

ENDANGERED SPECIES

Technical Bulletin

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Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho

by Edward E. Bangs and Steven H. Fritts

Wolves were once one of the most widely distributed land mammals on earth. In North America, gray wolves (*Canis lupus*) historically occurred in almost every habitat north of what is now Mexico City. However, as European settlers decimated wild ungulate populations and replaced them with livestock, wolves and other large predators that occasionally attacked livestock were persecuted. In addition to the real and perceived conflicts with livestock, old myths had portrayed wolves as evil and satanic. For these reasons, it is not surprising that most people during the settlement era viewed wolves in an extremely negative context.

Wolf persecution and eradication were relentless and conducted with almost hysterical zeal. Wolves were not just shot, trapped, and poisoned but burned alive, dragged behind horses, and mutilated. By 1930, government predator eradication programs had eliminated wolf populations from the western United States. Similar attitudes resulted in the elimination of wolf populations from the southern portions of the western Canadian provinces by the 1950's. The fact that these events happened within the lives and memories of many western residents strongly affects the social and political climate surrounding wolf recovery efforts today.

Natural Wolf Recovery

In the 1960's, after scientific wildlife research began to dispel many of the



Fish and Wildlife Service photo

negative myths surrounding predators, the first calls for reintroduction of wolves to Yellowstone National Park were made. About the same time, Canadian wildlife management agencies took steps to encourage reestablishment of wolf populations in parts of southern British Columbia and Alberta by eliminating bounties and restricting wolf hunting and trapping. Throughout the 1960's and 1970's, lone wolves were occasionally sighted or killed in the northern Rocky Mountains of Montana, Idaho, and Wyoming (Weaver 1978, Ream and Mattson 1982). While Canadian wolf populations continued to expand southward, it was not until 1986 (55 years after eradication) that wolves again produced pups in the western United States (Ream et al. 1989). By 1993, the wolf population in

northwestern Montana had increased to about 50 wolves in 5 packs. No wolf packs have been documented in other areas of the western United States, although lone wolves continued to be reported in Wyoming, Idaho, Washington, and other areas.

In 1988, the U.S. Fish and Wildlife Service (FWS) established an interagency wolf recovery program to assist natural recolonization in Montana (Bangs 1991). The program strongly emphasized public education and information. Controversy over wolves and their management was still largely an issue of symbolism, with strong emotion, rumor, and myth on both "sides" of the wolf recovery issue. As a result, illegal killing by the public was the single greatest threat to wolf recovery in Montana. *(continued on page 18)*

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Since 1989, FWS biologists have given more than 300 presentations to livestock, hunter, environmental, and civic groups that attracted over 13,000 local residents. In addition, the FWS helped generate hundreds of newspaper, television, and magazine articles that provided information about wolves and their recovery. Other FWS-led interagency wolf recovery programs were established in Idaho, Wyoming, and Washington. They are focused primarily on wolf monitoring and on public information and education (Fritts et al. 1993).

Since 1980, conflicts with livestock production have been minor, although still controversial (Bangs et al. 1993). As of September 1, 1993, 17 cattle and 12 sheep have been killed by wolves, all in Montana. Seventeen wolves were moved or killed by FWS and U.S. Department of Agriculture Animal Damage Control personnel to prevent further livestock losses and build local tolerance of non-predating wolves (the majority of the wolf population). In 1987, a private organization, Defenders of Wildlife, established a successful program that compensates ranchers for livestock killed by wolves. About \$11,000 has been paid to date. In 1993, Defenders also began a program that pays \$5,000 to any landowners on whose property wolves successfully raise pups. Effective agency control of problem wolves and the private compensation program have helped reduce controversy about the presence of wolves.

The FWS, other cooperators, and the University of Montana have initiated research on wolves and ungulates in and adjacent to Glacier National Park. Wolves in the Glacier Park area generally live in packs of 8-12 wolves, use territories of about 300 square miles (780 square kilometers) in valley bottoms, have a single litter of 5 pups in late April, feed primarily on white-tailed deer (*Odocoileus virginianus*), and die most often at the hands of people.

Data indicate that wolves are simply another predator in the northern Rocky Mountains ecosystem. Of 120 adult female white-tailed deer, elk (*Cervus elaphus*), and moose (*Alces*) monitored with radio telemetry over the past 4 years in the Glacier Park area, 49 have died. Mountain lions (*Felis concolor*) killed 15, wolves 11, grizzly bears (*Ursus arctos*) 8, humans 8, coyotes (*Canis latrans*) 3, old age 1, and 3 others died from unknown causes (D. Pletscher, Univ. of Montana, pers. commun.). Research on mountain lions in 1992 suggested that wolves may be a more direct competitor with them than previously believed. Wolves killed 3 mountain lions, and it was not uncommon for wolves to track lions and usurp their ungulate kills (M. Hornocker, Hornocker Wildl. Res. Inst. Inc., pers. commun.). These data suggest that the potential impact of wolves on ungulate populations may be lower than previously predicted.

Recovery Planning

In 1974, wolves gained Federal protection under the Endangered Species Act of 1973 (Act) and restoration programs were initiated in the northern Rocky Mountains (Fritts 1991, Fritts et al. 1993). The State of Montana led an interagency team, established by the FWS, that developed a formal Northern Rocky Mountain Wolf Recovery Plan. That 1980 plan recommended that a combination of natural recovery and reintroduction be used to restore wolf populations in the area around Yellowstone National Park and north to the Canadian border.

The FWS approved a revised recovery plan in 1987. It defined wolf recovery in the northern Rockies as the survival of at least 10 breeding pairs of wolves, for 3 consecutive years, in each of 3 recovery areas (northwestern Montana, central Idaho, and the Yellowstone area). Including all pack members, this would mean a total of approximately 300 wolves. The plan also recommended using the "experimental population" provision of the Act to promote public acceptance of the

timely reintroduction of wolves into Yellowstone National Park. This designation, authorized in section (10j) of the Act, allows considerable management flexibility, particularly in the control of problem animals, as a means of allaying local concerns about potential negative impacts. Under the revised recovery plan, if 2 wolf packs had not been discovered in central Idaho within 5 years, a similar reintroduction would occur there also.

Carefully controlled reintroductions into designated recovery zones is preferred as an alternative to waiting indefinitely for wolves to reestablish themselves. Recolonizing wolves could disperse into areas where they may pose a problem, real or perceived, for people and livestock, thereby undermining public support for wolf recovery. Reintroduced wolves can be designated as an experimental population — a management option not legally available for naturally recolonizing wolves, which have full protection under the Endangered Species Act. In addition, reintroduction would lead to a more rapid recovery, and thereby hasten the day when the northern Rocky Mountain wolf can safely be removed from the endangered species list.

Gray Wolf EIS

In November 1991, Congress directed the FWS, in consultation with the National Park Service and Forest Service, to prepare an environmental impact statement (EIS) that considered a broad range of alternatives on wolf reintroduction in Yellowstone National Park and central Idaho. In 1992, Congress further directed the FWS to complete the EIS by January 1994 and to select a preferred alternative consistent with existing law.

The FWS formed and funded an interagency team to prepare the EIS. In addition to the National Park Service and Forest Service, the States of Wyoming, Idaho, and Montana, the USDA Animal Damage Control, and the Wind River Tribes participated. The Gray Wolf EIS

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program emphasized public participation. In the spring of 1992, nearly 2,500 groups or individuals that had previously expressed an interest in wolves were contacted directly, and the EIS program was widely publicized.

In April 1992, 27 "issue scoping" open houses were held in Montana, Wyoming, and Idaho, along with 7 more in other locations throughout the U.S. The meetings were attended by nearly 1,800 people, and thousands of brochures were distributed. Nearly 4,000 people provided thoughts on issues they felt should be addressed in the EIS. The most commonly mentioned issues involved ecosystem completeness, land use restrictions, livestock losses, humane treatment and respect of wolves, potential impacts on ungulate populations and hunting opportunities, and management strategies and costs. A report describing the public's comments was mailed to 16,000 people in July 1992.

In August 1992, another 27 "alternative scoping" open houses and 3 hearings were held in Wyoming, Montana, and Idaho. Three other hearings were held in the States of Washington (Seattle) and Utah (Salt Lake City), and in Washington D.C. In addition, a copy of the alternative scoping brochure was inserted into a Sunday edition of the two major newspapers in Montana, Wyoming, and Idaho. Nearly 2,000 people attended the August meetings, and nearly 5,000 comments were received.

The public comment reflected the strong polarization that has typified management of wolves. A majority (many urban or not living in the potentially affected areas) indicated it wanted immediate reintroduction and full protection of wolves. Many others (primarily rural residents in or near central Idaho or Yellowstone) indicated they did not want wolves to be recovered. A report on the public's ideas and suggestions was mailed to about 30,000 people in November 1992.

In April 1993, a Gray Wolf EIS planning update report was published. It discussed the status of the EIS, provided factual information about wolves, and requested the public to report observations of wolves in the northern Rocky Mountains. It was mailed to nearly 40,000 people in all 50 States and over 40 foreign countries that had requested information.

Reintroduction of Wolves as Nonessential Experimental Populations

The draft EIS was released to the public on July 1, 1993, for review and comment. It contained an FWS proposal to reintroduce gray wolves into both Yellowstone National Park and central Idaho if 2 naturally occurring wolf packs are not found in either area before October 1994. The reintroduced wolves would be designated "nonessential experimental populations" to allow additional flexibility in the management of wolves by government agencies and the public. Such a designation would minimize conflicts over public lands, effects on domestic animals and livestock, and impacts on ungulate populations. There would be no land use restrictions for wolf management. State and tribal wildlife agencies would be encouraged to take the lead in wolf management outside national parks and national wildlife refuges. The EIS estimated that reintroduction would result in wolf recovery in and around Yellowstone National Park and central Idaho by 2002. Total management costs of the program until recovery (10 breeding pairs in each area for 3 years) and delisting were projected to be about \$6 million.

In the draft EIS, the FWS considered 4 alternatives to the proposed action: 1) "Natural Recovery" (which could lead to wolf recovery by about 2025 and cost about \$10-\$15 million); 2) "No Wolf" (which would expressly prohibit recovery, in violation of law, and cost about \$100,000 to eliminate recolonizing wolves); 3) "Wolf Management Committee" (which could lead to recovery by

about 2015, and cost \$100-\$129 million for land acquisition and intensive management of wolves, ungulates, and their habitat); and 4) "Reintroduction of Nonexperimental Wolves" (which could lead to recovery by about 2000, with a total cost of \$28 million, including habitat purchases). The impact of each wolf management strategy (except the "No Wolf" alternative) on livestock, ungulate populations, hunting, land use restrictions, visitor use, and local economies varied primarily in the time and location of the impacts rather than major differences in the *level* of impacts.

The Yellowstone area comprises about 25,000 square miles (64,750 sq km), 76 percent of which is federally managed land. This area has over 95,000 ungulates (with a hunter take of 14,314 annually), is grazed by about 412,000 livestock, receives about 14,500,000 recreational visits annually, and supports a \$4.2 billion local economy (3.5 percent due to livestock). The central Idaho area is about 20,700 square miles (53,613 sq km) in size and is nearly all National Forest land. The central Idaho area has about 241,000 ungulates (with an annual hunter take of 33,358 ungulates), is grazed by about 306,525 livestock, receives about 8,000,000 recreational visits annually, and supports a \$1.43 billion local economy (5.2 percent due to livestock).

A recovered wolf population in the Yellowstone area would be anticipated to kill about 19 cattle (1-32), 68 sheep (17-110), and up to 1,200 ungulates (primarily elk) each year. It would not affect hunter take of male ungulates, but could reduce harvests of female elk, deer, and moose from some herds. A recovered wolf population would not affect hunter harvests or populations of bighorn sheep (*Ovis canadensis*), mountain goats (*Oreamnos americanus*), or pronghorn (*Antilocapra americana*). A recovered wolf population may reduce populations of elk 5-30 percent (30 percent in some small herds), deer 3-19 percent, moose 7-13 percent, and bison (*Bison bison*) up to 15 percent.

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The presence of wolves would not change uses of public or private land except for restricting potential use of M-44 cyanide devices ("coyote getters") for predator control in occupied wolf range. Visitor use would increase (at least 5 percent for out-of-State residents and at least 10 percent for local residents), and would generate \$7-10 million in additional net economic benefits each year.

A recovered wolf population in the central Idaho area would kill about 10 cattle (1-17), 57 sheep (32-92), and up to 1,650 ungulates (primarily mule deer) each year. It would not measurably affect ungulate populations. Although hunter take of female elk could fall 10-15 percent, harvest of male elk would be unaffected. Further, a recovered wolf population in this region would not measurably affect hunter take of deer, moose, bighorn sheep, or mountain goats. Wolf presence would not change uses of public or private land (except for restricting use of M-44 devices in occupied wolf range). Visitor use would likely increase (at least 8 percent for out-of-State residents and at least 2-12 percent for local residents), and would generate \$5.6-\$8.4 million in additional net economic benefits each year.

Public Comment on the Draft EIS

Nearly 1,700 copies of the draft EIS and 75,000 copies of the summary draft

EIS were distributed in July, August, September, and October of 1993. A copy of the summary draft EIS, a schedule for 16 public hearings (4 each in Montana, Idaho, and Wyoming, and 4 in other parts of the country), and a request for the public to report wolf observations were published in the 2 major newspapers serving Montana, Wyoming, and Idaho. Public comments on the draft EIS will be accepted until November 26, 1993.

Preparing the Final EIS

Public comments are being analyzed this fall and winter, and a final EIS will be completed in early 1994. Once the EIS is completed, it will be forwarded to decisionmakers in the Department of the Interior, who will determine how wolf recovery will proceed. All requests for information or the final EIS should be directed to Ed Bangs, Gray Wolf EIS, P.O. Box 8017, Helena, Montana 59601 (telephone 406/449-5202).

The only prediction considered absolutely safe is that controversy will continue to characterize wolves and wolf management for many years to come.

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Suggested Reading about Wolves in the West:

Bangs, E. 1991. Return of a predator: wolf recovery in Montana. *Western Wildlands* 17:7-13.

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to largemouth bass predation. Despite intensive efforts since 1991 to eliminate threats, this species may be on the verge of extinction. The Reno Field Office will brief the Regional Office and meet with the Nevada Department of Wildlife to determine a course of action.

In cooperation with the Bureau of Land Management (BLM), the FWS Boise (Idaho) Field Office participated in a 2-week field survey to locate habitats of the Bruneau Hot Springsnail (*Pyrgulopsis bruneauensis*) and update the status of the

Bangs, E.E., S.H. Fritts, D.R. Harms, J.A. Fontaine, M.D. Jimenez, W.G. Brewster, and C.C. Niemeyer. 1993. Control of Endangered Gray Wolves in Montana. Proc. 2nd N. Am. Wolf Symposium, Edmonton, Alberta. In Press.

Fritts, S.H. 1991. Wolf and wolf recovery efforts in the northwestern United States. *Western Wildlands* 17:2-6.

Fritts, S.H., E.E. Bangs, J.A. Fontaine, W.G. Brewster, and J.E. Gore. 1993. Restoring wolves to the northern Rocky mountains of the United States. Proc. 2nd N. Am. Wolf Symposium, Edmonton, Alberta. In Press.

Ream, R.R. and U.I. Mattson. 1982. Wolf Status in the northern Rockies. Pages 362-381 in F.H. Harrington, and P.C. Paquet, eds. *Wolves of the World: perspectives of behavior, ecology, and conservation*. Noyes Publ. Park Ridge, NJ.

Ream, R.R., M.W. Fairchild, D.K. Boyd, and A.J. Blakesley. 1989. First wolf den in western U.S. in recent history. *NW. Naturalist* 70:39-40.

Weaver, J. 1978. *The Wolves of Yellowstone*. Research report 14. National Park Service, Yellowstone National Park, WY.

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Regional News

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search Center inventoried the only remaining population of an Endangered Nevada fish, the White River spinedace (*Lepidomeda albivallis*), but observed only 14 fish. In June 1991, biologist observed more than 40 individuals and estimated the population at 100. White River spinedace exist in a 3-spring system within the Kirch Wildlife Management Area, but are restricted to a relatively unsuitable portion of the spring system due

recently listed Endangered species. The FWS has contracted with Greg Mladenka, the researcher most familiar with the species and its habitats, to locate all thermal spring sites identified in his 1992 thesis; assist with field efforts to determine Global Positioning System (GPS) coordinates; mark each site for subsequent monitoring; determine springsnail presence or absence at each site; and measure the water's temperature, depth, and flow.

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