



Gray wolf

Canis lupus

Second only to humans in adapting to climate extremes, gray wolves in North America once ranged from coast to coast and from Alaska to Mexico. They were absent from the East and the Southeast, which were occupied by red wolves (*Canis rufus*), and from the extreme southwestern states. However, government-sponsored wolf control programs brought the gray wolf to near extinction in the lower 48 states by the early 20th Century.

Wolf groups, or *packs*, typically include a breeding pair (the alpha pair), their offspring, and other non-breeding adults. Wolves are capable of mating by age 2 or 3, sometimes mating for life. An average of five pups are born in early spring and are cared for by the entire pack. Pups are reared in dens for the first 6 weeks. Dens are often used year after year, but wolves may also dig new dens or use some other type of shelter, such as a cave.

Pups depend on their mother's milk for the first month, then are gradually weaned and fed regurgitated meat brought by pack members. By 7 to 8 months old, when almost fully grown, the pups begin traveling with the adults. After 1 or 2 years of age young wolves may leave and try to find a mate and form a pack. Lone dispersing wolves have traveled as far as 600 miles in search of a new home.

Wolf packs live within territories, which they defend from other wolves. Their territories range in



size from 50 square miles to more than 1,000 square miles, depending on how much prey is available and seasonal prey movements. Wolves travel over large areas to hunt, as far as 30 miles in a day. Although they usually trot along at 5 m.p.h., wolves can run as fast as 40 m.p.h. for short distances.

Studies at Yellowstone National Park indicate that wolves support a wide variety of other animals. Ravens, foxes, wolverines, vultures, bald eagles and even bears feed on the carcasses of animals killed by wolves. Antelope are swift, elk are alert, and mountain goats are adept at climbing steep cliffs, in part because of the long-term effects of wolf predation. Wolves also help maintain the balance between

these *ungulates* (hoofed animals) and their food supply, making room for smaller plant-eaters such as beavers and small rodents.

Wolves are noted for their howl, which they use as a form of communication. Wolves may howl before and after a hunt, to sound an alarm, or to locate other pack members when separated. They howl more frequently in the evening and early morning, especially during winter breeding and spring pup-rearing. Howling is also used by packs to warn other wolves to stay out of their territory.

Settlers moving westward depleted most populations of bison, deer, elk, and moose – animals that were important prey for wolves.

Wolves then turned to sheep and cattle which had replaced their natural prey. To protect livestock, ranchers and government agencies began an eradication campaign. Bounty programs initiated in the 19th Century continued as late as 1965, offering \$20 to \$50 per wolf. Wolves were trapped, shot, dug from their dens, and hunted with dogs. Poisoned animal carcasses were left out for wolves, a practice that also killed eagles, ravens, foxes, bears and other animals that fed on the tainted carrion.

By the time wolves were initially protected by the Endangered Species Act of 1973, only a few hundred remained in extreme northeastern Minnesota and a small number on Isle Royale, Michigan.

The wolf's comeback nationwide is due to its listing under the Endangered Species Act, which resulted in increased scientific research, protection from unregulated killing, reintroduction and management programs, and education efforts that increased public understanding of wolves.

Gray wolves are listed as endangered in the contiguous 48 states, except in Minnesota where they are listed as threatened. *Endangered* means a species is considered in danger of extinction throughout all or a significant portion of its range, and *threatened* means a species is likely to become endangered in the foreseeable future. In Alaska wolf populations number 6,000 to 8,000 and are not considered endangered or threatened.

Wolf recovery has been so successful that in 2006 the U.S. Fish and Wildlife Service proposed to remove the gray wolves found in the western Great Lakes area from the threatened and endangered species list. Today

about 3,020 wolves live in the wild in Minnesota, 30 on Lake Superior's Isle Royale, about 405 in Michigan's Upper Peninsula, 425 in Wisconsin.

In the northern Rocky Mountains, the U.S. Fish and Wildlife Service reintroduced gray wolves into Yellowstone and U.S. Forest Service lands in central Idaho in 1995 and 1996. The reintroduction was successful, and by December 2005 there were about 890 wolves in the Yellowstone area and Idaho; in total, about 1,020 live in the northern Rocky Mountains of Montana, Idaho, and Wyoming.

Wolves have also been reintroduced in Arizona and New Mexico. Mexican gray wolves are native to the Southwest but recently existed only in zoos until 1998, when 13 wolves were released in Arizona. By the end of 2005, there were about 50 wolves in the wild in Arizona and New Mexico with another 275 in zoos and other facilities. Since 2002, wolf packs have produced pups in the wild. The goal is to establish a self-sustaining wild population of at least 100 wolves in the species' historical range.

Occasionally, wolves are also seen in states adjacent to these recovery areas.

Gray wolf populations fluctuate with food availability, strife within packs, and disease. In some areas where they are not protected by law, wolf populations may change due to accidental and intentional killing by people.

Many people oppose wolf recovery because of concerns for human safety. However, wolf attacks on humans are extremely rare in North America, even in Canada and Alaska where there are consistently large wolf populations. Most documented attacks have

been in areas where wolves habituated to people when the animals were hand-fed or attracted to garbage.

Some ranchers and farmers fear wolves because they prey on livestock and pets. To address this concern, special features of the Endangered Species Act have been used in parts of wolf range to allow removal of wolf packs that prey on livestock. There are programs to compensate for the loss of livestock and pets in most of the recovery areas.

The Yellowstone and Idaho wolves are designated as *non-essential, experimental populations* under the Endangered Species Act. This allows more management flexibility. A similar program is used to restore Mexican wolves in the southwestern United States.

Wolf recovery efforts have restored a top predator to its ecosystem, and improved our understanding of the complex interactions among species in their natural environments.