

## Concern for wilderness caribou

by Rick Ernst

The Kenai National Wildlife Refuge is home to five different herds of caribou. The herd most visible in summer is the Kenai Lowland herd which roams the muskeg areas between the Kenai gas fields and Kenai airport. This herd migrates east onto the refuge to spend the winter in the Moose River flats or the Funny River area. The Kenai Mountain herd ranges in the mountains north of the Sterling Highway and west of the Seward Highway. These animals may also be seen by hikers, bikers, or snowmachiners. But the other three herds—Twin Lakes, Killey River, and Fox River herds—roam wilderness areas in the middle Kenai Mountains between Skilak Lake and the Fox River which enters Kachemak Bay. These caribou are seen only by pilots who fly overhead or those hardy types that venture into the backcountry on horseback or foot.

Many small caribou herds across Alaska are declining in numbers, such as the Mentasta, Chisana, Beaver Mountain, and Southern Alaska Peninsula herds. On the contrary, the Killey River herd is increasing, to the point that biologists and game managers are concerned that the caribou are damaging their habitat. Most ungulate species are limited by their winter habitat, i.e. their population size is controlled by the amount of winter food available. If there is less food, or less nutritious food, the numbers will decline, as juveniles and weaker animals die off. For caribou, the main winter food is lichen. I have had the opportunity to hike around the high country the past several summers and hunting seasons. I am concerned about the damaged lichen beds, especially when I compare the range to areas south of the Fox River where caribou are absent. Where there are no caribou, the lichens are bushy, thick, and more numerous; they are so abundant that I hate to walk on them.

Lichens are composed of two separate organisms, an alga and a fungus. The alga has chlorophyll to manufacture food, and the fungus is made up of spongy threads that support the alga and protect it from drying out. Lichens are most suitable for northern climates and are able to produce food in low temperature and low light conditions. Lichens are divided into three groups or shapes: “crustose” which form a crust

on rocks, “foliose” leaf-like forms, and “fruticose” or miniature bushy forms. The fruticose type is often used as shrubs for Christmas train displays, and this same type is the most important food for caribou in winter. Caribou can smell lichens beneath the snow and will paw down to get them, in a process called “cratering.”

Lichens are slow growing and are vulnerable to overgrazing and trampling. The Killey River herd confines itself to a very limited range in the high alpine at the headwaters of the Killey and Funny Rivers. As the population grows, the animals tend to trample in summer the very plant life they need during the winter. Most caribou herds have separate summer and winter ranges; unfortunately, the Killey River caribou spend the entire year on the same range. There is some evidence that the Killey River herd is expanding its range, which would be good news. This past May I found several small groups and individual caribou giving birth on nunataks (isolated peaks projecting through the Harding Icefield). I observed some cows walking out on the Icefield itself several miles from “land.” It is possible that some of these roaming animals may have ventured into new areas for the summer. It is also the first time caribou have been located in the Kenai Fjords National Park, which shares the Harding Icefield with the Refuge.

This past November, biologists with Alaska Department of Fish and Game (ADF&G) counted over 600 animals in the Killey River herd. This is the largest number ever counted, and it is remarkable considering that presumably all of these are descendents of the original 60 or so animals we airlifted into the mountains in 1987-88.

We want to keep the Killey River herd under control so they don’t destroy the habitat and cause a population crash. Predation from wolves, bears, wolverine, and eagles helps to remove some animals from the herd, but apparently not enough are taken to stabilize the numbers. Human predation in the form of hunting is also needed, and we hope that with sufficient natural predation and hunting, the herd can be maintained at a sustainable level. With luck we can keep it from following the all too common declining path of other

small caribou herds in Alaska.

The Refuge has joined with ADF&G and the U.S. Forest Service in a Cooperative Management Plan for the Peninsula's caribou herds. The plan goals are to maintain caribou populations at optimum levels in conjunction with habitat protection, to provide the opportunity for herds to expand into new areas, to provide for hunting and non-consumptive recreational use, and to provide for scientific research.

To meet these goals we currently have thirteen radiocollars to monitor caribou winter and summer

movements, and we will be undertaking some surveys of lichen range condition this summer. From these data we hope to make some estimate of how many caribou the limited range can sustain before the population would crash, so that hunting quotas can be set to keep the population below this maximum level.

*Rick Ernst is a Wildlife Biologist/Pilot at the Kenai National Wildlife Refuge. For more information about the Refuge, visit the headquarters on Ski Hill Road in Soldotna, call 262-7021 or see the website at <http://www.fws.gov/refuge/kenai/>.*