

Wolves on the Kenai National Wildlife Refuge

by Liz Jozwiak

The wolf represents different things to different people. Some value the wolf as a symbol of the Alaska wilderness and as an essential part of the natural wild landscape. Others consider the wolf a game animal, like other furbearers which are harvested for the value of their pelts. Some people view wolves as aggressive and unpredictable predators, against which their children and livestock must be defended. People may not have strong opinions about voles, but they generally have something to say about wolves!

On the Kenai National Wildlife Refuge we monitor wolves with the goal of keeping a healthy sustainable wolf population. In cooperation with the Alaska Department of Fish and Game (ADF&G), we attempt to resolve occasional predation issues, and to educate the public about Kenai Peninsula wolves, their movements and lifestyles.

As most Peninsula residents know, wolves and other carnivores such as lynx, coyote, brown, and black bears are native residents of the Kenai Peninsula. But the history of wolves on the Kenai is a story in itself. Early records indicate that wolves were commonly observed on the Peninsula in the late 1890's about the time a gold rush brought prospectors to the area. By 1915, wolves were almost completely exterminated from the Kenai Peninsula because of predator control programs using poison, along with heavy hunting and trapping. Then in the early 1960's wolves began to repopulate the Peninsula. It is still a mystery whether most of the recolonizers dispersed from the mainland, or whether a few of the surviving lone wolves (whose tracks were sporadically sighted between 1935-1950 by trappers and biologists) were the seed crop of our present day Kenai wolf population. Recent DNA studies revealed that the Kenai Peninsula wolf population is genetically similar to mainland Alaska wolves. This suggests that there may be a low level of mating between Kenai and mainland wolves through occasional migrants from the mainland or that the Kenai Peninsula wolf population has not had enough time to develop unique genetic characteristics.

Since 1976, Refuge and ADF&G biologists have radio collared almost 200 wolves in the northern por-

tion of the Refuge in an ongoing effort to learn more about their predator-prey relationships, pack size, territory, genetics, and susceptibility to disease. This is one of the longest monitored wolf populations in Alaska. Some interesting findings came from an early study (1976-1981) when 3 to 7 wolf packs were monitored by Rolf Peterson from Michigan Technological University. Rolf estimated the territory size of wolf packs averaged 255/mi², wolf density averaged 7 wolves /1,000 mi² on the northern portion of the Kenai Peninsula, and he determined that the Refuge wolf population was largely regulated by human harvest. Rolf found that a wolf pack in winter consumed 1 moose / pack / 4.7 days when moose densities were high within the 1947 burn habitat. Most of the moose consumed by wolves were old, suffered from debilitating conditions, and were more vulnerable because of average to above average snowfall during the study period. Wolf predation on moose appeared to be much less between May and September. Wolves are by nature a resilient species, and as long as they are free from disease, and their food supply remains plentiful, the population can sustain a harvest of up to 40%. However, when harvests in the late 1970's exceeded 40%, wolf densities declined the following years.

Hunting and trapping pressure has declined from the highs of the 1970's and early 1980's. As part of my Masters Degree research, I looked at how wolves responded to different levels of harvest. Logically, if wolf densities declined after years of high harvest, one would expect their numbers to go up after years of low harvest. I analyzed 10 years of wolf telemetry and harvest data between 1982 and 1993, expecting to see wolf densities increasing after several years of low trapping pressure. I was surprised to find just the opposite: wolf densities did not increase in years when very few wolves were trapped or hunted. Instead, wolves dispersed from packs more frequently when the harvest was low. I also found that a greater proportion of juveniles (1-2 year olds) dispersed than did pups or older adults. Dispersal however has its costs. Dispersing wolves have about half the survival rate of those which remain with their packs. Generally, dispersers have a higher probability of being killed by other wolves or

being harvested by humans.

The higher dispersal rate after years of low harvest may be just one factor among several that have affected wolf densities in recent years. Disease and parasites also play a roll. Blood samples over the last 15 years indicate that many adult Kenai Peninsula wolves are experiencing higher exposure to canine parvovirus or to canine distemper virus. Parvovirus is likely to kill wolf pups before they are 3 months old, and is believed responsible for lowering wolf numbers in winters in Minnesota. Lice appeared in wolf packs on the Kenai Peninsula in the early 1980's, most likely from contact with feral domestic dogs, and this parasite is still present in the population. We don't know exactly how many wolves there currently are on the entire Peninsula, but Rolf Peterson estimated the wolf population in 1980 at approximately 186 wolves, however a Peninsula-wide wolf census is needed to obtain a current estimate.

Recently we have been able to examine a second wolf population using ADF&G's 1998 relocation of 18 wolves to the Kenai Peninsula. These wolves were removed from Interior Alaska near Tok as part of the State of Alaska's Forty Mile Caribou Management Plan. Relocating wolves is an extreme case of dispersal because individuals are not simply taken out of their packs but are moved a great distance into new terri-

tory. As in most relocation programs, 50% mortality was expected in these transplants. It was higher in the Kenai case, with 78% mortality after a year and a half. Of the 18 wolves released, 8 were harvested, 5 died of unknown causes, and one was apparently killed by a moose. Four translocated wolves continue to be monitored by biologists the Kenai NWR and ADF&G: the two females are together in a pack of about nine wolves, whereas the two males appear to be loners.

Two of the introduced wolves achieved the remarkable feat of escaping from the Kenai Peninsula. Female #94 traveled over 200 miles northward in the first month and was radio-tracked to the Knik glacier east of Palmer. One of the males was harvested just north of Talkeetna last winter. These kind of directional homing movements towards their release locations, also reported in other translocation studies in Michigan and Minnesota, may be one of the most interesting results of such experiments.

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