



## *What are wolves? Behavior, biology, and the environment*

It takes a barren environment to exclude the wolf. It asks little—only freedom from persecution by humans and the presence of any species of large, herbivorous animal to eat.

– John B. Theberge, wolf scientist and author

Scientific progress has improved understanding of how our fellow creatures live, behave, and survive. Despite having been deliberately eliminated from many places, the wolf has continued to fascinate researchers. Their findings—along with education and the desire to conserve wildlife—have fostered greater understanding and appreciation of wolves.

### **An active social life**

Wolves are the largest wild canid (dog) species. Their size varies across their range, but they can weigh over 100 pounds and be up to 5–6 feet long from nose to tail. Wolves have extremely good hearing and sense of smell and can run up to 40 miles an hour. They travel long distances, often averaging 10–15 miles a day. Wolves communicate using facial expressions, body postures, scent-marking, growls, barks, whimpers, and howls.

Unlike many other predators, wolves live all year round in packs. These consist of male and female leaders (known as “alphas”), the newborn and juveniles, and other adults that may or may not be related by blood. Each pack member has a clear role to play in terms of hunting, breeding, and taking care of

the young. Wolves often leave the pack when they’re about two years old to find their own mates and territories.

### **Key to the environment**

In the past, wolves (like all predators) were simply seen as vicious killers. Today, we know that predators are very important for maintaining a diverse and healthy environment. Wolves regulate entire food chains, so both their presence and absence has cascading effects.

Wolves help to cull sick and weak deer, elk, and moose, keeping herds healthier and stronger. The proportion of young versus adults that wolves consume varies with the reproduction and survival of these animals—a pattern that can help regulate population levels.

Because wolves require large areas to hunt and form new packs, maintaining sufficient habitat for wolves also means having enough for a lot of other wildlife (the so-called “umbrella” effect). And when wolves kill large prey, their leftovers often provide a “banquet” for other animals, like bears and eagles.

Since wolves were reintroduced into Yellowstone National Park in 1995,

scientists have had the chance to study their influence. Studies indicate that elk have changed their grazing patterns, reducing damage along riverbanks. In turn, vegetation and cottonwood, willow, and aspen trees have grown back, streams are cooler, and trout, beaver, and other animals have returned.

In-depth research on the particular effects of wolves on the Northeast's environment is impossible without the animal present. But lessons can be learned from places with similar natural conditions. For example, research in the Great Lakes region shows that the browsing of plants, shrubs, and seedlings by deer is less intense in areas with wolves.



### **Which wolves belong here?**

It's impossible to turn back the clock 200 years to know which wolves roamed the Northeast before they were eliminated. Yet modern genetics research has raised questions about

which species to include in recovery efforts and the implications of some genetic similarities between wolves and coyotes.

The historic ranges of both red (*Canis rufus*) and eastern timber wolves (*Canis lupus lycaon*) certainly extended into what is now New England, New York, and the Mid-Atlantic states. At the same time, because the Northeast was once abundant in moose and caribou (as well as deer), the region also supported the larger gray wolf (*Canis lupus*).

Wolves have sometimes interbred with coyotes when human activities have reduced habitat and coyotes have moved east and north. It's also possible that genetic mixing occurred a long time ago, since wolves and coyotes share a common ancestry dating back hundreds of thousands of years.

But despite sharing genes and even territories, wolves and coyotes remain quite distinct in their physical appearance, behavior, and ecological roles.

Questions about the origins of wolves should not prevent progress in protecting and recovering the animal in the Northeast. In fact, recovery planning could help resolve these and related questions.

Wolves have been missing from the Northeast for too long, and the land and other animals will surely benefit from their return.

*The Coalition to Restore the Eastern Wolf (CREW) is a group of local, regional, and national organizations working to recover healthy wolf populations in as much of its former range in the northeastern United States and southeastern Canada as is feasible. CREW believes that doing so is critical to improving natural conditions and keeping environments whole throughout the region.*

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