Northeast Alaska Collaborative Moose Study Description

The National Park Service (NPS), Bureau of Land Management (BLM), and the Fish and Wildlife Service (FWS) are working together on a broad study to better understand the ecology of moose in the Upper Yukon Drainage, Richardson Mountains and the Arctic. The goals are to gain insight on moose seasonal movement and distribution, habitat use and diets, and how these relate to population status through adult survival and recruitment of young into the population. From 2020 to 2022, biologists captured and deployed GPS collars on cow moose in northern Yukon-Charley Rivers National Preserve, BLM lands in the Draanjik (Black River) drainage, and in the Arctic National Wildlife Refuge. Through these collars, biologists are tracking moose movements throughout the year and detecting if females have calves in spring. Biologists also use airplanes to radiotrack moose three times a year to record how many calves are born and survival of calves in their first year of life.

The study has already revealed surprising variability in moose movements, with some migrating over 150 kilometers (90 miles) in the spring (see map of movements on the back). This highlights how interconnected our wildlife populations are, even across international borders.

Draanjik Moose Study Portion

This study was initiated in 2016, to address concerns about the possible effects of the Draanjik Resource Management plan on moose populations, especially calving areas, but was delayed until recently, when BLM had the opportunity to collaborate with Yukon-Charley Rivers National Preserve biologists who were beginning a moose study in the Preserve. Twenty nine adult female moose were collared in late winters of 2021 and 2022.

<u>April 2023 Preliminary Results</u>

There were two general patterns of radiocollar movement seen at calving and through the summer:

1) Those moose that move to lower elevation wetlands, such as Yukon Flats or near Old Crow, and may stay there all or a portion of the summer and

2) Those moose that remain or move into upland habitats at calving.

Prior to the rut, there was a general shift upwards in elevation and most moose remain in the uplands areas until later in the winter, when snow typically accumulates. At the end of November this year, seven moose were located on the Yukon side of the border. As snow accumulated in winter, moose generally moved lower, and all collared moose are presently back in Alaska.

A portion of cows travel into the Yukon Flats Refuge and Yukon Territory at calving, but a few cows collared in Yukon Charley have also travelled into the Black River for calving. At one time in late summer, seven of the collared moose were east of the Alaska-Yukon border.

In 2022-2023, among 28 cow moose collared in the upper Little Black and Draanjik rivers, preliminary results show the calving rate was 89%. Of cows observed with calves, 35% of had twins and 35% of calves survived until fall (vs. 50% and 63% survival among calves of Yukon-Charley and Arctic Refuge collared cows). Fifty percent survived from fall to spring, for an annual calf survival of 17% (vs. 44% in 2021-22 when only 10 cows were monitored). Adult annual cow survival was 93%.

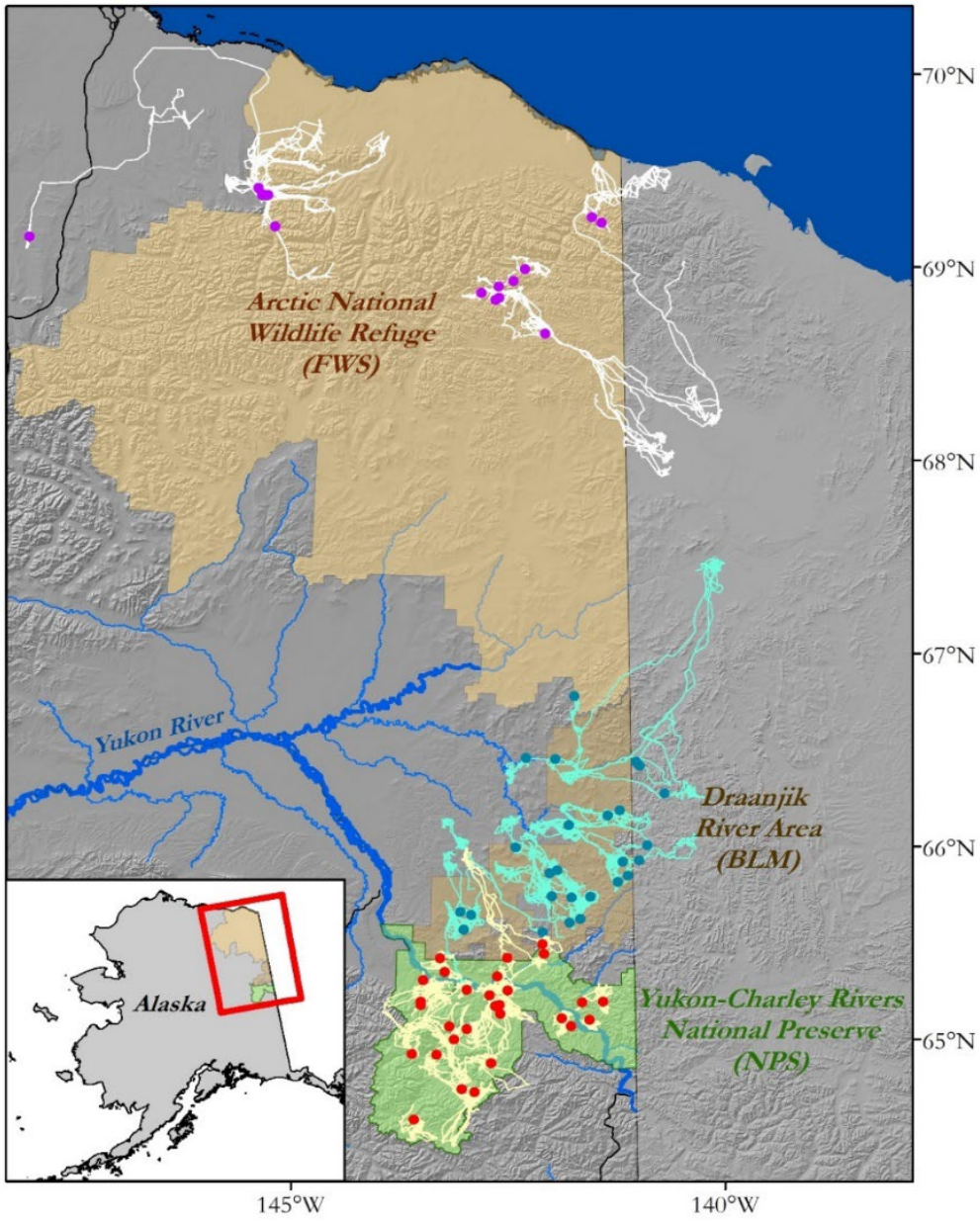

Figure 1. Map of collared cow moose in the collaborative study showing variation in movement patterns. Colored lines illustrate the movement of the moose, beginning in spring 2022 and ending at the colored dots in January 2023. Red dots with yellow lines are moose captured in the NPS study, blue dots and light blue lines the BLM study, and purple dots and white lines the FWS study.