

## How Much Room Does a Wolf Pack Need?

### Vocabulary

**Territory** The area that provides a pack of wolves with enough prey to feed the pack. Wolves defend their territories against wolves from outside their packs and from other animals that might compete for the same food resources.

**Pack** A family of wolves that lives together, hunts together and raises pups. A pack usually consists of male and female parents (referred to as dominant male and dominant female) and one or more generations of their offspring.

**Prey** An animal that is hunted and eaten by another animal.

**Density** How much or how little of something there is in a specific area or space.

**Scavenger** An animal that eats animals it did not kill, but that died from other causes such as disease, starvation or predation.

**Telemetry** The use of electronic equipment to locate a distant source. Researchers use telemetry equipment, such as receivers and antennae, to locate signals emitted from radio collars worn by wolves in their study groups.

**Radio collar** A collar with an attached radio transmitter that is put on an animal so its movements can be remotely monitored.

**Wildlands** Large areas of natural habitat with minimal human presence. Examples include designated wilderness, state and national parks, and wildlife refuge areas.

Wolf packs live in territories.

A **territory pack** is the wild space a pack needs to find resources like food, water and shelter. The size of a pack's territory can vary a lot depending on **prey density**, or how much food wolves can find in that area. Just as you'd prefer a snack sitting next to you rather than having to travel all the way to the kitchen for it, wolves don't want to waste unnecessary energy when finding food, so they use only the space they need.

In an area of **high prey density** (plenty of prey animals in a certain area), the pack's territory might be smaller. In areas of **low prey density** (like the arctic, where prey animals like musk ox spread out over a large expanse), wolves need to travel farther to find their next meal, their territory might be much larger. For example, wolf pack territories in Minnesota average 50 to 70

### Let's Find Out!

square miles, but in the arctic they may be more than 1,000 square miles. That is quite a difference!

Territory size may also depend on the size of the pack. Wolf packs usually have four or five wolves, and they typically bring down a larger prey animal (deer, elk or moose) once every seven to ten days. If the pack has more wolves to feed, they may need a bigger territory.

Wolf packs fiercely defend their territories from other wolves. They howl and scent mark to make sure other wolves know the territory is occupied. In a good territory with plenty of prey, they often need to defend their kills from **scavengers** like coyotes and bears, which can create conflicts. The borders of a territory can shift over time depending on where prey is located and the needs of the pack.

How do we know all this about territories? Through scientific research. Scientists use a variety of tools to learn about the location and size of wolf-



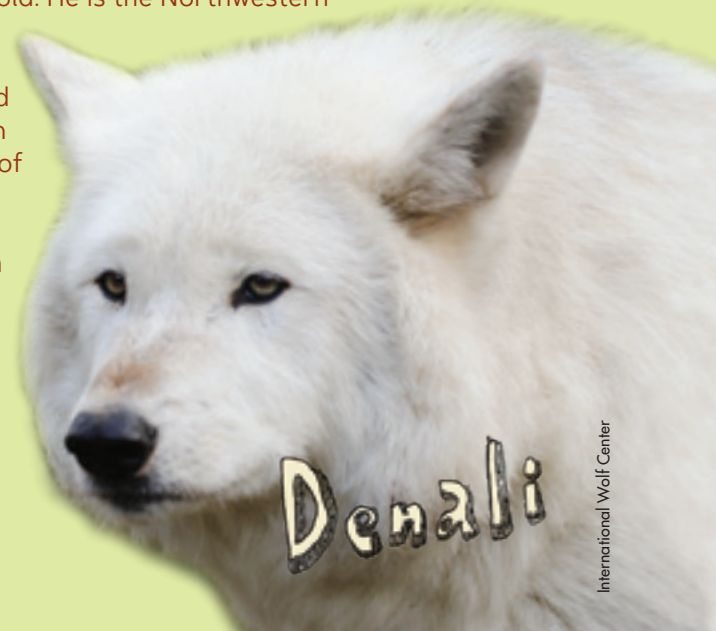
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pack territories. One important tool for estimating territory boundaries is radio **telemetry**. Here's how it works:

Scientists place **radio collars** on wolves. The collars have small transmitters (think of them like a radio station) inside. Scientists can then tune in to the frequency of a collar, listen for the steady, even beeps it emits and play a game of "hot-and-cold" to figure out the direction and distance a wolf has moved. Some even more high-tech collars use GPS and satellites! They pick up a collared wolf's location and send out a signal so that scientists can download the information straight to their computers. After collecting lots and lots of location data on collared wolves, scientists can estimate the size and shape of a territory based on where the wolves spent their time. ■

## Meet Denali

Denali came to the International Wolf Center in 2008 and he is now twelve years old. He is the Northwestern subspecies of gray wolf, which means wolves of his kind would be found in the western United States, in parts of Canada and in Alaska. Wolves in the western parts of North America are usually larger than wolves in the east, and they usually weigh 85 to 115 pounds. Denali, however, tops this average at about 146 pounds!

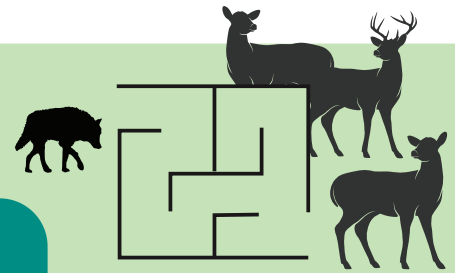


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Help  
the wolf  
locate  
its prey!



Northern Minnesota  
High Prey Density

Arctic Tundra  
Low Prey Density

