

## **Gray Wolf (*Canis lupus*) Biology**

### **Habits**

Wolves are social animals, living in a family group or pack. A pack usually consists of 6-10 animals- a dominant (“alpha”) male and female (the breeding pair), pups from the previous year (yearlings) and the current year’s pups. Subordinate adults may join the pack occasionally. The dominant pair is in charge of the pack, raising the young, selecting denning and rendezvous sites, capturing food, and maintaining the territory. The territory may cover 20-120 square miles. The size of their territory depends on such factors as suitable habitat, food availability, wolf numbers, and other factors. Thus, wolves naturally require a lot of space which often invites conflict with humans.

While neighboring wolf packs might share a common border, their territories seldom overlap by more than a mile. A wolf that trespasses in another pack’s territory risks being killed by that pack. Territory boundaries are marked using scent messages - urine and feces left at select sites. In addition, wolves announce their territory by howling, which also helps identify and reunite individuals that are scattered.

How does a non-breeding wolf attain dominant or breeding status? It can stay with its natal pack, bide its time and potentially move up the dominance hierarchy or it can disperse, leaving the pack to find a mate and a vacant area in which to start its own pack. Both strategies involve risk. A wolf biding its time in a pack may be outcompeted by another wolf and never achieve dominance. Dispersers usually leave the pack in autumn or winter, during hunting and trapping season.

Dispersers must be alert to entering other wolf packs’ territories, and they must keep a constant vigil to avoid encounters with people, their major enemy. Dispersers have been known to travel great distances in a short time. One radio-collared Wisconsin wolf travelled 23 miles in one day. In ten months, one Minnesota wolf traveled 550 miles to Saskatchewan, Canada. A female wolf pup trapped in the eastern part of the Upper Peninsula of Michigan died from a vehicle collision near Johnson Creek in Jefferson County, Wisconsin in March 2001, about 300 miles from her home territory.

Nobody knows why some wolves disperse and others don’t. Even siblings behave differently, as in the case of Carol and Big Al, radio-collared yearling sisters in one Wisconsin Park. Carol left the pack one December, returned in February, then dispersed 40 miles away. Big Al remained with the pack and probably became the pack’s alpha female when her mother was illegally shot. In another case, two siblings dispersed from their pack at different times and directions. One moved 45 miles east in September and the other went 85 miles west in November.

## **Food**

Gray wolves are carnivores feeding on other animals. A study in the early 1980s showed that the diet of Great Lakes wolves was comprised of 55% white-tailed deer, 16% beavers, 10% snowshoe hare, and 19% mice, squirrels, muskrats, and other small mammals. Deer comprise over 80% of the diet much of the year, but beaver become important in fall and spring when they are more active on land highly vulnerable to predation. Wolves rely on deer and snowshoe hares in the winter and a diversity of small mammals in the summer.

## **Breeding Biology**

Wolves are sexually mature at two years old, but seldom breed until they are older. In each pack, the dominant male and female are usually the ones to breed and they prevent subordinate adults from mating by physically harassing them. Thus, a pack generally produces only one litter each year, averaging 5-6 pups.

Great Lakes wolves breed in late January or February and the female delivers the pups two months later in the back chamber of a den. The den's entrance tunnel is 6-12 feet long and 15-25 inches in diameter which the female may excavate or use a preexisting site (e.g., hollow log, cave, or abandoned beaver lodge).

At birth, wolf pups are deaf and blind, have dark fuzzy fur and weigh 1 pound. They grow rapidly during the first three months, gaining about 3 pounds each week. Pups begin to see and hear at 2-3 weeks old. At this time, they become very active and playful.

At six weeks old, the pups are weaned and the adults begin to bring them meat. Adults eat the meat at a kill site then return and regurgitate the food for the pups to eat. The hungry pups jump and nip at the adults' muzzle to stimulate regurgitation. The pack abandons the den when the pups are 6-8 weeks old. The female carries the pups in her mouth to the first series of rendezvous sites or nursery areas. These sites are the focus of the pack's social activities for the summer months and are usually near water. By August, the pups wander up to 2-3 miles from the rendezvous sites and use them less often. The pack abandons the sites in September or October and the pups, now almost full-grown, follow the adults.

## **Distribution**

Before Europeans settled North America, gray wolves inhabited areas from the southern swamps to the northern tundra, from coast to coast. They existed wherever there was an adequate food supply. However, people over harvested wolf prey species (e.g., elk, bison, and deer), transformed wolf habitat into farms and towns, and persistently killed wolves. As the continent was settled, wolves declined in numbers and became more restricted in range. Today, the majority of wolves in North America live in the remote regions of Canada and Alaska. In the lower 48 states, wolves exist in forests and mountainous regions in Minnesota, Michigan, Wisconsin, Montana, Idaho, Wyoming, Washington, Arizona, New Mexico, North Dakota, and possibly in Oregon, Utah, and South Dakota.