FORUM

Wolves for the Adirondacks?

Wolves are an important part of complete ecosystems.

BY NINA FASCIONE AND STEPHEN KENDROT

No animal elicits a stronger or more varied reaction in people than the wolf. To some, wolves are symbolic of a pure wilderness and an innocence of nature. To others, wolves connote evil personified: bloodthirsty killers that ravage towns and slaughter innocent children. To be sure, mythology and folklore have painted an image of the wolf that is larger than life. Shrouded in mystery and steeped in tradition, human attitudes toward the wolf confound and complicate the development of scientifically based restoration programs for a species that has been extirpated from most of its original range in the contiguous 48 states.

The eastern timber wolf (*Canis lupus lycaon*) was prevalent throughout the northeastern U.S. until the turn of the century. But, as reflected in age-old myths and superstitions such as Little Red Riding Hood and many Aesop's fables, European settlers harbored a deeply instilled fear of the wolf and consequently persecuted the animal relentlessly. Beginning in 1630, the Massachusetts Bay colony and others paid an average months' salary for the heads of wolves, encouraging bounty hunters to shoot, poison and trap them. Bounty records indicate that the last northeastern wolf was shot in New York in 1897. Wolves were similarly persecuted throughout the rest of the United States, and by the 1970s they remain in as little as three percent of their former range in the lower 48 states.

As a result of this dramatic population decline, the wolf was one of the first species listed under the 1973 Endangered Species Act (ESA). The gray wolf (*Canis lupus*) was listed as endangered in all of the 48 states except Minnesota, where a remnant population of fewer than 500 wolves was listed as threatened. The red wolf (*Canis rufus*), which originally roamed throughout the southeastern United States, was also listed as endangered. Under the ESA, the U.S. Fish and Wildlife Service (FWS) is obligated to create a recovery plan for each listed species, such as the plan that led to the recent reintroduction of wolves into Yellowstone National Park and central Idaho. Therefore, in 1992, the U.S. Fish and Wildlife Service developed the *Recovery Plan for the Eastern Timber Wolf*, which identified three areas in the northeast as possible recovery sites: one in eastern Maine, one on the Maine-New Hampshire border, and the Adirondack Park in upstate New York. Because the eastern timber wolf is absent from the northeast, Defenders of Wildlife advocates careful investigation of the potential to restore eastern timber wolves to all three sites, including upstate New York.

The first step in any species restoration program is to conduct a feasibility study that examines the biological factors affecting recovery. To move the process forward, Defenders has pledged to fund a study examining these factors in the Adirondack Park. At the request of Adirondack residents and other stakeholders, Defenders has agreed to incorporate an investigation of the social and economic implications of potential wolf recovery as well. The feasibility study will also determine if wolf restoration in the Adirondacks is biologically possible.

While initial studies indicate that parts of the Adirondacks probably meet the requirements of a wolf population—few people, low road density, and adequate prey—the distribution of public and private lands and the relationships with human, road and prey density must be completely understood. Of equal importance are the rights, safety and livelihood of the park's residents. Ensuring that people's concerns are addressed by a recovery plan is of paramount importance to Defenders and to the success of any reintroduction.

To account for the concerns of local residents in the feasibility study, including the fear that Defenders would hire a biologist predisposed in favor of wolves in the Adirondacks, Defenders worked with Paul Smith's College of the Adirondacks to create an Adirondack wolf Citizen's Advisory Committee (CAC). The CAC is composed of approximately 20 representatives of various stakeholder groups within the Adirondacks. Interests represented include hunting, trapping, tourism, environmental, land owner, recreation, farming, and recreation. The committee first met in June, 1997 and has met four additional times since.

The first task of the committee was to develop the criteria that would be used in a request for proposals, a document sent to more than 200 universities and other scientists who might be interested in conducting

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the study. The request resulted in three proposals, one of which had two universities collaborating on the study. The committee reviewed the proposals and, somewhat surprisingly, agreed unanimously on on the Conservation Biology Institute of Corvallis, Oregon as the best qualified to conduct the biological component of the study. They selected Cornell University to research the social aspect of the study.

The study is expected to take 10 to 15 months to complete. The results will be used by decision-makers, including the New York State Department of Environmental Conservation (DEC), to determine if wolf reintroduction is viable. If wolf restoration does appear to be biologically feasible and socially acceptable, there are numerous other steps that will be followed before any wolves would be released in the Adirondacks.

If the initial research indicates further study is warranted, an Environmental Impact Statement (EIS) will be conducted, most likely by the DEC, to examine biological, social and management issues in greater detail. Federal and state laws require that the EIS be conducted under full public review. For example, the FWS held more than 120 public hearings and open houses to allow for public input in the northern Rockies wolf reintroductions. That plan was tailored to meet the stated needs of local citizens based on the public comment process. Key features of the Northern Rockies plan give private landowners the ability to harass and kill wolves found killing their livestock, permit wolf control if they have significant impacts on big game populations, and stipulate that no land-use restrictions would occur because of wolf recovery. A similar public process would be held in New York.

Although FWS has suggested three northeast sites as possible wolf recovery locations, no federal mandate requires this reintroduction because current eastern timber wolf delisting criteria will likely be met by wolf populations in Minnesota, Michigan and Wisconsin. Therefore, public support is crucial. People living within and near recovery areas have concerns and questions that must be addressed before wolf restoration can move forward. Defenders has already taken several steps to identify citizen concerns and ensure that they are addressed. To be more readily available to local people and conduct education and outreach, Defenders has opened two field offices in upstate New York. Staff members Steve Kendrot, in the Plattsburgh office, and Michelle Balzano, based at the Utica Zoo, are available for public presentations and to answer questions.

T. BROOKS/MISSION:WOLF

Grey wolf.

Issues concerning residents include: would wolves significantly affect the Park's deer population and affect hunter success, would wolf recovery affect the Park's coyote population and what is the taxonomic relationship between eastern timber wolves in Canada and the eastern coyotes in the Adirondacks, do wolves pose a threat to humans or their pets, would wolves migrate from the reintroduction site into agricultural areas, and would wolf restoration entail land-use restrictions or the need for land acquisition by the state? Current knowledge based on scientific data and case studies of other wolf recovery programs can provide answers to many of those questions. Clearly, however, these are legitimate concerns that need to be further addressed in a preliminary feasibility study and in a full-fledged environmental impact statement.

Wolves and Prey

Adirondack hunters have expressed concerns that wolf reintroduction would have negative impacts on the region's deer population and deer hunting. Several researchers have estimated that the Adirondacks could support approximately 150 wolves, based on preliminary prey and habitat availability studies. According to leading wolf biologists, the amount of prey required for maintenance and reproduction of a wolf population of this size, feeding solely on white-tailed deer, would range between 1,770 and 4,684 deer yearly. This is approximately two to seven percent of the estimated Adirondack deer population. Between 8,500 and 13,000 Adirondack deer succumb to starvation and winterkill each year. Since weakened deer are predisposed to wolf depredation, it is likely that deer killed by wolves would not be additive to those deer already dying of starvation. Additionally, abundant beaver populations in the Adirondacks would provide an alternate food source for wolves during spring, summer and fall and would take some of the pressure off deer populations. Finally,

since wolves would likely replace coyotes, which currently prey heavily on deer, actual predation rates on deer may not change significantly if wolves are reintroduced.

In the five continental states with growing wolf populations, hunting license sales and deer harvest have steadily increased over the past two decades, indicating that the wolf has had no adverse impact on prey populations. In fact, the presence of wolves may actually improve prey species by removing inferior animals from the population.

Wolves and Coyotes

Many issues pertaining to wolves and coyotes need to be examined in greater detail. Some are more easily addressed than others. The potential impact of wolf reintroduction on current New York regulations regarding the hunting and trapping of coyotes is a chief concern for many hunters, trappers and livestock owners interested in protecting their herds from coyote depredation. The DEC has indicated that if wolves are reintroduced, hunting and trapping of coyotes would not be restricted. Minnesota's wolf population has continued to grow despite a year-round harvest of coyotes with no limits on methods of take in that state. For farmers concerned about overabundant coyote populations, strong evidence exists which suggests wolves actually help control coyotes. Wolf biologist L. David Mech estimates that each wolf pack will replace 50 coyotes, decreasing the adverse impacts of coyotes on prey species and domestic livestock. This has already proved to be the case in Yellowstone National Park, where coyote populations have dropped by as much as 50 percent in the wolf reintroduction zone.

Other wolf-coyote issues are more difficult to address and must await further scientific study. Primary among these is the taxonomic relationship between eastern coyotes and eastern timber wolves. Since eastern coyotes are larger than their western counterparts, and eastern wolves are smaller than their western counterparts, some people speculate that the eastern coyote and the eastern timber wolf are both a result of hybridization between the two species. Only intensive genetics research can answer this question, and some studies are currently being conducted by scientists in both New York and Canada. Hopefully, their research will provide more information regarding the potential impacts of hybridization on wolf recovery.

Wolves and Livestock

Farmers understandably fear that wolves will kill livestock. Yet for several reasons, this concern should not preclude wolf restoration in New York. First, farming is not a prevalent activity within the "Blue Line" of the Adirondacks, comprising less than one percent of the land base. In addition, livestock depredation has been monitored for 20 years in Minnesota, where there are more than 2,200 wolves, but livestock depredation rates have remained extremely low. During that time, wolves never killed more than a fraction of one percent of more than 200,000 cattle on 7,000 to 12,000 farms within wolf range. Similar findings are reported in Canada and other areas where wolves have been reintroduced. Livestock loss rates in northwestern Montana, where wolves have been present for more than ten years, is also less than one percent. Compared to other forms of livestock mortality, such as disease, accidents, and birthing problems, which combined account for nearly 4.2 million livestock deaths nationwide in 1995, wolf depredation seems even more insignificant.

Nonetheless, wolves may roam into farming areas in upstate New York, and individual farmers should not have to bear the cost of wolf conservation. In 1987, Defenders created a $100,000 fund to compensate ranchers in the Northern Rockies for all verified livestock losses to wolves. In anticipation of the reintroduction of Mexican wolves, Defenders expanded the fund in 1995 to cover potential losses in the Southwestern United States. The Wolf Compensation Trust pays ranchers fair market value for livestock killed. Since 1987, Defenders has paid approximately $52,000 to slightly more than 50 ranchers in northwestern Montana and the Yellowstone region. Defenders is committed to extend this compensation fund to New York if wolves are reintroduced. Through careful animal husbandry, prompt control of problem wolves, and compensation programs, the impact of wolves on the farming industry should be negligible.

Wolves and Land Use

Simply put, recovery of wolves in the Northeast would require neither land-use restrictions nor additional land acquisition by New York State. Given adequate prey and protection from excessive killing by humans, wolves can flourish in most habitat types. Not a single land-use restriction has been employed on private lands in other wolf recovery programs in the United States. Even on federal lands within recovery areas, restrictions have been limited to temporary access limitations to active denning areas. Both endangered wolves, such as those in northwestern Montana, and threatened wolves, such as those in Minnesota, are routinely controlled when they prey on livestock by the U.S. Department of Agriculture's Wildlife Services (formerly Animal Damage Control) units. If wolves are reintroduced into the Adirondack park, they would not fall under full endangered species protection, but rather under a special experimental designation that allows land owners more flexibility in controlling problem animals.

Wolves and Human Safety

There are two issues surrounding wolves and human safety — that of potential disease transmission and whether wolves pose a direct threat to humans. In answer to the first question, research has shown that the incidence of rabies in wolves is extremely low and has typically been limited to arctic environments. While wolves can contract rabies, they tend not to. As wolves are strictly territorial, rabies

outbreaks are usually constrained within a single pack and not passed on to the population at large. Therefore, the disease is rarely passed along to humans or other wildlife. As an additional safeguard, all reintroduced wolves would be checked for disease and vaccinated.

Direct attacks on humans are even less common. There are extremely few cases of wild wolves attacking humans in North America, and the few examples that do exist all have extenuating circumstances. In one case, a deer hunter who soaked himself in deer urine to attract deer was mistaken for prey by a wolf. As soon as the wolf realized its mistake, it fled, and the hunter was not injured. Comparative statistics indicate that you are actually more likely to be killed by a falling vending machine or struck by lightning than be attacked by a wolf. There is simply no scientifically acceptable evidence available to support the claim that wild wolves are dangerous to humans. By comparison, domestic dogs kill more than 20 people each year.

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Why Restore the Wolf?

Wolves are an important part of complete ecosystems, helping to regulate populations of prey species and smaller predators. Without wolves, overabundant deer exert intense browsing pressure and can change the composition of forests to the detriment of all species. Deer also tend to browse seedlings and young shoots, interfering with forest regeneration. When deer over browse the forest understory, birds and small mammals that live or nest there are more vulnerable to predators. Also, without wolves, populations of other predators like coyotes increase, placing further pressure on prey species as well as out-competing small predators like foxes and bobcat.

Wolves and large herbivores have evolved together for thousands of years. When coyotes fill the wolves' niche by preying on deer, they may have a greater impact on the deer herd. Coyotes evolved as predators of small mammals and exist at much higher densities than wolves do. They are more apt to switch to other prey species when deer become scarce. This allows coyotes to maintain higher numbers even when deer numbers dwindle. Wolves, on the other hand, have evolved closely with deer and other large ungulates. When their prey declines in number, wolves suffer higher pup mortality and lower reproductive rates. As a result, wolf populations soon decline and allow deer populations to rebound from low levels.

As pack hunting animals, wolves constantly test their prey for signs of weakness. Chases are often abandoned quickly when potential prey shows no sign of vulnerability. By doing so, wolves systematically remove weak and unhealthy animals from the prey population. While some healthy animals are killed, the majority of the prime animals are left to reproduce. Through this form of predation, deer become stronger and more robust. Wolves are ideal stewards of wilderness deer herds, where hunting by humans plays an insignificant role in deer population regulation.

Economic Benefits

There are compelling economic benefits to restoring wolves as well. Chances of seeing a wolf in the Adirondacks would be an extremely rare and fortuitous event, as wild wolves are afraid of humans and will avoid them if possible. Yet this does not stop tourists from flocking to wolf-inhabited areas. Two studies of tourist revenue changes because of wolf reintroduction, one in the northern Rockies and one in the Southeast, show annual economic increases in the millions in both regions. And in Canada's Algonquin Provincial Park, thousands of tourists visit every summer to attend organized "wolf howls" where people rarely see, but occasionally hear wild wolves. Clearly, the mere presence of wolves encourages nature enthusiasts to visit an area. Wolves would undoubtedly have the same impact in the Adirondacks.

Conclusion

Some people contend that wolves would return to New York on their own if they were meant to be there. However, most scientists believe that the likelihood of natural recolonization to the Adirondacks is extremely low. Extensive agricultural lands, a network of busy roadways, and the St. Lawrence Seaway (which is kept open in the winter for boat traffic) all stand between the Adirondacks and the nearest wolf population in Canada. The infrequent wolf reaching the Adirondacks from Canada would have no other wolves to breed with and might interbreed with coyotes. The goal of establishing a pure wolf population in New York would be most efficiently met through reintroduction.

Defenders believes there are biological, economic and ethical reasons for investigating the potential of wolf restoration in New York. We are eager to work with area residents and local organizations to create a win-win situation in the Adirondack park, where both humans and wildlife benefit. We also believe that wolf reintroduction defines the spirit of the Adirondacks and that public support is considerable when gauged from the hearts of true New Yorkers and Adirondackers. As Chuck Brumley, writer and licensed Adirondack guide, said in a letter to the editor of the *Adirondack Daily Enterprise* (2/6/97): "The Irish tenor of the howling wolf, just a third of an octave or so under the soaring soprano wail of the loon. Man, I'd like to hear that . . . By god, that would sound like real old-time wilderness. Bring them on."