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*THE REINTRODUCTION
OF GRAY WOLVES TO
YELLOWSTONE
NATIONAL
PARK
AND
CENTRAL
IDAHO
SUMMARY*



Final
Environmental
Impact
Statement

U.S. Department of the Interior
Fish and Wildlife Service

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**FINAL
ENVIRONMENTAL IMPACT STATEMENT**

***THE REINTRODUCTION OF GRAY WOLVES TO
YELLOWSTONE NATIONAL PARK
AND
CENTRAL IDAHO***

***U.S. Fish and Wildlife Service
Gray Wolf EIS
P.O. Box 8017
Helena, Montana 59601***

May 1994

SUMMARY

This summary of the final Environmental Impact Statement (FEIS) describes 5 alternative ways that gray wolves could be reintroduced into Yellowstone National Park and central Idaho, the process used to develop the alternatives, and the environmental consequences of implementing each alternative. Three alternatives (Reintroduction of Experimental Populations [the FWS's proposal], Wolf Management Committee, and Reintroduction of Nonexperimental Wolves) involve capturing and releasing wolves. One alternative (Natural Recovery or No Action) simply encourages natural wolf recovery. One alternative (No wolf) prevents wolf recovery. All issues and concerns identified by the public were considered and the most significant analyzed in detail. The potential effects of each alternative on livestock, land use, ungulate (deer, elk, etc.) populations, hunter harvest, visitor use, and regional economies are also described. Public comments and concerns were addressed and incorporated into the FEIS.

Important

Public comments on the draft Environmental Impact Statement (DEIS) are available for public review in FWS, Ecological Service offices in Cheyenne, Wyoming, Helena, Montana, and Boise, Idaho. Copies of the FEIS were sent to public libraries in Montana, Wyoming, Idaho, and those cities where open houses were held. In addition, several hundred copies of the FEIS were sent to organizations or individuals who represent people who may be significantly impacted by any decision. Those wishing to receive copies of the FEIS or needing further information should contact:

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Summary

PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to reintroduce a population of gray wolves (*Canis lupus*) into Yellowstone National Park and central Idaho.

The gray wolf was common in the northern Rocky Mountain states prior to 1870. After bison, deer, elk, and other ungulates were decimated by unregulated hunting and human settlement, people tried to exterminate all remaining large predators, primarily because of conflicts with livestock. Wolf populations disappeared from the western United States (U.S.) by 1930. In 1973, the Endangered Species Act (ESA) listed wolves as endangered.

The U.S. Fish and Wildlife Service (FWS) is the primary agency responsible for the recovery and conservation of endangered species in the U.S., including the gray wolf. Recovery of wolves in the northern Rocky Mountains requires that 10 breeding pairs of wolves (about 100 wolves), become established in each of 3 recovery areas (northwest Montana, central Idaho, and the area in and near Yellowstone National Park) for 3 consecutive years. After that has occurred wolves would be removed from the list of threatened and endangered species and managed solely by the respective states and tribes in areas outside of national parks and national wildlife refuges. Currently, as a result of natural dispersal of wolves from Canada over the past 15 years, about 5 wolf packs (65 wolves) live in northwest Montana. While lone wolves are occasionally seen or killed in the Yellowstone or central Idaho areas, wolf packs still do not exist in these areas. In 1991, Congress directed the FWS to prepare a DEIS on wolf reintroduction in Yellowstone National Park and central Idaho and required that it cover a broad range of alternatives. In 1992, Congress directed the FWS to complete the EIS by January 1994 and stated that it expected the preferred alternative to conform to existing law.

LOCATION OF THE PROPOSED ACTION

The 2 areas analyzed for wolf recovery are in and around Yellowstone National Park and USDA Forest Service lands in central Idaho (Figure S-1). The center of these areas are large contiguous blocks (about 12 million acres each) of land managed by the federal government, primarily as national parks or national forests. Not all wolves will remain on federal or other public lands, so the analysis areas include adjacent lands, including those privately owned, where wolves may occur and potentially cause some impacts.

Following is a list of counties or portions of counties included in the Yellowstone and central Idaho primary analysis areas in Idaho, Montana, and Wyoming:

Yellowstone Area

Idaho

Bonneville
Fremont
Madison
Teton

Wyoming

Fremont
Hot Springs
Lincoln
Park
Sublette
Teton

Montana

Beaverhead
Carbon
Gallatin
Madison
Park
Stillwater
Sweetgrass

Central Idaho Area

Idaho

Blaine
Boise
Camas
Clearwater
Custer
Elmore
Idaho
Lemhi
Shoshone
Valley

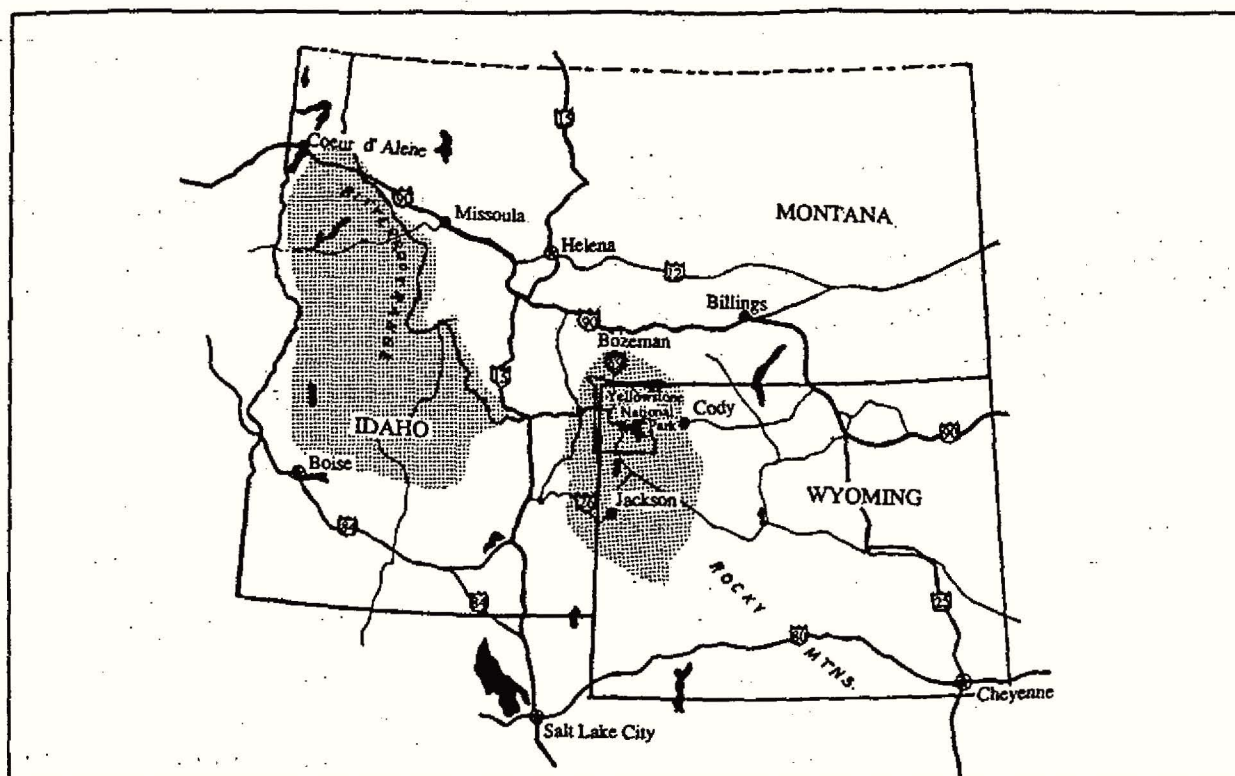


Figure S-1. Shaded portions indicate the approximate location of the Yellowstone National Park and central Idaho primary analysis areas for the FEIS.

Table S-1 presents basic information about the Yellowstone and central Idaho primary analysis areas. It helps describe those areas and may be useful in understanding the potential impact of wolf reintroduction. This information represents the situation that currently exists without wolf populations in these areas.

THE PLANNING PROCESS

One of the first steps in the planning process was to design a public participation and interagency coordination program to assist in identifying issues that needed to be addressed in the plan. Natural resource and public use information was gathered. Previous plans and reports dealing with wolf recovery were reviewed. The FWS was solely responsible for the FEIS, although representatives from the National Park Service, USDA Forest Service, USDA Animal Damage Control (ADC), Idaho Department of Fish and Game, Wyoming Game and Fish Department, Montana Department of Fish, Wildlife and Parks, Wind River Tribes, Nez Perce Tribe, and University of Montana assisted in its preparation. Participation and review by representatives of other agencies does not imply concurrence, endorsement, or agreement to any recommendations, conclusions, or statements in the FEIS.

Issue Scoping

Thirty-four open houses were held in April 1992 throughout Wyoming, Montana, and Idaho and at 7 other locations in the U.S. to identify issues that the public wanted considered in the DEIS. More than 1,730 people attended these meetings, and nearly 4,000 comments were received. All issues were considered, organized into 39 separate headings, and were addressed in the following way:

Summary

Table S-1. A summary of the key characteristics of the primary analysis area (PAA) that were analyzed as potentially being impacted by wolf recovery in and around Yellowstone National Park (includes parts of 17 adjacent counties) and in central Idaho (includes parts of 10 adjacent counties).

	Yellowstone	Central Idaho
People/Land		
Acres	16,000,000	13,300,000
% Federal Ownership	76%	99%
% Private ownership	21%	trace
% National Park, Wilderness, or Wildlife Refuge	41%	30%
Regional Population (including surrounding communities)	288,000	92,400
	5.2 people/ mi. ²	2.6 people/mi. ²
Recreational visits to federal land/year	14,500,000	8,600,000
Public land uses^a		
Open to grazing (acres)	4,000,000	4,365,383
Suitable for timber harvest (acres)	1,500,000	4,970,423
Timber harvested or planned for harvest/year (acres)	28,000	44,138
Total miles of system trails and roads on public land	13,457	20,346
Roads and trails open to motor vehicles (mi.)	8,057	9,541
National Forest area not open to motorized use (includes wilderness and roadless areas)	44%	44%
Estimated miles of hiking trails	4,643	13,838
Current active sites for M-44 use (coyote cyanide devices)	185 ranches	31 ranches
People/Land Economy (including surrounding counties)		
Total income	\$4.2 billion	\$1.43 billion
Per capita income	\$14,676	\$15,552
Farm	6.4%	8.0%
	(55% by livestock)	(65% by livestock)
Services	39.5%	34.6%
Other Industry	19.8%	24.8%
Other non-earned ^b	34.3%	32.6%
Livestock		
Peak numbers of livestock on PAA including the surrounding counties-		
(spring) cattle	354,000	384,990
(spring) sheep	117,000	100,713
On USDA Forest Service in PAA (May through October)		
Adult cattle and calves	145,658	81,893
Adult sheep and lambs	265,152	223,523
Horses	1,270	1,109
Total livestock grazed on national forests	412,080	306,525
Estimated current livestock mortality in the PAA and surrounding counties from all causes per year based upon spring cattle and sheep numbers:		
cattle	8,340	12,314
	2.36% loss	3.2% loss
	(67% calf)	(69% calf)
sheep	12,993	9,366
	11.1% loss	9.3% loss
	(74% lambs)	(72% lambs)
horses	Unknown, very low	unknown, very low
Ungulates (after hunting season)		
Elk	56,100	76,300

Table S-1 continued.

Summary

	Yellowstone	Central Idaho
Deer (mule & white-tailed)	29,500	159,600
Moose	5,800	1,700
Bighorn sheep	3,900	1,800
Bison	3,600	0
Mountain goat	few	2,000
Pronghorn antelope	400	0
Total	99,300 ^c	241,400
Hunter harvest/year	14,314	33,358
Estimated ungulates dying/year (all causes) ^d	48,559	153,539
Other Animals		
Black bears	3,000	abundant
Grizzly bears	228	none
Mountain lions	some	abundant
Coyotes	abundant	common

^a A wide variety of land-use restrictions (seasonal and permanent) are employed on public lands throughout the Yellowstone and central Idaho areas for protection of natural resources and public safety including: on motorized vehicles, construction of structures, Animal Damage Control activities, big game winter range, calving areas, security and migration habitat, raptor nest sites, endangered species (including grizzly bears), erosion control, wetland protection, to provide a variety of outdoor experiences (motorized or nonmotorized, wilderness or developed, etc.).

^b Non-earned income represents investments, entitlements, and retirement income that often does not depend on where a person lives. The growth of this segment of the economy from 25% to 34% over the last 2 decades results from people with this type of income moving into the central Idaho or Yellowstone area because these areas are perceived to have a lifestyle that people want to participate in (wild spaces, abundant wildlife, less crowding, low crime, clean air, etc.).

^c Including only ungulate herds at least partly associated with Yellowstone National Park. Estimated over twice that number using public and private lands in overall Yellowstone area.

^d Including hunting, crippling loss, poaching, road kill, predation, disease, starvation, drowning, winter kill, accidents, fighting, etc. (Appendix 10).

Eighteen issues were addressed as part of one or more wolf management alternatives

Amending the ESA	Range requirements
Missing component of the ecosystem	Control strategies
Humane treatment of wolves	Illegal killing
Enjoying wolves	Compensation
Regulated public take	Delisting
Cost of program	Need for education
State, tribal, federal authority	Spiritual and cultural
Viable population	Social and cultural environment
Travel corridors	Recovery areas

Six issues were analyzed in detail in the FEIS because they are potentially impacted by wolves or wolf recovery strategies

big game	land-use restrictions
hunting harvest	visitor use
domestic animal depredation	local economies

Summary

Fifteen issues and impacts were not evaluated further in the FEIS because they were not significant to the decision being made

Wolves not native to Yellowstone National Park
Wolf rights
Federal "subsidies"
Human safety and health
Other predators and scavengers
Endangered species
Plants, invertebrates, fish, reptiles, amphibians, birds, and mammals
Diseases and parasites
Private property rights
Wolf recovery in other areas
Existing wolves in central Idaho and Yellowstone
Existing wolves in northwestern Montana
Wolf subspecies
Wolf and dog and coyote hybridization
Need for research

Alternative Scoping

Twenty-seven open houses and 6 formal public hearings were held in Wyoming, Montana, and Idaho and 3 other locations in the U.S. in August and September 1992 to ask the public to help identify different ways (alternatives) that wolf populations could be managed. In addition, an alternative scoping brochure was inserted into 230,000 Sunday newspapers in Wyoming, Montana, and Idaho. Nearly 2,000 citizens attended the meetings, and about 5,000 comments were received. All the alternatives and issues that were identified by the public were considered, organized into separate and distinct alternatives, and addressed.

Review of the DEIS

The public comment period began July 1, 1993, with a press conference in Washington, D.C. Additionally, a news release, requesting comment on the DEIS, was provided to over 500 media contacts (newspaper, radio, and television). About 1,700 copies of the complete DEIS were mailed to all potentially affected government agencies, public libraries in the 3-state region, many special interest groups, and to anyone requesting the complete DEIS. About 42,000 summaries of the DEIS were mailed to people and organizations on the Gray Wolf EIS mailing list and to anyone requesting them. In addition, the DEIS summary, a schedule of public hearings, and a request to report wolf sightings was printed in the form of a newspaper flyer and was inserted into the Sunday (July 18 and 25) editions of 6 major newspapers in Montana, Idaho, and Wyoming. These newspapers have a combined circulation of about 280,000. Upon request, the comment period was extended from the original deadline of October 15, 1993, to November 26, 1993. Written public comments on all or part of the DEIS were obtained in the form of letters, postcards, resolutions, and petitions.

Twelve formal hearings were held in Idaho, Montana, and Wyoming; and 4 more hearings were held at other locations in the U.S. Hearings were conducted during the months of August and September 1993 and comments were accepted from 2 p.m. to 10 p.m. At these hearings, verbal testimony (treated the same as written responses) was recorded and any written comments were accepted.

Throughout the comment period (July 1-November 26) presentations were given to interested groups in Montana, Wyoming, and Idaho. Over 160,000 comments were received by the public and analyzed in October 1993 through December 1993. A summary of the public comments and request to report any sightings of wolves was mailed to

nearly 43,000 people on the Gray Wolf EIS mailing list in March 1994. The FEIS was prepared during January through April 1994 to respond to the issues, alternatives, and comments identified by the public.

ALTERNATIVES CONSIDERED BUT NOT ANALYZED FURTHER IN THE FEIS

Seven basic wolf management alternatives were identified but were not evaluated further in the FEIS. Those alternatives were:

- 1. *Immediately delist wolves and let the states manage and recover wolves.***—No wolf reintroduction would occur. States would manage the gray wolf the same as other resident wildlife species without federal oversight. Wolves are listed as state endangered species in Montana and Idaho but other Idaho law prohibits wolf management, including law enforcement, by the Idaho Fish and Game Department, except for assisting with control of nuisance wolves and participation on any wolf recovery team without the expressed permission of the state legislature. Wolves are listed as predators by state law in Wyoming, and cannot be managed by the Wyoming Game and Fish Department. Wolves can be killed at any time without limit. This alternative is not being considered further because of the conflicting intent and uncertain direction of state law.
- 2. *State management of nonessential experimental populations.***—Wolves would be reintroduced into Yellowstone National Park and central Idaho. In areas without resident wolf packs, liberal management would be allowed to address local concerns about livestock, land-use restrictions, and ungulate populations. The respective states would develop wolf management plans that conform to federal law and would lead wolf recovery and management. Federal funding would support state management, compensation for livestock losses caused by wolves, and enhancement of ungulate habitat. Except for the provisions calling for federal compensation for livestock losses and ungulate enhancement, this alternative was incorporated into the FEIS as the FWS's proposed action.
- 3. *No cow or bison-based, sustained subsistence economy.***—Livestock growing would be eliminated, fencing removed, control of predators stopped, and wolves and bison reintroduced throughout the wolf recovery areas. This alternative is not being considered further in the FEIS because it is far beyond any reasonable use of federal authority and is not practical.
- 4. *Recovery of existing wolves.***—This alternative would recover the existing population of wolves that some people believe were never totally extirpated from the Yellowstone area. No reintroduction would occur and other wolves would be prevented from affecting these wolves alleged to be genetically unique. This alternative is not being considered further in the FEIS because all wolves, regardless of potential subspecific classification, were listed in 1978. Current information indicates wolves that once inhabited the Yellowstone area were more widely distributed and less distinct than previously believed. Scientific evidence does not indicate that any population of wolves persisted or currently exists in the Yellowstone or central Idaho areas. Wolf monitoring programs in Idaho, Wyoming, and Yellowstone National Park have detected the presence of occasional lone wolves, but efforts have not confirmed the presence of packs or breeding pairs of wolves in the Yellowstone or central Idaho areas.
- 5. *1987 Wolf Recovery Plan.***—The plan recommended preparation of an EIS, wolves be reintroduced as a nonessential experimental population into Yellowstone National Park, and natural recovery be monitored in central Idaho. If 2 breeding pairs of wolves had not been documented in Idaho within 5 years (i.e., by 1992) other wolf conservation measures would be considered. No EIS was prepared as a result of this plan, no reintroduction occurred, and no breeding wolves have been documented in the Yellowstone or Idaho areas. Therefore, this alternative is not being considered as a separate alternative in the FEIS.

Summary

6. Accelerated Wolf Recovery.—Wolves would be immediately reintroduced into the Yellowstone and central Idaho areas until wolf population recovery was achieved. A wide variety of land-use restrictions would be used to enhance habitat for wolves over a very broad area, including: reducing the number of roads on public lands that are used by motorized vehicles, not permitting livestock or people in areas used by denning wolves, not controlling wolves that attacked livestock, and increasing the number of ungulates by improving or purchasing important habitat. This alternative was unduly restrictive and more severe than was reasonably required to achieve wolf recovery and it is not being considered further.

7. The Indian Plan Alternative.—From public review of the DEIS, several alternatives or modifications of alternatives already considered in the DEIS were suggested to be considered again in the FEIS. Only one new alternative was proposed in the FEIS. That alternative and the reason it is not evaluated further is as follows. "At one time native Americans armed with bows and arrows and spears were part of the natural ecosystem. I propose having a small Indian village with tepees, etc. in a place like the Lamar Valley during as much of the year as suited them. During the tourist season, tourists could stay in the tepees and learn Indian crafts such as tanning leather, beadwork, making moccasins, making arrowheads, etc. They could also learn Indian dancing, stalking wild game, spearing fish, beating drums, etc.

Tame wolves would be kept by the Indians so they could be seen by tourists. WILD ones will seldom, if ever, be seen by tourists. During a hunting season, directed by Park Rangers, Indians...would be allowed to harvest a number of wild game animals. The meat would be distributed to needy Native Americans. This 'Indian Plan' offers advantages over the proposed 'wolf plan'."

The Indian Plan alternative is not being evaluated further because it does not address the issue of recovery or reintroduction of wild wolf populations. This alternative also does not restore wolves as functioning components of the natural ecosystem in the Yellowstone and central Idaho areas and its potential impact on the environment would be similar to the No Wolf alternative.

ALTERNATIVES ANALYZED IN DETAIL IN THE FEIS

Based upon 160,284 public comments during review of the DEIS, 5 alternatives were developed and are considered in depth in the FEIS because they represent a broad range of alternatives and respond to the public's concerns expressed about the potential issues and impacts involved in wolf reintroduction. Those alternatives are:

1. Reintroduction of Experimental Populations (FWS proposal)
2. Natural Recovery (No action or current management strategy)
3. No Wolf
4. Wolf Management Committee
5. Reintroduction of Nonexperimental Wolves

Description and Impacts of the Proposed Action and Alternatives

Alternative 1. Reintroduction of Experimental Populations (Proposed action)

Summary.—Two nonessential experimental population areas (Figure S-2) would be established through regulation by the FWS under Section 10 (j) of the ESA. The ongoing wolf monitoring efforts would continue. Prior to any reintroduction, the FWS would determine the status of any naturally occurring wolf population in those 2 areas. Wolves would be reintroduced into either or both Yellowstone National Park and central Idaho unless a wolf

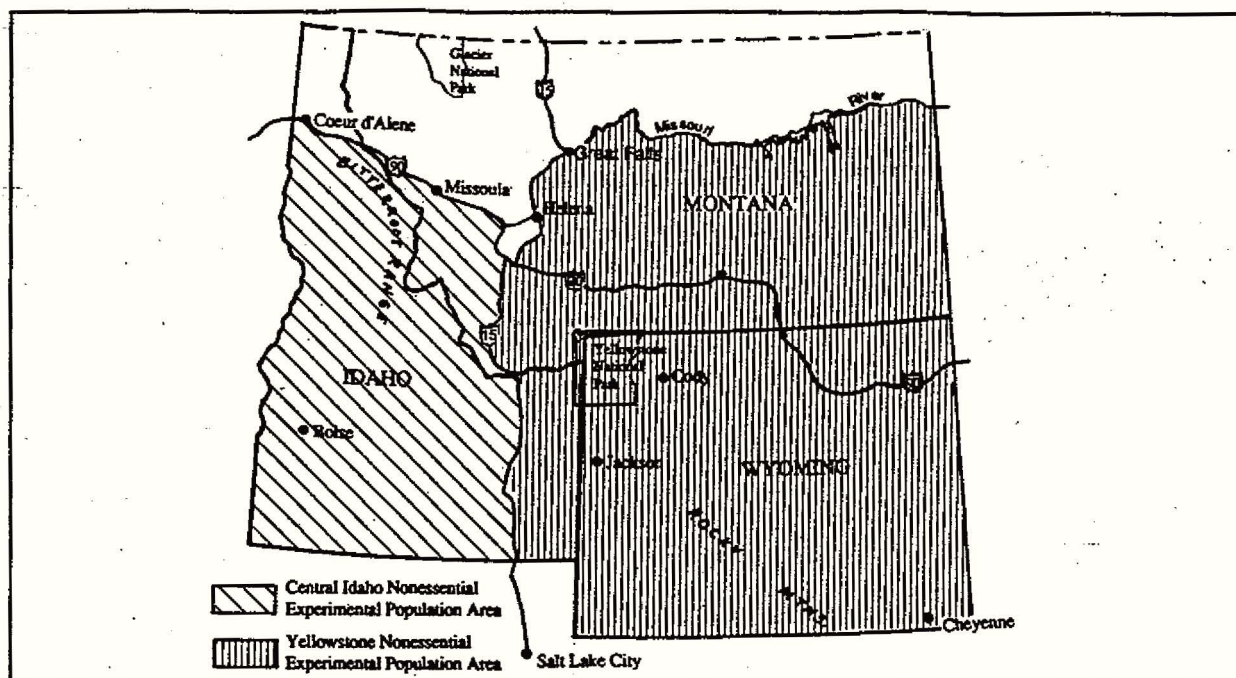


Figure S-2. The proposed experimental population areas in central Idaho (south of Interstate 90 and west of Interstate 15) and the Yellowstone area (south of the Missouri River from the Montana-North Dakota border to Great Falls and east of Interstate 15) where nonessential experimental population rules will apply.

population (2 wild breeding pair, raising at least 2 young for the previous 2 years in an area) had been documented. Wolves outside national parks and wildlife refuges would be managed by the states and tribes under special federal regulations. If the states and tribes did not assume wolf management, the FWS would. Management would allow wolves to be killed or moved under some conditions by federal, state, and tribal agencies for domestic animal depredations and excessive predation on ungulate populations. Under some conditions, the public could harass and kill wolves attacking livestock (cattle, sheep, horses, and mules only). There would be no federal compensation program, but compensation from existing private funding sources would be encouraged. There would be no land-use restrictions applied when ≥ 6 wolf packs occupied an experimental population area. No critical habitat will be designated. Use of toxicants lethal to wolves in areas occupied by wolves would still be prohibited by existing ADC policy and EPA labeling restrictions but other ADC activities would not be affected. Wolf populations would recover by 2002.

Management Actions.—If a wolf population is not discovered in either the Yellowstone or central Idaho areas before October 1994, or before a release of wolves after that date (agency efforts to locate wolf packs in these areas have already been intensified but no packs have been found at the present time), the following would occur in each area not having a wolf population:

Note.— If a wolf population was discovered in either the Yellowstone and/or central Idaho areas, reintroduction under an experimental population rule would not occur and any wolf population would be managed as a naturally recovering population (see Alternative 2) in that area.

Note.—The proposed boundaries of the experimental population areas were established by considering the combination of the current southern expansion of naturally formed wolf packs in Montana, location of high quality

Summary

wolf habitat and potential wolf release sites, and the likelihood of any wolf packs documented inside the experimental area resulting from reintroduction into central Idaho or Yellowstone National Park rather than from natural dispersal from Canada or northwestern Montana. Therefore, the boundaries of the proposed experimental population areas could be affected by formation of new wolf packs before any decision or implementation of a nonessential experimental population rule and wolf reintroduction is made (at the earliest mid-year 1994).

Note.—In response to agency and public comment on the FWS DEIS proposal, several changes were made in the FWS FEIS proposal. None of those changes were significant enough to effect the potential impact of the proposed action on big game, hunting harvest, domestic animal depredation, land-use restrictions, visitor use, or local economies. Changes to the FWS FEIS proposal include the following:

1. The northern boundary of the nonessential experimental population area for the Yellowstone area was moved north from Highway 12, to include the area south of the Missouri River from the eastern Montana border to Great Falls.
2. Increased emphasis was placed on an aggressive but balanced public information and education program and on law enforcement.
3. The reporting requirement for harassing wolves, in an opportunistic, noninjurious manner, for landowners on private land and for individuals holding grazing permits on public land was shortened from 14 days to no longer than 7 days and is restricted to only adult (greater than 6 months old) wolves. The ability of individuals holding grazing permits on public land to harass adult wolves in an opportunistic, noninjurious manner will become part of their permit conditions so it is clearly understood exactly what can occur.
4. Only after 6 or more breeding pairs of wolves are established in a recovery area and after designated authorities have confirmed livestock losses have been caused by wolves and have been unable to stop further losses, can individuals holding grazing permits on public lands receive a permit to take wolves in the act of killing or wounding livestock (cattle, sheep, horses, and mules).
5. The intent of the experimental rule is that land-use restrictions not be routinely used solely to enhance wolf recovery. However, land-use restrictions may be temporarily used by land or resource managers to control intrusive human disturbance, primarily around active den sites between April 1 and June 30, when there are 5 or fewer breeding pairs of wolves in a recovery area. After 6 or more breeding pairs become established in a recovery area land-use restrictions would not be needed.
6. Several of the general guidelines for Determining Problem Wolf Status (Interim Wolf Control Plan, FWS, 1988, pages 7 to 9) were incorporated into the wolf control procedures as part of the experimental population rule. Those guidelines are as follows:

The following conditions and criteria will apply in determining the problem status of wolves within the nonessential experimental population areas:

- (1) Wounded livestock or some remains of a livestock carcass must be present with clear evidence (Roy and Dorrance 1976, Fritts 1982) that wolves were responsible for the damage and there must be reason to believe that additional losses would occur if the problem wolf or wolves were not controlled. Such evidence is essential since wolves may simply feed on carrion they have found while not being responsible for the kill.
- (2) Artificial or intentional feeding of wolves must not have occurred. Livestock carcasses not properly disposed of in an area where depredations have occurred will be considered attractants. On federal lands,

removal or resolution of such attractants must accompany any control action. Livestock carrion or carcasses on federal land, not being used as bait in an authorized control action (by agencies), must be removed, buried, burned, or otherwise disposed of such that the carcass(es) will not attract wolves.

(3) On federal lands, animal husbandry practices previously identified in existing approved allotment plans and annual operating plans for allotments must have been followed.

7. Wolves that attack other domestic animals and pets on private land 2 times in a calendar year (instead of 3 times as recommended in the DEIS) would be moved.

8. The states and tribes can move wolves having unacceptable impacts on ungulates, if those impacts would inhibit wolf recovery or would effectively reduce the prey base for wolves in a specific area (extraordinary population pressures). The states and tribes will develop wolf management plans that will define such unacceptable impacts, how they would be measured, and identify other possible mitigation in their state or tribal management plans. These plans must be within the provisions and intent of the nonessential experimental population rule and must be approved by the FWS through cooperative agreement before such control could be conducted.

9. The FWS, ADC, or state or tribal agencies authorized by the FWS would promptly remove from the wild any wolf FWS, ADC, or authorized agency determined was a threat to human life or safety.

Two nonessential experimental population areas and special rules for each of those areas would be established. These rules would permit the following in the experimental areas:

- Beginning in October 1994, 30 wild wolves would be captured in Canada and released in the experimental population areas, until a wild wolf population was established in each area (estimated 3-5 years). Breeding adults and their pups (15/year) would be held 6-8 weeks at 3 sites in Yellowstone National Park and released in December. Yearlings and non-breeding adults (15/year) would be immediately released in central Idaho to simulate natural dispersal and pack formation. Reintroduced wolves would be monitored with radio telemetry and moved as necessary to enhance wolf population recovery.

- Designate all wolves in the experimental areas as experimental animals once wolves were released.

- The states and tribes would implement and lead wolf management outside national parks and national wildlife refuges within federal guidelines. The FWS would implement wolf management otherwise.

- Wolves severely impacting wild ungulate populations (states and tribes would define) or potentially affecting other listed species would be moved as necessary.

- There would be no land-use restrictions implemented for wolves when ≥ 6 packs occupy an experimental population area. Land-use restrictions around active dens may be used on an as needed basis when ≤ 5 packs are present.

- If additional livestock depredations were likely, proper animal husbandry practices were employed (proper disposal of livestock carcasses, etc.), artificial feeding did not take place, and federal grazing allotment plans were followed, agencies would harass, capture, move, or kill wolves that attacked livestock (defined as cattle, sheep, horses, or mules only) on public or private land. Females with pups on public land would be released on site before October 1.

- Compensation for livestock killed by wolves would be paid from an already established private fund.

- Wolves that attack domestic animals, other than livestock, on private land 2 times in a calendar year would be moved.

Summary

- Land owners could, in an opportunistic, noninjurious manner, harass adult wolves on private land at any time (7 day reporting).
 - Public land grazing permittees could, in an opportunistic, noninjurious manner, harass adult wolves near their livestock at any time (7 day reporting).
 - Wolves in the act of wounding or killing livestock on private land could be killed by livestock owners-managers (maximum 24 hour reporting and evidence of livestock freshly wounded by wolves must be evident).
 - If agencies could not resolve wolf depredations on livestock on public land, grazing permittees would receive permits to kill wolves in the act of attacking livestock once ≥ 6 packs occupy an experimental population area (24 hour reporting and evidence of livestock freshly wounded by wolves must be evident).
 - After thorough investigation, take (killing or injuring) of wolves in an experimental population area by unavoidable and unintentional actions during otherwise legal activities would not be considered a take.
 - Any wolf presenting a threat to human life or safety would be promptly removed from the wild.
- See Tables S-2 through S-5 for a comparison of the expected actions and effects of this alternative.

Alternative 2. Natural Recovery (No action or current management strategy)

Summary.—No wolf reintroductions would occur. Enhanced wolf management programs similar to the one currently used in Montana would be established in Idaho and Wyoming. Wolves would be encouraged to naturally expand their ranges into any area they choose, eventually into the central Idaho and Yellowstone areas. Wolves would eventually recolonize the recovery areas, but would also recolonize other areas throughout the northern Rocky Mountains and would be allowed to remain there if few conflicts occurred and wolf recovery was not precluded by moving those wolves. Because wolves would settle in some areas where their presence was undesirable, there would be occasional conflicts, particularly with livestock. Depredating wolves would be controlled by agencies as long as control did not preclude wolf population recovery. There would be no federal compensation program, although a private fund does exist and its use by livestock producers would be encouraged. Wolves would not be controlled if there were conflicts with pets or state or tribal big game management objectives. There would be some land-use restrictions primarily around active den sites and on some ADC activities in occupied wolf habitat. Illegal killing, at a level that precluded or severely inhibited recovery, would result in additional land-use restrictions, primarily a reduction in the number of roads open to motorized vehicles. Excessive wolf conflict with livestock would affect the location and duration of livestock grazing on public land. This alternative would likely result in recovered wolf populations in central Idaho about 2012 and in the Yellowstone area about 2025.

Management Actions.—An enhanced FWS wolf recovery program would be established in Idaho and Wyoming. FWS biologists and other agency cooperators would conduct the following activities:

- Wolf monitoring efforts would continue but would be enhanced to solicit more reports from the public and agency personnel, increase efforts to conduct more field surveys in all areas of suspected wolf activity, and increase attempts to place radio collars on members of any wolf packs that were located.
- An ADC wolf management specialist position would be established once wolf packs formed in Idaho or Wyoming. All reports of wolf depredations on legally present livestock would be investigated. Wolves that depredated on livestock (but not pets) and were likely to do so again, would be moved after the first depredation and killed or placed in captivity after subsequent depredations. Females and their young would be released on site prior to August 1. Wolves would not be controlled in areas critical to wolves (dens or ungulate calving areas) or if wolves were attracted to the area by poor livestock husbandry practices (improper carrion disposal). After 6 packs became

established in each recovery area, depredating wolves would be killed. Wolf control is permitted only so long as wolf recovery is not prevented by such management. The public may not attempt to harm or harass any wolf unless it is necessary for the immediate protection of human life or safety, which is highly unlikely.

- Compensation for livestock losses would be paid by an already established private fund.

- Wolves would not be controlled to reduce predation on wild ungulate populations.

- FWS would encourage and support research on wolves and their prey.

- FWS would encourage land management agencies to maintain or enhance ungulate populations to ensure adequate wolf prey.

- FWS would lead an aggressive public information and education program that would provide accurate information about wolves and wolf recovery under the ESA.

- There would be very few land-use restrictions implemented unless illegal killing began to inhibit wolf recovery. Currently, it is recommended that land management agencies restrict obtrusive human activity within 1 mile of active wolf dens from March 1 to July 1 and that ADC not conduct predator control activities (primarily use of toxic devices- M-44s) in a manner that may accidentally kill a wolf. Land-use restrictions, such as reducing the amount of roads or area open to motorized vehicles, seasonal closures on coyote hunting, reducing livestock grazing on public land, and closing areas near den or rendezvous sites to human activity have been applied in a few areas and, although unlikely, are possible in the northern Rocky Mountains.

See Tables S-2 through S-5 for a comparison of the expected actions and effects of this alternative.

Alternative 3. No Wolf

Summary.—Congress would pass legislation to remove wolves in Montana, Wyoming, and Idaho from the list of Endangered Species. The FWS would stop all funding and management activity towards wolf monitoring, education, research, and control in the northern Rocky Mountains of the U.S. Furthermore, the states of Montana and Idaho would remove wolves from the protection of state law. Except within Glacier National Park, unregulated killing by the public would prevent further wolf recovery in these areas. ADC activity would remove any wolves that threaten livestock. Wolf populations would not recover in the Yellowstone or central Idaho areas.

Management Actions

- Federal legislation would be passed that removed wolves in the northern Rocky Mountains from federal protection.

- Montana and Idaho state legislation would be passed that removed protection for wolves.

- People would be allowed to kill wolves at any time without restriction which would by itself prevent wolf population recovery.

- ADC would kill any wolves causing potential conflicts with livestock.

See Tables S-2 through S-5 for a comparison of the expected actions and effects of this alternative.

Alternative 4. Wolf Management Committee

Summary.—Congress would be requested to immediately either amend the ESA or pass special legislation to designate wolves in Wyoming, Montana, and Idaho (except in and immediately west of Glacier National Park and

Summary

in Yellowstone National Park) as a special state-managed nonessential experimental population. The states would develop plans to recover wolves in northwestern Montana, central Idaho, and Yellowstone National Park. Wolves would be recovered through natural dispersal in northwestern Montana and central Idaho and would be reintroduced in Yellowstone National Park. Wolves attacking or harassing livestock, working animals, or pets could be killed or moved by the public and by state, tribal, and federal agencies. Compensation for domestic animal losses, increased ungulate monitoring, and habitat enhancement would be paid from a federal trust fund. There would be few land-use restrictions. Wolves would be moved to address state big game management goals. Wolf populations would recover in the Yellowstone area about 2010 and in central Idaho about 2015.

Management Actions

-Congress would amend the ESA and designate wolves, outside National Parks and National Wildlife Refuges, in Wyoming and Idaho and nearly all of Montana as a special nonessential experimental population and establish an interagency committee and federal trust fund.

-States would develop wolf management plans and assume management authority within 2 years.

-Wolves would be reintroduced into Yellowstone National Park and after 5 years possibly central Idaho.

-Agencies would move (if less than 6 packs were present) or kill (if 6 or more packs were present) wolves that attacked livestock, working animals, or pets.

-Owners of livestock, working animals, and pets could kill any wolves they believed were harassing or attacking their animals. Incidents must be reported within 48 hours on private land and 14 days on public land. Any wolves killed would be replaced. The alternative requires an education program for livestock producers.

-Wolves affecting state big game management objectives would be moved.

-Compensation for domestic animal losses from a federal trust.

-Establish public land-use restrictions around active den sites between April 1 and June 15 and restrict toxicants lethal to wolves in areas where wolf occupancy was desired.

-Conduct an active information and education program.

-Monitor and enhance ungulate populations.

See Tables S-2 through S-5 for a comparison of the expected actions and effects of this alternative.

Alternative 5. Reintroduction of Nonexperimental Wolves

Summary.—Wolves would be reintroduced into areas in and near central Idaho and Yellowstone National Park until 10 breeding pairs were established. They would not be designated an experimental population. Wolf recovery would be a high priority on all surrounding federal lands. If required, land-use restrictions such as road and trail closures, redistribution of grazing allotments, and protection of key wolf habitats would be promoted. If wolves depredated on livestock on public land or impacted state big game management objectives, no control would occur. If repeated chronic wolf depredation on livestock occurred on private lands, wolves would be moved. Compensation for livestock losses would be available only from existing private programs. Habitat for ungulates and wolf security would be enhanced to provide abundant prey. Wolf populations would likely recover rapidly and by 2000.

Management Actions

-The FWS would establish enhanced wolf recovery programs in Wyoming and Idaho (see Alternative 2) to conduct monitoring, research, and education programs.

-The FWS would reintroduce wolves into the Yellowstone and central Idaho areas until 10 breeding pairs were established, regardless if other wolves were documented in those areas.

-The USDA Forest Service and BLM, within the primary analysis areas, would use road closures and habitat enhancement on at least 35 square miles of lands they administer outside of wilderness.

-Wolves would not be controlled for livestock conflicts, except in chronic problem areas on private land, or for conflicts with ungulate populations.

-Land management agencies would spend about \$3,000,000/year to purchase or enhance important ungulate-wolf habitat.

-Law enforcement programs would be significantly enhanced.

See Tables S-2 through S-5 for a comparison of the expected actions and effects of this alternative.

Table S-2. Alternatives and expected actions associated with them.

Alternatives	Control of livestock losses	Compensation for losses	Control of big game predation	Management of wolves	Land-use restrictions for wolves	Where wolves would be recovered	Date of wolf recovery	Wolf mgmt. cost until recovery ^a	Legislation needed to implement
Reintroduction of Experimental Population (Proposal)	Agencies move/kill wolves for killing livestock/pets. Public harass and control under some conditions.	Probably private funds.	Wolves moved if problem documented. Encourage land agencies to enhance ungulate habitat.	By states and tribes with federal oversight of state plans.	Up to 16 mi. ² for 5 or fewer packs, none after 6 packs are established.	<u>YNP</u> 17,600 mi ² <u>ID</u> 20,700 mi ²	<u>YNP & ID</u> 2002	\$6,757,750	Publish experimental rule in federal register. Some state laws would have to be changed to allow state management.
Natural Recovery	Agencies move wolves for livestock depredations.	Probably private funds.	None.	Federal	1 mi. around dens 35 mi. ² affected. More possible.	<u>YNP</u> 23,300 mi ² <u>ID</u> 23,900 mi ²	<u>YNP</u> 2025 <u>ID</u> 2012	\$10,000,000- \$15,000,000	None
No Wolf	All wolves killed.	None	All wolves killed.	None for recovery by agencies.	None for wolves.	Nowhere	Never	\$100,000	Modify state (MT & ID) and federal laws.
Wolf Management Committee	Agencies move/kill wolves. Public kill wolves for harassing and attacking livestock/pets/working animals.	Compensation by federal trust.	Wolves moved, habitat enhanced, increased ungulate monitoring.	By states. No federal oversight.	1 mi. around dens 35 mi. ² affected.	<u>YNP</u> 12,070 mi ² <u>ID</u> 9,450 mi ²	<u>YNP</u> 2010 <u>ID</u> 2015	\$100,000,000- \$129,000,000	Modify state and federal laws.
Reintroduction of Nonexperimental Wolves	Agencies move wolves only in chronic problem areas on private land.	Probably private funds.	Habitat enhanced.	Federal	1 mi. around dens 35 mi. ² affected. Some roads may be closed.	<u>YNP</u> 29,130 mi ² <u>ID</u> 29,530 mi ²	<u>YNP & ID</u> 2000	\$28,209,750	None

^a See Appendix 5 on how costs estimates were determined.

Table S-3. Expected impacts of recovered wolf population (100 wolves) by alternative—Yellowstone area.

Alternatives Impact	Reintroduction of Experimental Population (Proposal)	Natural Recovery (No Action)	No Wolf	Wolf Management Committee	Reintroduction of Nonexperimental Population
Impact to big game populations	Elk 5%-20% reduction, mule deer 10% reduction, bison 5%-10% reduction, others no effect. Effects over Yellowstone area.	Same as Experimental but will occur several decades later. Short term negative effect to 30% possible.	None in Yellowstone area.	Similar to Experimental population with effects confined mostly to YNP and wilderness areas.	Slightly higher than Experimental but wolves recover sooner.
Effects on hunter harvest	Reduced antlerless harvest 8% (range 2%-30%), no effect on antlered harvest over Yellowstone area.	Same as Experimental but will occur several decades later. Short term 30% possible.	None in Yellowstone area.	Similar to Experimental population with effects confined mostly to YNP and wilderness areas.	Slightly greater than Experimental (15%) but wolves recover by 2000.
Livestock depredation	Annual average 19 (range 3-32) cattle, average 68 (range 38-110) sheep.	A few (10%) more over a longer period (30 years). Losses on private land more likely.	None in Yellowstone area.	Losses likely toward lower range (3 cattle & 38 sheep) of that projected for experimental population.	Losses likely from upper range (32 cattle & 110 sheep) of projected to several times that level.
Land-use restrictions	Up to 16 mi. ² for 5 or fewer packs, none after 6 or more packs established.	Reduce human activity one mile around active wolf dens. 35 mi. ² more possible road closures, etc.	None in Yellowstone area.	Reduce human activity one mile around active wolf dens. 35 mi. ² more possible road closures, etc.	One mile around active wolf dens. If wolves illegally killed may include road closures, removal of livestock, and limits on activities on public lands.
Visitor use	Probable 5% increase in nonresident and 10% increase in local visitation.	Probable 5%-10% increase by 2025, after wolves become established.	None in Yellowstone area.	Probable increase (5%-10%) in visitation.	Probable increase (5%-10%) in visitation.
Economic effects	Decreased hunter benefits \$187,000-\$465,000/year. Decreased hunter expenditures \$207,000-\$414,000/year. Livestock losses \$1,888-\$30,470/year. Visitor expenditures increase \$23,000,000/year. Wolf existence value positive \$8,300,000/year. Wolf management costs \$480,000/year.	Decreased hunter benefits \$59,000-\$147,000/year. Livestock losses \$600-9,700/year. Visitor expenditures increase \$1.73-\$2.56 million/year. Wolf management costs \$250,000/year.	Total costs of about \$50,000 to change federal and some state laws.	Costs to hunters and livestock losses slightly lower and benefits similar to experimental population alternative. Wolf management costs \$3.22 million/year.	Costs to hunters and livestock losses slightly higher and benefits similar to experimental population alternative. Wolf management costs \$2.7 million/year.

Summary

Table S-4. Expected impacts of recovered wolf population (100 wolves) by alternative—central Idaho area.

Alternatives Impact	Reintroduction of Experimental Population (Proposal)	Natural Recovery (No Action)	No Wolf	Wolf Management Committee	Reintroduction of Nonexperimental Population
Impact to big game populations	Elk 5%-10% reduction, others no effect in central Idaho area by 2002.	Same as Experimental but will occur a decade later. Bighorn sheep could decrease temporarily.	No new in central Idaho.	Similar to experimental population with effects confined mostly to wilderness areas and later (2015).	Slightly higher than Experimental but wolves recover sooner. Bighorn sheep may be temporarily decreased.
Effects on hunter harvest	Reduced antlerless harvest (elk only) 10%-15%, no effect on antlered harvest in central Idaho area.	Same as Experimental but will occur a decade later. Some Bighorn sheep could be affected.	No new in central Idaho.	Similar to experimental population with effects confined mostly to wilderness areas and later.	Slightly greater than Experimental (15%) during recovery but wolves recover by 2000.
Livestock depredation	Annual average 10 (range 1-19) cattle, average 57 (range 32-92) sheep.	A few more (12 cattle, 60 sheep) over a longer period (30 years). Losses on private land more likely.	No new in central Idaho.	Losses likely toward lower range (8 cattle, 40 sheep) of that projected for experimental population.	Losses likely from upper range (14 cattle, 70 sheep) of projected to several times that level.
Land-use restrictions	Up to 16 mi. ² for 5 or fewer packs, none after 6 or more packs established.	One mile around active wolf dens. 35 mi. ² impacted. More possible road closures, etc.	No new in central Idaho.	One mile around active wolf dens. 35 mi. ² impacted.	One mile around active wolf dens. If wolves illegally killed may include road closures, removal of livestock, and limits on activities on public lands.
Visitor use	Probable 2% increase likely.	Probable 2% increase likely by 2012.	No new in central Idaho.	Probable 2% increase.	Probable 2% increase.
Economic effects	Decreased hunter benefits \$757,000-\$1,135,000/year. Decreased hunter expenditures \$572,000-\$857,000/year. Livestock losses \$2,923-\$18,503/year. Increased visitor expenditures likely. Wolf existence value positive \$8,400,000/year. Wolf management costs \$480,000/year.	Decreased hunter benefits \$504,000-\$756,000/year. Livestock losses \$1,900-\$12,300/year. Wolf existence value positive \$4.26 million-\$6.22 million/year. Wolf management costs \$250,000/year.	Total costs of about \$50,000 to change federal and Idaho laws.	Cost to hunters and livestock losses slightly lower and benefits similar to experimental population alternative. Wolf management costs 3.22 million/year.	Costs to hunters and livestock losses slightly higher and benefits similar to experimental population alternative. Wolf management costs 2.7 million/year.

Table S-5. Expected impacts of alternatives—northwestern Montana.^a

Alternatives Impact	Reintroduction of Experimental Population (Proposal)	Natural Recovery (No Action)	No Wolf	Wolf Management Committee	Reintroduction of Nonexperimental Population
Impact to big game populations	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Fewer ungulates, primarily white-tailed deer, killed annually by wolves.	Slightly less chance that wolves could significantly impact ungulate populations compared to experimental population alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.
Effects on hunter harvest	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Hunter harvest of female ungulates increases slightly.	Slightly less chance that wolves could impact hunting of female ungulates compared to experimental population alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.
Livestock depredation	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Fewer cattle and fewer sheep killed or maimed by wolves.	Slightly fewer livestock (average 3 cattle and 2 sheep/year) would be killed by wolves.	Wolves would not cause any new impacts in northwestern Montana under this alternative.
Land-use restrictions	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Up to 35 mi ² of habitat in public land would not be potentially affected by seasonal restrictions to protect active wolf dens.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.
Visitor use	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Visitation to northwestern Montana may decrease from current projections.	Slight potential decrease in visitation.	Wolves would not cause any new impacts in northwestern Montana under this alternative.
Economic effects	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Wolves would not cause any new impacts in northwestern Montana under this alternative.	Few livestock would be lost to wolf depredation. More hunter dollars would be spent hunting female ungulates. Fewer visitor dollars will be spent.	Slightly fewer livestock losses. Slightly less chance of reduced hunter expenditures. Slight decrease in visitor expenditures.	Wolves would not cause any new impacts in northwestern Montana under this alternative.

^a Two of the alternatives (No Wolf and Wolf Management Committee) might impact the naturally occurring wolf population in northwestern Montana. Three alternatives (Reintroduction of Experimental Populations, Natural Recovery, and Reintroduction of Nonexperimental Population) will have no significant effect on the naturally recolonizing wolf populations in northwestern Montana.