hazards for public safety. The BLM continues to work with the Alaska Department of Environmental Conservation to better understand the extent to which natural versus anthropogenic sources contribute to elevated turbidity levels in Birch Creek WSR during high-water events. Erosion from land features disturbed by past mining activity in the upper Birch Creek WSR basin have been identified by the Alaska Department of Environmental Conservation as source areas contributing to increased turbidity, while the BLM has recently noted accelerated erosion in the lower watershed due to warmer annual temperatures resulting in instability and erosion of permafrost soils, which also contribute to elevated turbidity levels during high-water events.

EIFO continued collaboration with university partners to publish results of studies to understand caribou and their use of the landscape. Northern Arizona University and other collaborators utilized long-term Fortymile Caribou Herd population and radiotelemetry data to examine changes in caribou relative density as the population increased nearly four-fold from 1992 to 2020 and examined changes in vegetation. Deciduous shrubs increased during this time, especially in areas of high caribou density, but willow (the key summer forage) declined slightly. Lichen cover (the primary year-round forage) decreased more in areas of high caribou density.



Figure 6: Fortymile caribou follow the tundra covered ridges of the Steese National Conservation Area during the fall migration.

Climate Impacts

Much of Interior Alaska is underlain by discontinuous permafrost—frozen ground with highly variable ice content that restricts water drainage and strongly influences landscape water balance as well as the design and maintenance of infrastructure. Permafrost thaw results in the settling and/or slumping of soil and is one of the serious impacts of a warming climate in Alaska.

Increased surface erosion associated with thawing permafrost and melting ground ice results in thermokarst development in low gradient areas and increased thermal erosion on hill slopes. Detachments of seasonally thawed permafrost hill-slope areas and accelerated erosion of ice-rich river embankments are evident in the lower reaches of Birch Creek WSR.



Figure 7: High water event and warmer temperatures contribute to the accelerated erosion of a permafrost bank on Birch Creek Wild and Scenic River

Climate Resiliency

There are no long-term climate data for the Steese NCA. However, as discussed in Wendler and Shulski (2009), global climate change is observed to be magnified in the polar regions, including Interior Alaska. These regions are more sensitive to change mainly due to the snow albedo feedback. As warming leads to a reduction of the snow and ice cover that is highly reflective to solar energy, it exposes more of the darker underlying surface that has lower albedo (reflectivity). The darker surface absorbs more of solar energy leading to further warming of the surface and greater snow and ice retreat.

Wendler and Shulski¹ (2009) reported most of the warming in Interior Alaska since 1976 has occurred in winter, approximately 8 degrees Fahrenheit (F), and spring, about 5 degrees F, with the least amount of change in autumn (0.2 degrees F). They also found precipitation decreased in Interior Alaska by about 11 percent, which they noted is not statistically significant; however, it was a somewhat counter-intuitive result, as warmer air can hold more water vapor.

The Steese NCA is situated in close proximity to other public lands managed by the U.S. Fish and Wildlife Service and the National Park Service (NPS). Yukon Flats National Wildlife Refuge is to the north of the Steese NCA and Yukon-Charley National Preserve and the Fortymile WSR is to the east. The White Mountains National Recreation Area (NRA) managed by BLM is to the west of the northern Steese unit. The White Mountains NRA is not part of the National Landscape Conservation System, however it is a large swath of land that is mostly undisturbed to the west of the Steese NCA and contains the Beaver Creek WSR. Managing the Steese NCA as part of the larger landscape provides connectivity for the flora and fauna that make up the Northern Boreal ecosystem, provides greater ecosystem services and allows more options for transition to a sustainable state under future climate conditions.

¹ Wendler, G. & Shulski, Martha. (2009). *A Century of Climate Change for Fairbanks, Alaska*. ARCTIC. 62. 10.14430/arctic149.

Social and Environmental Justice

In FY2023 BLM worked with ADF&G and NPS to provide additional opportunities for federally qualified subsistence users to hunt caribou on public lands. The BLM field office manager set the federal fall subsistence hunt for Fortymile and White Mountains caribou to open nine days earlier than the State of Alaska general season and allowed two bull caribou to be taken (vs. one under State regulations). The winter season harvest limit was set at two bulls for federal subsistence hunters, while one caribou was allowed under State regulations. After State seasons were closed in some hunt zones to stay within small harvest quotas, federal subsistence seasons remained open for the duration of each season. These measures provided additional harvest opportunities to rural communities impacted by complete salmon harvest closures on the Yukon River.



Figure 8: A small group of Fortymile caribou forage along a ridge next to an off-highway vehicle trail in the south unit of the Steese National Conservation Area.

Events

In February 2023, the Yukon Quest International Sled Dog Race decided to conduct the Alaska and Canada races separately again. The course was modified, shortening the race to 550 miles. The course started in Fairbanks, Alaska passing through the Steese NCA and Birch Creek WSR to the Yukon River, and finishing in Central, Alaska. Checkpoints along the course provide rest, safety, and welfare checks for dogs and mushers. BLM sites along the Steese Highway and in Central are important for the success of the event and the safety of the competitors.



Figure 9: The Yukon Quest Alaska sled dog race runs through Central, Alaska.



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<https://www.flickr.com/photos/blmalaska/albums/72157662274586342>

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