

Gray Wolf

(*Canis lupus*)—Endangered

Description

Gray wolves are large canids most commonly with grizzly gray fur. They may also be pure white or solid black. They have thick, coarse guard hairs with soft, short underfur. With such a coat, gray wolves are able to survive in -40°F temperatures. With relatively long legs, a keel-like chest and especially designed to run on their toes, they are able to move at 35-45 miles per hour. Their keen sense of smell enables them to detect prey 1.5 miles away under good conditions. An adult female and male weigh 55 to 120 pounds and 45 to 120 pounds, respectively. They may be as long as 6 feet and 3 feet tall at the shoulder.

Habitat

The quality of gray wolf habitat depends on prey availability. Wolves are carnivorous and prefer large game animals. One study done in Minnesota shows that 59 to 96% of their diet is the size of a

beaver and larger. Wolf distribution depends on prey densities. Other aspects of the habitat like vegetation, topography, and climate indirectly effect gray wolf distribution. In North America, the only unsuitable habitats for gray wolf are hot deserts and some mountain peaks. In Mammals of Utah, Durrant believes that gray wolves were “formerly state-wide except [for the] west desert region.” Now there are no wolves in Utah.

Gray wolves will eat almost anything including domestic livestock. They usually cull off the less fit individuals in wild herds enabling the healthier segment's vigor to increase. Wolves will select the old, the young, and the sick animals because they are the easiest catch. However, even a high percentage of the weak can escape wolf attacks. In Isle Royale National Park, where moose is their primary source of food, only 8% of wolf attacks are successful. When a wolf pack does kill, all

the parts of the animal are consumed except for large bones and chunks of hide. Their stomachs are specially adapted to hold 15-20 pounds of food at one time. The remains provide food for some scavengers like ravens, foxes and bald eagles. Digestion occurs quickly and soon after eating the pack is on its way to find another meal.

How far they travel depends on the prey density of the area and whether or not the pack has pups at a den or romping site. Obviously, the smaller the prey density the larger the wolf's home range. On the tundra where prey members are few, wolves may travel up to thirty kilometers away from the den site to hunt. In the winter, when most pups are able to keep up with the pack, the wolves are no longer bound to a den and increase their home range to satisfy their energy demands. They may travel 60 kilometers a day locating prey with their sense of smell, with tracking skills or by chance encounters. Gray wolf home range in the winter is the largest of the year. Winter range can be 26 square miles per wolf where food is plentiful and 1,300 square miles per wolf where wolves are migratory. The farthest any wolf has been known to travel is 220 miles on the tundra while following caribou herds.

Life History

Gray wolf courtship begins between January and April. The timing depends on the location of the wolves. The wolves in the Arctic court later than those in Montana and Idaho. Courtship can occur between two adults in a pack or two lone wolves and last a few days to a few months. The bonds formed between mates at this time may last for a lifetime.



Photo courtesy of Eric Gese.

A female gray wolf has an estrus period of five to seven days. She may have an average of 73 ova available for fertilization during this time. It is interesting to note that only 60% of adult females breed in populations unexploited by man; whereas in exploited populations, 90% breed. Females who have already bred come into heat two weeks earlier than other females in the same pack.

Copulation involves "a tie" between the male and female when the bulb-like base of the penis locks into the vagina. After mounting a female, the male may then lift one leg over her body and turn 180 degrees so that they are facing opposite directions. Copulation may last up to 30 minutes during which time multiple ejaculations occur to insure fertilization. Gestation lasts 63 days and an average litter size is six.

The pups are born helpless with their eyes closed and little hair. They are born in a rock crevice, a hollow log, or a den, possibly one the pack has used before. Their dens are usually near a source of water. Studies of dens show entrances are 1.2 to 2 feet in diameter and tunnels extend 4 to 15 feet. The mother usually stays with the pups the first two months. The pups are dependent on their mother's milk for at least the first five weeks. During this time the pack hunts for her. Between days 11 and 15, the pup's eyes open. Three weeks after their birth, their milk teeth are present. After five weeks the pups are weaned from their mother. They begin to eat regurgitated, softened meat the pack brings them from their hunt. The pups are moved to an above ground nest or romping site at eight weeks old. This site gives the pup the opportunity to play. Wolf pup play is important because it helps them prepare for adulthood. They wrestle, ambush, and chase one another developing skills later used in the hunt. Playing helps pups create strong

social bonds and hierarchal relationships essential to the maintenance of the pack. They may remain at the rompsite through a winter or may begin to travel with the pack as early as October.

A pack may begin with a breeding pair and their pups. The strong bonds formed between members of the family keep the pack together. The primal parent usually become the dominant male and female or the alpha male and alpha female of the pack. Most packs consist of eight wolves or less. Each of the remaining wolves is aware of its position in the pack's social structure. When competition arises at a carcass, during a breeding season, or over a preferred space, the winner is predetermined. The alpha male has the privilege of choosing how much and what parts of the carcass he will eat. In return, the alpha male and other dominant males lead the pack determining when to rest and where to hunt for food. They may also serve as the pack's guardians and lead attacks on threatening intruders like a grizzly bear near the pack's den. This social order limits intrapack fighting.

The pack's pups reach sexual maturity during their second year. They usually will not breed until the third year. At this time an adult may separate from the pack. Building powerful bonds the males and a mate may begin their own pack with their new litter. Separation may occur during food shortages.

Even when a gray wolf population is protected from human exploitation, survival is precocious. Between 6 and 43% of gray wolf pups survive the first winter. About 55% survive to the second winter. Eighty percent of gray wolf adults survive every year.

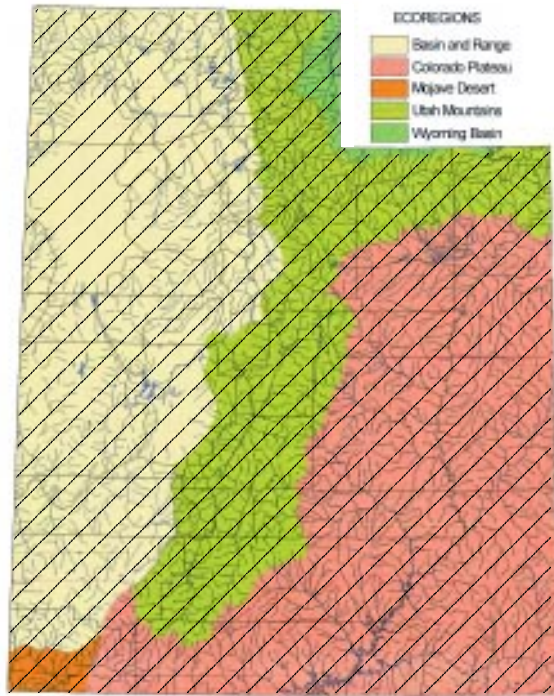
Reasons for Decline


Gray wolves prey on domestic livestock. Ranchers and others have developed a hatred for gray

wolves because they consider them a threat to the safety of sheep, cattle, and humans. As the livestock industry in the United States increased, the distribution of the gray wolf decreased. In the 1930s, federal and state governments headed programs to control the wolf population. Michigan, for example, offered \$15 and \$20 for every male and female wolf respectively. Governments also used poison to cut wolf numbers. These programs occurred in 95% of the lower United States. The livestock industry reached a peak during the 1940s and by that time gray wolf distribution had become what it is today. In the forties and fifties wolf packs were shot from aircraft and poisoning continued. Threats still exist in the form of wolf control and poaching in the northern parts of the gray wolf's distribution.

Recovery Efforts

Gray wolves are protected by the 1973 Endangered Species Act. Under this federal regulation, the taking of wolves in the lower United States except for Minnesota (with a gray wolf population of 1,650) is prohibited. The Fish and Wildlife Service in 1987 approved the revised Recovery Plan for the gray wolf. The plan calls for gray wolf reintroductions to northwestern Montana, central Idaho and the Yellowstone ecosystem. In January 1995, gray wolves were brought to acclimation pens in Yellowstone National Park from Alberta, Canada. They were subsequently released in March. Defenders of Wildlife has offered \$5,000 to private land owners to allow wolves to successfully breed on their property.



 Probable historical distribution of the gray wolf.

References

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