SPECIES PROFILE

Eastern Timber Wolf

Canis lupus lycaon

Federal Listing: TN
State Listing: N/A
Affected Species: N/A
Global Rank: G4TNR
State Rank: SX
Author: Matthew Carpenter, NHFG

Element 1: Distribution and Habitat

1.1 Habitat Description

Historically, wolves lived in a wide variety of habitats throughout the northern hemisphere, from mountain forests to open prairie (Mech 1970). The main requirement for a wolf population is a source of large prey, such as deer, moose, or bison. Modern populations of wolves are limited by habitat fragmentation and direct or indirect human caused mortality (Musiani and Paquet 2004). Road density has been used in the Midwest as an indicator for suitable wolf habitat (Mladenoff et al. 1995). As populations expand in Minnesota, Wisconsin, and Michigan, wolves are adapting to semi-wild areas that were previously considered unsuitable (Mech 1995). The amount of residential or commercial development that wolves can learn to tolerate on a landscape is unclear.

1.2 Justification

Few species are loved and hated as passionately as the wolf. To some the wolf is an abstract symbol of a disappearing wilderness. To others the wolf is a vile murderer of livestock and deer. The wolf, from an ecological perspective, is part of a natural system. It has coevolved with the organisms of the northern forest over thousands of years. By preying on and shifting the distribution of herbivores such as deer, moose, and beaver, wolves indirectly influence plant species composition which in turn influences the very nature of the forest (Laundre et al. 2001). Since the extirpation of the wolf in the early 1800's New Hampshire has been missing the balancing influence of this top predator.

1.3 Protection and Regulatory Status

Gray wolves are currently listed under the federal endangered species act. In 2003, the USFWS divided gray wolf populations into three regions: western, southwestern, and eastern. New Hampshire was part of the Eastern Distinct Population Segment, which included the upper Midwest and the Northeast. In 2004, the USFWS proposed delisting the wolf in the Eastern Distinct Population Segment because populations had met recovery goals in the states of Minnesota, Wisconsin, and Michigan. A ruling in January of 2005 by the U.S. District Court in Oregon invalidated the USFWS population segments and returned the wolf to its status prior to 2003 (USFWS 2005). Therefore the wolf is currently classified as endangered in all eastern states except Minnesota, where it was reclassified as threatened in 1978.

The New Hampshire legislature passed a law (HB 240) in 1999 that bans the reintroduction of wolves into the state. The law does not restrict a natural recolonization by wolves.

1.4 Population and Habitat Distribution

Populations of gray wolves exist throughout northern North America, Europe, Russia, and Asia. A history of wolf persecution in Europe and the continental U.S. has extirpated the wolf from much of its former range (Mech 1970). Wolves were extirpated from New Hampshire in the early 1800's. The nearest population of wolves exists in Quebec, north of the St. Lawrence River. Wolves from this population have

been referred to as eastern timber wolves, considered a subspecies of gray wolves (USFWS 1992). Recent mitochondrial DNA evidence suggests that the eastern timber wolves, found in southeastern Canada, may be more closely related to red wolves (*Canis rufus*) and coyotes (*Canis latrans*) than to gray wolves (Wilson et al. 2000). The authors suggest that these wolves should be treated as a separate species, *Canis lycaon*. The issue remains unresolved.

In January of 2002, a wolf was snared near the town of Sainte-Marguerite-de-Lingwick, Quebec, approximately 32 km from the New Hampshire border (Villemure and Jolicoeur 2003). The trapper claimed to have seen other wolves in the area. This report is evidence that wolves are capable of crossing the St. Lawrence River, which is considered a major barrier to wolf dispersal (Wydeven et al. 1998, Harrison and Chapin 1998). It is the first confirmed wolf captured south of the St. Lawrence River, in Quebec, in over 100 years (Villemure and Jolicoeur 2003). Two wolves have been killed in Maine since 1993, although one of the individuals was behaving suspiciously like a released captive animal (Maine Department of Natural Resources [MDNR] 2004). Despite these reports, most studies suggest that a natural wolf recolonization of northern New England from populations in eastern Canada is unlikely (Wydeven et al. 1998, Carrol 2003). However, wolves tend to disperse over long distances, often crossing obstacles such as 4 lane highways (Merril 2000). The recent expansion of wolf populations in Europe and the midwestern states suggests that the potential for a natural recolonization of wolves in New Hampshire should be taken seriously.

1.5 Town Distribution Map

Not completed for this species.

1.6 Habitat Map

Refer to Mladenoff and Sickley (1998) for a map of potential wolf habitat in the northeast.

1.7 Sources of Information

Literature reviews and communications with New Hampshire Fish and Game biologists.

1.8 Extent and Quality of Data

New Hampshire Fish and Game biologists investigate credible wolf sightings, but have yet to confirm the presence of wolves in the state (Will Statts and Eric Orff, personal communications, NHFGD).

1.9 Distribution Research

Peggy Struhsacker of the National Wildlife Federation, through their northeast office in Montpelier, Vermont, has conducted winter track searches for wolves in New Hampshire and Maine since 2003. None have been detected to date (Eric Orff, personal communication, NHFG). Confirming the presence of wolves in the northeast is made difficult by the eastern coyote, which resembles the wolf in appearance. DNA evidence suggests that wolves in southeastern Canada occasionally hybridize with coyotes, which further complicates the issue (Lehman et al. 1991).

Recent advances in fecal DNA analysis offer an alternative method for confirming the presence of wolves. Fecal DNA sampling was used in France and Switzerland to monitor the recolonization of wolves in the western Alps over ten years (Valiere et al. 2003). NHFGD should adopt a standard procedure for collecting, storing, and shipping out possible wolf scat samples for DNA analysis.

Element 2: Species/Habitat Condition

2.1 Scale

N/A

2.2 Relative Health of Populations

Wolf populations are currently considered stable in Quebec (Lariviere et al. 2000). An increase in protection or a decrease in hunting/trapping pressure on wolves in Quebec would likely lead to an increase in wolf numbers, and ultimately to an increase in dispersal rates (Wydeven et al. 1998). Any increase in wolf dispersal would increase the likelihood of a natural wolf recolonization of the northeastern U.S. A wolf population that establishes in Maine would be likely to expand into northern New Hampshire.

2.3 Population Management Status

New Hampshire would constitute only a small portion of potential wolf range in the northeast, which would be expected to include areas of Maine, New Hampshire, Vermont, and New York. New Hampshire currently has no management plan that addresses the potential return of wolves to the state. Minnesota, Wisconsin, and Michigan are examples of states that have recently dealt with the issue of a naturally recovering wolf population. New Hampshire should look to these states for guidance in the preparation of a strategy for dealing with the potential return of wolves. A key component of this strategy would be to support public education that dispels myths about wolves and focuses on the actual benefits and problems of living with a wolf population. The strategy should also differentiate between short term and long-term management goals. In general, recovering wolf populations require protection in the short term, but expanding populations will need a more flexible management policy to address the inevitable increase in wolf/human conflicts, such as the killing of livestock or pets (Mech 1995). Minnesota has been successful with a strategy that allows for increased harvest in agricultural and suburban areas while maintaining protection in areas of core wolf habitat (Mech 1995).

2.4 Relative Quality of Habitat Patches

Mladenoff and Sickley (1998) identify most of northern New Hampshire as suitable wolf habitat based on its relatively low human population and road density and its abundant moose and deer populations.

2.5 Habitat Patch Protection Status

A portion of northern New Hampshire was recently protected from development with a 171,000-acre (692 km^2) conservation easement in the headwaters of the Connecticut Lakes. However, most of the large, unfragmented blocks of forest in the region are not protected.

2.6 Habitat Management Status

The majority of land in northern New Hampshire is managed for forestry products. Forestry operations actually benefit wolves by creating more browse for deer and moose. Future development could fragment the landscape, which would restrict the movements of a potential wolf population (Carrol 2003).

2.7 Sources of Information

Literature Review

2.8 Extent and Quality of Data

The status of wolves in Quebec is based on hunter survey reports (Lariviere et al. 2000). The potential for natural recolonization of the northeast has been addressed by a number of authors (Harrison and Chapin 1998, Wydeven et al. 1998, Carrol 2003).

2.9 Condition Assessment Research

Future research on the potential for recolonization should include studies of wolf/coyote interactions, a more detailed assessment of the St. Lawrence River as a barrier, and surveys to assess public attitudes toward wolves. Wolf recovery ultimately depends on support from the public. If public opinion toward wolves is unfavorable then any attempts to restore wolves will likely be unsustainable (Mech 1995). The Coalition to Restore the Eastern Wolf (CREW) is a group of organizations working to increase public awareness and influence policy decisions that will facilitate the return of wolves to the northeastern U.S. CREW is a valuable resource for monitoring public opinion toward wolves.

The potential for natural wolf recolonization may currently be limited by the year round open season on coyotes in New Hampshire. Closer monitoring of coyotes harvested in the state would increase the likelihood of intercepting wolves that cross the border. For example, the Maine Department of Natural Resources encourages trappers to report any canid longer than 4.5 ft from nose to tail (MDNR 2004).

Element 5: References

5.1 Literature Cited

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