

Conservation is a state of harmony between men and land. If the land mechanism as a whole is good, then every part is good, whether we understand it or not. To keep every cog and wheel is the first precaution of intelligent tinkering.

—Aldo Leopold, 1948

The Fish and Wildlife Service recently released a long awaited draft biological opinion of the threatened Canada Lynx.

The 61 page opinion was scripted for the Rio Grand Forest Service in response to a request for a year-around access road by the developers of the Village at Wolf Creek in accordance of the requirements in the 1973 Endangered Species Act. The Canada Lynx was listed as “threatened” in March of 2000. The biological opinion provides an analysis and forecast for the feline predators persevering in the environs surrounding Wolf Creek Pass.

The lynx have a long history in Colorado as a component of the Rockies’ boreal forest ecosystem. Because of the lynx’s competitive advantage of hunting in deep snow of their main prey, the Snowshoe Hare, they have historically survived well in the high mountains of the Rockies.

In contrast to Colorado’s two other species of wild cats, the Bobcat and the Mountain Lion, which can survive in a variety of habitats, the lynx are “habitat and prey specialists,” according to Lori Nordstrom, lead lynx biologist for the U.S. Fish and Wildlife Service

Montana field office. Lynx require mature conifer forests with fallen trees for their dens, with abundant populations of Snowshoe Hare; such as the areas reliably found in the Weminuche and South San Juan Wilderness areas.

The Southern Rockies lynx habitat is one of four main “core” areas of lynx habitat in the contiguous U.S. (lower 48 states). The other three core areas are the Northern Rockies/Cascades, the Great Lakes and the Northeast. The Southern Rockies area is unique in that it is isolated from the species’ main range in Canada by the Green River basin and the Red Desert in Wyoming. The other three core areas are isolated from one another, but are geographically connected to the Canadian population. One would be hard pressed to find a federal biologist that would estimate the total number of lynx in the U.S., but all agree that lynx are rare. NatureServe, a nonprofit conservation organization, estimates the total population of lynx in the contiguous U.S. as less than 2000.

Like many regions during America’s westward expansion and development, Colorado’s settlement had negative consequences for some of the natural wildlife, including the lynx. Beginning in the 1820’s, trappers methodically trapped beavers to the verge of extinction by the 1840’s, and were soon followed by hide marketers who killed off the southern herd of Bison by 1870. Next came the ranchers and miners, and to feed the influx of settlers, hunting of elk, deer, pronghorn, bighorn sheep, and turkey diminished

the wildlife populations rapidly, creating an ecological imbalance of predators and prey. As a result, natural predators such as wolves, wolverines, grizzlies and mountain lions preyed on domestic animals, becoming “nuisance” animals in the process. State sponsored bounties for the predator’s hides, some continuing well into the 1960’s, decimated their numbers.

Unlike several other states, Colorado never placed a bounty on the Canada Lynx, but prohibited hunting of the animals only in 1971, when their numbers had become unsustainable. The lynx’s curious nature and valuable pelts made them vulnerable to poachers, and in 1974, the last known lynx was illegally trapped within the Vail Ski Area boundary. Except for anecdotal tales, that was the last native lynx ever seen in Colorado, according to Joe Lewandowski, Colorado Division of Wildlife spokesperson.

In 1997, in order to help restore ecological balance, CDOW began a bold program to reintroduce the Canada Lynx by importing lynx from the northern ranges. In 1999, following the capture of lynx in British Columbia and Quebec, 41 lynx were released in Colorado in the early spring, followed by 55 the following year. The initial relocation efforts had marginal results. CDOW “initially had a bad protocol. They were released in the toughest time of winter, and many died of starvation,” said Lewandowski. After a two-year hiatus, the program began again in 2003 with a new protocol. After a winter capture (the easiest time to trap the

lynx), the lynx were initially kept in cages in Del Norte, and released after April 1, after they had become acclimatized and fed for a several months. With the changed protocol, the lynx have done “very well,” according to Lewandowski, and have been released annually.

In all, 204 lynx have been released in Colorado. Of those, there have been 66 mortalities, with 22 unknown causes, 11 hit by vehicles, 14 shot or probably shot, and 2 other human caused fatalities. 17 lynx have died from natural causes, including 9 from starvation, 3 from probable predation, and the remainder from illness. The released animals have radio collars, enabling tracking from airplanes and satellites.

On the bright side, the lynx are now naturally reproducing in the wild, with 16 kittens documented in 2003, 30 in 2004, and 46 kittens from 16 mothers in 2005. Whether or not the population is now sustainable, however, “can no way be determined,” said Lewandowski, but signs are hopeful that the lynx population is on the road to recovery. According to Tanya Shenk, CDOW’s lynx field researcher: “Not only are we finding more litters, but some females are having second or third litters in their established home ranges with the same mate. We are starting to see a stable social structure evolve and family relationships become established.”

Many conservation groups feel that the recovery effort is on the cusp and the existing conservation conditions in the Southern Rockies need to continue. “In terms of recovering lynx in Colorado, we’re

past the midway point, lynx are in the wild making babies, let's finish it up," said Jacob Smith, director of Center for Native Ecosystems, a nonprofit organization dedicated to conserving and recovering native ecosystems in the Southern Rockies.

In the Fish and Wildlife's biological opinion, one of the major concerns regards the lynx linkage area situated on Wolf Creek Pass. The document defines linkage area as: "Habitat that provides landscape connectivity between blocks of habitat." The proposed Village at Wolf Creek sits in the center of the critical lynx linkage territory. The Wolf Creek Pass linkage is the bridge between the southern habitat which includes the South San Juan Wilderness and the northern habitat which includes the Weminuche Wilderness.

Linkage areas are important not only for subpopulations to interbreed in order to prevent genetic isolation, but dispersal through linkage areas appears to be a natural instinct. According to KG Poole in a 1997 article in the *Journal of Wildlife Management*, subadult lynx naturally disperse, even when prey is abundant, "presumably as an innate response to establish home ranges." There has been documented evidence of lynx travelling over 300 miles from their original home range.

The biological opinion states that linkage areas "can be degraded or severed by human infrastructure such as high-use highways, subdivisions, or other developments." According to the report, the volume of traffic increase expected from

the Village of Wolf Creek will be between 5,484 to 11,003 cars per day on an annual average basis (based on a 20-year projection). Current traffic over Wolf Creek Pass is 2,900 vehicles per day, with an estimate (without the contributions from the Village at Wolf Creek) projected to be 5,600 vehicles per day in 20 years.

The biological opinion references a 2000 study by Bill Ruediger, endangered species program leader for the Forest Service, which states that "highway mortality rates can increase drastically with relatively small increases in traffic volumes and speeds," and that "with respect to highway traffic volumes and lynx crossings, Canadian studies suggest that 2000-3000 vehicles per day are problematic and greater than 4000 vehicles per day are more serious threats to mortality and habitat fragmentation."

Despite the statements in the Ruediger study, the Fish and Wildlife's biological opinion uses a straight proportion estimate as to how many lynx will be killed by the increase in traffic expected by the Wolf Creek Development, and bases the estimate on current records of lynx killed by cars since the reintroduction program began. The opinion also anticipates that the traffic directly related to the development will alter the essential breeding and feeding behavior by hindering 32 lynx from crossing the linkage.

The linear extrapolation of lynx road-kills seems optimistic. The current level of 2900 cars per day is an average of one car per 30 seconds; the potential 16,603 cars per

day is an average of one car per 1.2 seconds. It must take more than 1.2 seconds, after all, for the lynx to actually cross the road. Exacerbating the problem for the lynx, the full time residents living near the pass will significantly increase the percentage of traffic from dusk to dawn, when lynx are naturally more active.

Al Phister, the author of the biological opinion, says that the opinion uses the "best available information" regarding lynx road-kill predictions. Because there are no traffic volume studies specifically relating to lynx, he used the linear "straight proportion" to calculate the road-kill rate.

In addition to habitat fragmentation and the increase in the road-kills, the biological opinion describes the complete loss of lynx habitat within the development, a 10 percent reduction in lynx crossing areas within the linkage area, an increase in poaching made possible by the development's access, and negative effects from trampling, overuse, and unintended discharges and runoff.

Despite the grim prediction for the Southern Rockies lynx, the biological opinion concludes that the Village at Wolf Creek "is not likely to jeopardize the continued existence of Canada Lynx in the contiguous United States DPS (distinct population segment)."

In reality, the document was always based on the fact that there are other core populations of lynx in the contiguous U.S., since the "distinct population segment" of the lynx as listed in the Federal Register encompasses the entire

U.S. population, and not just the isolated Southern Rockies population. In the opinion of Monique DiGiorgio, executive director of the Southern Rockies Ecosystem Project, the "Fish and Wildlife Service is taking the strongest stance they can give given the political situation."

Following the "no jeopardy" decision, the biological opinion does require the developer to do two things: first, to convene a panel of five to eight recognized experts in the area of lynx ecology, subject to the approval of CDOW, Forest Service, and the Fish and Wildlife Service. The panel will determine the most appropriate means of reducing lynx habitat fragmentation and minimizing lynx/vehicle collisions, which may include building wildlife overpasses. The second requirement is to establish a monitoring program to evaluate the effects of the increased traffic as part of an adaptive management approach applied to all phases of the developer's project.

Every little bit helps. The U.S. House of Representatives recently passed the "Threatened and Endangered Species Recovery Act," (also known as the "Pombo Bill" after the republican Representative Richard Pombo who introduced the bill). Although the title of the bill would lead one to believe it strengthens protection for threatened and endangered species, the bill in fact repeals several key aspects of the 1973 Endangered Species Act. If the bill passes the Senate and becomes law, it would significantly limit federal habitat protection and would eliminate the need for federal agencies to consult

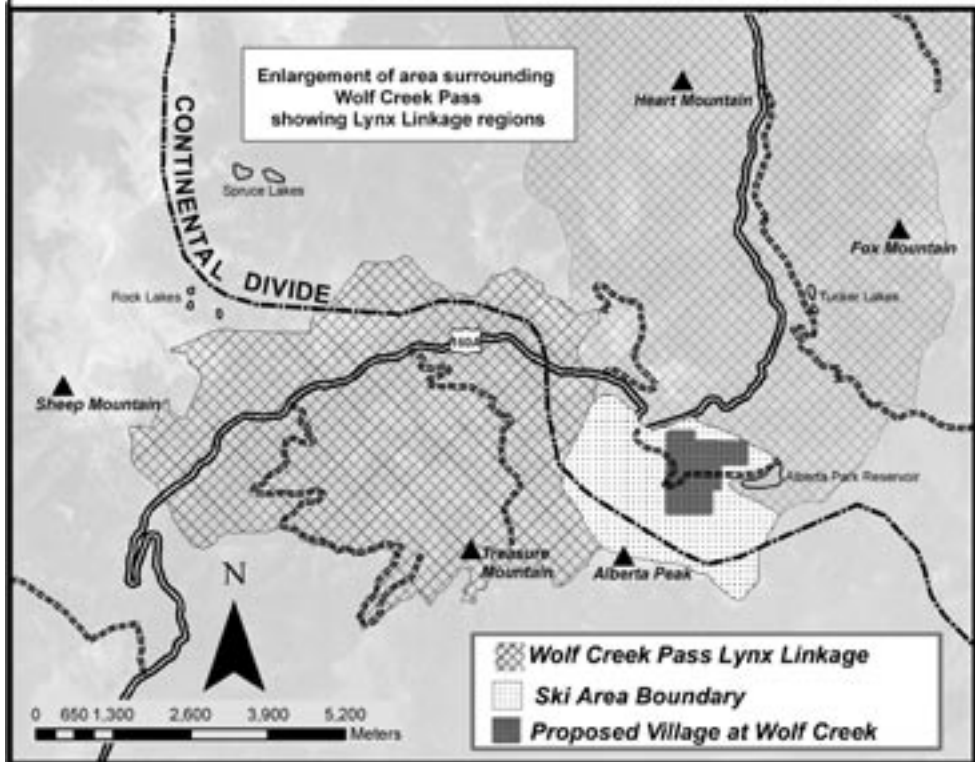
with the Fish and Wildlife Service, which administers the Endangered Species Act, before approving a project that impacts the environment of a protected species. Unless specifically requested by the Secretary of the Interior, a political appointee, mitigation procedures such as the ones currently required by the Fish and Wildlife Service for the Southern Rockies lynx would no longer be mandated when a critical habitat becomes impacted by a development such as the Village at Wolf Creek.



two lynx on snow

Photo courtesy National Wildlife Federation

A pair of Canada Lynx. The lynx's large paws give them a competitive advantage for hunting on deep snow, while the long ear tufts serve as sensitive antennae, enhancing hearing.



Sun map/John Middendorf

Above: A map showing the Wolf Creek Pass critical lynx linkage area between the South San Juan Wilderness and the Weminuche Wilderness, with relative location of the proposed Village at Wolf Creek. Note: lynx habitat also extends north of the San Juan National Forest. Sources: San Juan and Rio Grande National Forest GIS files.