Moose Colonization of Post-glacial Sites in Southeastern Alaska

by

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Abstract

Inhabitants of subclimax habitats, moose *(Alces alces)* were first documented in southeast Alaska in the late 1800s and early 1900s. Many of these sightings were in some of the larger mainland river valleys of the region. Other typical sites include locations recently exposed due to retreat of glaciers. Locations from the Chickamin/Unuk Rivers in the south to Icy Bay/Malaspina Forelands in the north are discussed.

KEY WORDS: Moose, habitats, southeast Alaska.

The moose, *Alces alces,* is the largest cervid in the world, and the Alaska race, *A. a. gigas,* is the largest of all moose. Moose from Alaska, the Yukon Territory, and the Northwest Territories are generally considered to be members of this race. *Alces a. americana* and *A. a. andersoni* include all other Canadian moose and those from Minnesota and Maine, while *A. a. shirasi* includes moose from Utah, Montana, Wyoming, and Washington.

Moose typically inhabit subclimax, fire-maintained habitats, or other locations characterized by disturbed soil and plants often considered pioneer or colonizing species. Riparian, subalpine, and post-glacial areas often provide excellent moose habitat as well. Although interior habitats of Alaska and Canada are often subject to wildfire that returns plant communities to younger stages of development, fires occur relatively rarely in the rain forest of southeastern Alaska. Major moose populations in this part of their range are found along major river valleys, such as the Stikine and Chilkat (Fig. 1), and in areas of recent glacial retreat. Wildfire and river meanderings are fairly frequent phenomena elsewhere which tend to maintain subclimax conditions, often dominated by browse species such as willow *(Salix* spp.) and cottonwood *(Populus* spp.). Because of the time between glacial surges and retreats, however, plant succession often marches on to climax conditions and effectively eliminates moose from areas that may have been good habitat at one time.

Most moose make seasonal movements between calving, rutting, and wintering grounds. Some seasonal movements may be 60 miles or more. Other moose movements appear more tied to emigrations to habitats with browse species at younger stages of development. These younger stages produce more nutritious leaves and stem tips than older plants which put most of their annual growth into wood fiber production. Movements of adult bull moose approaching 200 miles have been documented.

Moose have a high reproductive potential. Cows generally breed at 28 months old, and sometimes at 16 months. Twinning occurs in 15-60% of moose pregnancies; triplets are seen in 1 of 1,000 births. Cows can breed until 16 years of age but probably become less productive after about 12 years of life.

Methods

A review of the literature (Klein 1965; Swarth 1922), anecdotal comments of trappers and hunters, and field notes from past survey efforts of the Alaska Dept. of Fish and Game (1986) provided the information for this paper.

Results and Discussion

The natural establishment of several moose populations in southeast Alaska has occurred in recent years. For both the Yakutat Forelands and the Chilkat Valley, moose were first documented in the late 1920s or early 1930s. Available information for herds on the Unuk, Stikine, and Taku Rivers suggests a similar pattern. Moose in Thomas Bay were undoubtedly migrants from the Stikine herd to the south. Herds in Berner's Bay and the Chickamin River were intro-

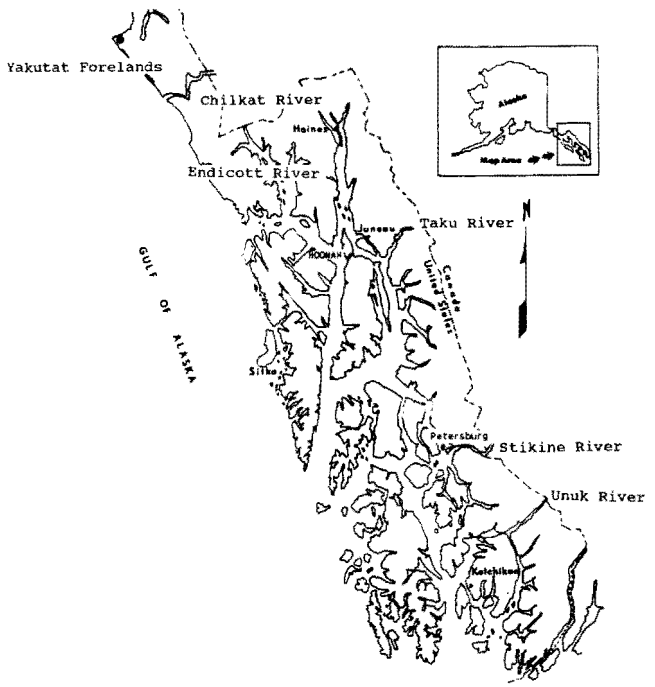

Fig. 1. Major river valleys occupied by moose in southeastern Alaska.

duced, although the Chickamin herd never became established. Some sightings of moose exist from the region prior to the 20th century. One report, for example, refers to moose being seen on the Taku River in the 1880s (T. Paul, pers. comm.). If this was a valid sighting, it seems possible that it was the result of the perambulations of an isolated individual and not early population establishment.

Moose in southeast Alaska found their way down major river valleys from interior British Columbia and Yukon Territory. Moving onto range often unexploited by other ungulates, moose thrived and their populations expanded rapidly. The Thomas Bay, Chilkat Peninsula, and Malaspina Forelands populations resulted from expansions of nearby established herds. Moose in Glacier Bay probably came from the Chilkat Peninsula via the Endicott River as well as migrations around the southern end of the peninsula at Point Couverden.

Moose continue to expand into small, isolated patches of habitat which can best be described as extralimital or marginal. Such areas include many of the small islands of central southeastern Alaska (Mitkof, Kupreanof, Kuiu, Wrangell, Etolin, Zarembo, and Woronkofski, for example) and relatively isolated reports from locations such as northern Admiralty and Chichagof Islands. It is doubtful that moose in such locations will ever establish viable herds.

Yakutat and Malaspina Forelands

Moose moved down the Tatshenshini/Alsek corridor and were first seen on the lower Alsek near Dry Bay around the late 1920s. The population expanded to the west, and to a lesser degree to the east (movement being blocked by glaciers and coastal mountains), and by the late 1960s, 2,000-2,500 moose were estimated to be present from the East River to Yakutat Bay. Bull:cow ratios were as high as 50:100, and calf:cow ratios approached 40:100. Due to extremely severe winters, overutilization of browse, predation, and hunting, moose numbers declined to as low as an estimated 300 by 1976.

Moose probably reached Nunatak Bench in upper Russell/Hubbard Fiord in the late 1940s to 1950s and peaked about the same time as the Yakutat Forelands herd.

Moose from the Yakutat Forelands probably reached the Malaspina Forelands on the west side of Yakutat Bay by the late 1950s. The population peak and decline followed a similar time frame as animals on the east side of Yakutat Bay.

While some have speculated that moose here may have come from the Bering River area, Icy Bay is considered by many to be a mostly impassable barrier to moose movement. Furthermore, moose here seem to possess antler and body characteristics more similar to Yakutat Forelands moose rather than those from further west.

Chilkat Valley, Chilkat Peninsula, and Glacier Bay

Moose migrated into the Chilkat River Valley about 1930 and were well established by 1950. The pattern described above for the Yakutat populations was followed here, with peak populations recorded in 1968. Deteriorating habitat, overbrowsing, severe winters, and hunting contributed to population declines in the early 1970s. Since the late 1970s, moose numbers have stabilized, with depressed bull:cow and calf:cow ratios.

Moose were first reported at Glacier Point south of Haines in 1960. In 1963, the same Haines resident making the above observation reported seeing moose at the mouth of the Sullivan River. In 1962, moose tracks were reported from the Bartlett River. In 1965, the first evidence of moose (tracks and one cow) was observed on the Endicott River and St. James Bay. Moose were first seen in Gustavus in 1968. While no moose were seen during ADF&G surveys of Adams Inlet in 1968, a National Park Service report confirmed the first sighting of moose in Sandy Cove in 1967. Regular sightings of moose throughout the Chilkat Range have been made since 1971 with the expansion of moose over Endicott Gap and up the Excursion River.

Summary

Moose moved into southeast Alaska via large river systems bisecting coastal mountain ranges in the early 1930s. Most herds were established on available habitat by the late 1960s. A combination of severe winters, decadent browse, overpopulation, and hunting reduced moose numbers by the early 1970s. By the late 1970s, most herds showed signs of rebuilding. Most recent movement into previously unoccupied range has been in the central southeast Alaska islands, northern Chichagof Island, and Glacier Bay. Essentially all available moose habitat in southeast Alaska is currently occupied.

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