



U.S. Fish & Wildlife Service

Summary of Activities

Kanuti National Wildlife Refuge



Photo credit: USFWS/George Geleta

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➤ ***Staffing Updates***

Subsistence Coordinator, Vince Mathews, who represented Arctic, Kanuti and Yukon Flats Refuges since 2009, retired in December 2021 after 28 years working in various subsistence-related positions for the U.S. Fish and Wildlife Service in Alaska. We greatly miss the wealth of knowledge and expertise he amassed over the decades he worked closely with Regional Advisory Councils, the Federal Subsistence Board and the people living in rural communities in and near refuges in Alaska, but wish him the best in his well-earned retirement. The subsistence coordinator position is funded by the Office of Subsistence Management and hosted and supervised by Yukon Flats Refuge, who had hoped to refill it by now, but for numerous reasons the recruitment has been delayed. We hope to see this important position filled sometime in the next year.

Due to long-term funding declines for the National Wildlife Refuge System, the Service recently completed a multi-year effort to thoughtfully adjust distribution of funding and staffing among the 16 refuges in Alaska. The intent was to meet Refuge System goals and priorities while giving flexibility to managers in response to unpredictable budget cycles. As a result, staffing and budgets for the Kanuti and Yukon Flats National Wildlife Refuges are being significantly reduced. As staff leave or retire many positions will not be refilled and ultimately the two offices will be complexed (combined), with each refuge retaining one manager position.

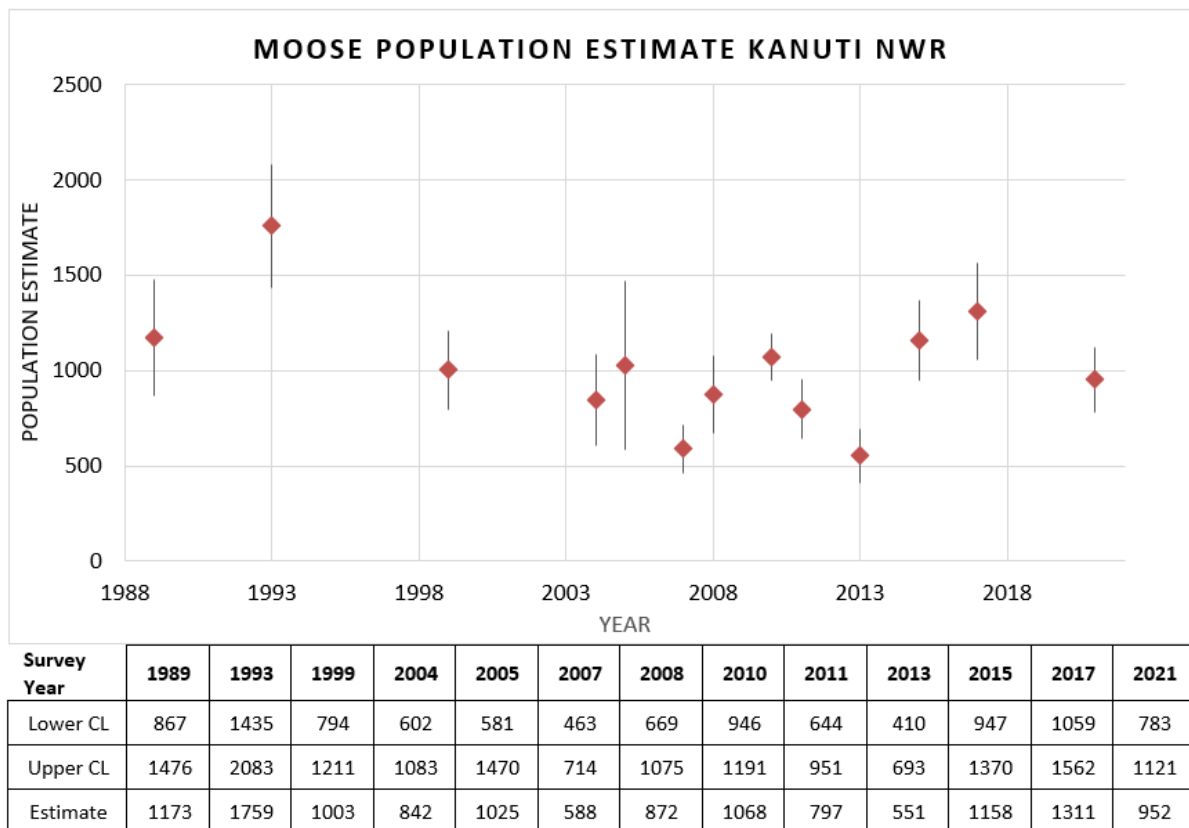
With Vince's retirement and the majority of Kanuti's remaining staffs' workload directly supporting other refuges and programs, we are now operating with a skeleton staff and just a fraction of the capacity we had a decade ago. Since our report in September of 2021, Kanuti Refuge no longer has any staff or facilities in Coldfoot, and Arctic Refuge now represents the Fish and Wildlife Service in the management and staffing of the Arctic Interagency Visitor Center there. More significant changes are in store for Kanuti Refuge in the future as we continue to lose staff and absorb budget cuts.

➤ ***Fish, Wildlife and Habitat Research and Monitoring***

Moose Population Survey

In October and early November 2021, Kanuti Refuge received sufficient snow to attempt our semi-annual moose population survey. During November 4-13, 2021, Kanuti Refuge helped the Alaska Department of Fish and Game (ADFG) complete the survey of the Refuge (2,714 square miles). Crews estimated 952 (90% confidence interval: 783-1121) moose on Kanuti Refuge, resulting in an estimated density of 0.35 moose per square mile. This total estimate included an estimated 528 cows, 297 bulls, and 115 calves. Crews actually observed 340 moose, from which

the estimates were derived. ADFG also reported the following estimated demographic ratios for the Refuge: 22 calves per 100 cows, 3 yearling bulls per 100 cows, and 56 total bulls per 100 cows. Crews completed a new stratification of moose density distribution just prior to the survey to help improved the precision of the estimate. This updated stratification contributed to crews achieving their under-20% (namely, 17.8%) sampling error goal. While the refuge population estimate was lower than the last estimate (2017), it was not significantly so. This trend suggests a stable population, albeit one in “low density equilibrium” (see below). Information here courtesy of ADFG area biologist Glenn Stout.



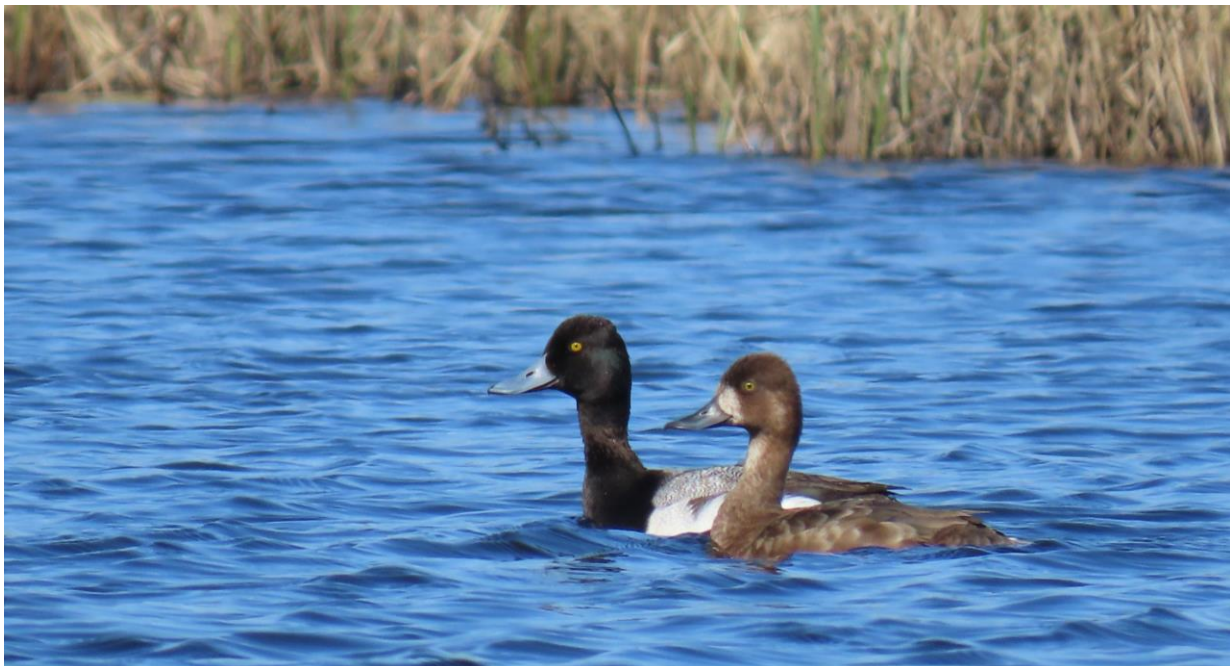
Observable moose population estimates by year on Kanuti NWR, Game Management Unit 24B, Alaska. Error bars represent the 90% confidence intervals for each year. Figure courtesy of Glenn Stout, ADFG.



Cow moose frequenting the Kanuti Lake area in June 2022. USFWS photo by Chris Harwood.

Aerial Surveys for Breeding Scaup/Scoters and Molting Geese

Due to pilot/plane unavailability (June) and persistent wildfire smoke (July), we had to cancel the summer 2022 waterfowl surveys. We hope to resume both annual surveys in 2023.



We were unable to conduct our annual survey for breeding scaup pairs in June 2022. USFWS photo by George Geleta.

Drained Lake Observation

In mid-June 2022, Refuge staff investigated again the water level of a lake just northeast of Kanuti Lake Cabin on the north side of the Kanuti River. This lake was historically popular for the drop-off and/or pick-up of moose hunters. The lake had been long and deep, providing a suitable and convenient spot for floatplane operations. However, in late September 2020, hunters reported a dramatic, overnight loss of water in the lake. The draining of the lake was a result of a series of beaver dams breaching at the lake's west end outlet to the Kanuti River. The lake is still split into two smaller, shallow lakes with considerable mudflats. It is no longer safe for most floatplane operations. We saw no evidence of recent beaver activity which might restore deeper water. Willow growth at the west end is insufficient to support local beavers for now.



Northward-looking panoramic view of the two parts of O2 Lake now. Smaller western lobe is to left. Photo is taken from the south edge of a sizeable sand/mudflat that has largely cut the lake in two. USFWS photo by George Geleta.

Salmon Studies

A salmon escapement monitoring project on Henshaw Creek was first established in 1999 by the U.S. Fish and Wildlife Service. A counting tower was used in 1999 to enumerate Chinook salmon and summer chum salmon. The project switched to an adult salmon weir in 2000 and in 2007, Tanana Chiefs Conference began operating the weir.

The weir was severely damaged late in 2021 from heavy flooding. As a result, Tanana Chiefs Conference did not operate the weir in summer 2022, but rather worked to make repairs so it can be operational again in 2023.

Lynx Movements Study

Kanuti Refuge has been part of an Interior-wide study of lynx movements along with Koyukuk/Nowitna/Innoko, Yukon Flats, and Tetlin Refuges, Gates of the Arctic National Park, and the University of Alaska Fairbanks. In 2018 and 2019, we fitted GPS collars on 20 lynx near Bettles. All of the collars Kanuti Refuge deployed on lynx have been off the air (their batteries finally died) since last winter so we're no longer tracking any surviving lynx. We are also no

longer capturing or collaring new lynx due to low numbers on or near the Refuge, the difficulty of accessing public lands in our area where lynx can be trapped, and lack of staff capacity.

Weed Surveys

During June 13-17, an invasives crew led by USFWS's northern regional invasives coordinator Lisa Dlugolecki, visited 19 lakes on Kanuti Refuge, plus VOR Lake in Bettles, to survey for the aquatic invasive plant, *Elodea*. The crew found no evidence of *Elodea* in any of the lakes. They also walked along roads, paths, and the airstrip perimeter in Bettles to look for terrestrial invasive plants. Low numbers of a couple of species (pineapple weed and alsike clover) were found along the airstrip and dandelions were common near Bettles Lodge and its housing area. No invasives were found along the road from town to VOR Lake floatpond. Siberian pea was found between USFWS and NPS housing, so those shrubs were cut down to prevent seeding and stacked for fall burning. The crew plans to apply herbicide to the cut shrubs in 2023.



While some native Alaskan plants resemble Elodea, they lack the major fieldmark of having leaves that are arranged in whorls of three. The finely toothed leaves are densely packed around the stem. USFWS photo of Elodea.

➤ **Fire Management**

Wildfire Activity

Warm and dry conditions during May and June primed Kanuti Refuge for a relatively active fire season. A total of five fires started on refuge lands, ultimately burning 8,215 acres. All fires were determined to be caused by lightning, there were 1,046 recorded lightning strikes within the refuge boundary between May 5th and August 29th.

The first fire within the region, the Sithylenkat fire, was called in by refuge staff on June 20th after a lightning storm moved through the area. The Sithylenkat fire started near the refuge boundary on Doyon Regional Corporation land near Sithylenkat Lake and was aggressively suppressed using aircraft, smokejumpers and a hand crew. The fire was eventually contained at 410 acres. On July 6 another storm passed through the area and with it came abundant lightning with very little precipitation. As a result, three new fires started just south of Bettles, all on refuge land. These blazes were small and quickly contained by firefighting resources already positioned in Bettles. Further south in the refuge, two other fires started in an area characterized as having abundant old growth lichen, an important food source for caribou. Firefighting resources were unavailable to respond to these fires due to higher priorities within the state. Approximately 8,000 acres or ~9% of this ecologically important area burned this year.

By July 12th, the weather pattern over Kanuti Refuge shifted to a cooler and wetter regime that would eventually bring an end to the 2022 fire season.

➤ **Public Use Management**

Special Use Permits

This year we issued special use permits authorizing three air transporters to conduct commercial operations in Kanuti Refuge. This is down from five air taxi and/or transporter operators who were issued permits in 2021. No permitted big game guides operated on the refuge this year.

Law Enforcement

North Alaska Law Enforcement Patrol Zone officer Jared Long conducted aerial moose-hunting patrols in mid-September. At the time of writing this summary he is still in the field and a report is not available, but the LE Patrol Zone should have representatives available at the Fall WIRAC meeting to answer questions.

Outreach and Environmental Education

We had hoped to offer our long-standing and popular science and culture camp at the Henshaw Creek Weir again this summer. Unfortunately as a result of heavy flooding in 2021 the weir was severely damaged and Tanana Chiefs Conference employees, who manage and operate the weir, had to spend all summer this year rebuilding it. Consequently, we were unable to host the camp again this year.

As a result of an extended period of persistent heavy smoke in late June and through much of July, we were also forced to cancel our annual Dragonfly Day event in Fairbanks, which we had also been looking forward to hosting in person again. We're planning to host both the science camp and Dragonfly Day again next summer, in 2023.

Questions?

If you have any questions about the Refuge, feel free to call us at 877-220-1853, or stop by our office in the Fairbanks Federal building at 101 12th Avenue.