

FINAL STATEWIDE PROGRAMMATIC GRAY WOLF BIOLOGICAL ASSESSMENT

Submitted to:

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APPENDICES

- Appendix A BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities.
Appendix B Guidelines for Livestock Grazing Management.

ACRONYMS AND ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
APD	Application for Permit to Drill
AML	Appropriate Management Level
AMP	Allotment Management Plan
APHIS	Animal and Plant Health Inspection Service
APLIC	Avian Power Line Interaction Committee
ARPA	Archeological Resources Protection Act
AUM	Animal Unit Month
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	Best Management Practice
BUP	Biological Use Proposal
BOR	Bureau of Reclamation
CBM	Coal Bed Methane
CFR	Code of Federal Regulations
C&MU	Classification and Multiple Use
COA	Conditions of Approval
DEQ	Department of Environmental Quality
DDT	Dichloro-diphenyl-trichloroethane
DPC	Desired Plant Communities
DPS	Distinct Population Segment
EA	Environmental Assessment
EEA	Environmental Education Area
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FO	Field Office
GML	General Mining Law
GTNP	Grand Teton National Park
HMP	Habitat Management Plan
HMU	Habitat Management Unit
H ₂ S	Hydrogen Sulfide
LBA	Lease by Application
MMBF	Million Board Feet
NEPA	National Environmental Policy Act
NPS	National Park Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy

OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
PLO	Public Land Order
POD	Plan of Development
PSD	Prevention of Significant Deterioration
PUP	Pesticide Use Proposal
RAMP	Recreation Area Management Plan
RMP	Resource Management Plan
RMU	Resource Management Unit
ROW	Right of way
R&PP	Recreation and Public Purpose
RPS	Rangeland Program Summary
SHPO	State Historic Preservation Office
SRMA	Special Recreation Management Area
T&E	Threatened and Endangered
TUP	Temporary Use Permit
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WHHMA	Wild Horse Herd Management Area
WSA	Wilderness Study Area
WSR	Wild and Scenic Rivers
WY	Wyoming
WYNDD	Wyoming Natural Diversity Database
YNP	Yellowstone National Park

1.0 INTRODUCTION

PURPOSE

The purpose of this programmatic biological assessment (BA) is to assess the potential effects to the gray wolf (*Canis lupus*) from management actions included in 7 Resource Management Plans (RMPs) of the Wyoming Bureau of Land Management (BLM). Specific objectives of this biological assessment include the following:

- Summarize the biology of the wolf, including historic records and recently-mapped wolf packs in Wyoming;
- Review pertinent RMPs and identify proposed actions with the potential to affect the wolf;
- Assess the potential effects of management actions proposed in the RMPs on the wolf; and
- Prepare an effects determination for the wolf for each management action in each RMP.

The analysis area for each management action is based on the boundaries specified in the individual RMPs for the field office (FO). These boundaries are described in the analysis section for each RMP and shown in **Maps 7 - 12**. The determination for each management action is based on the nature of that action and on the available wolf data for the area that is affected by the management action.

REPORT ORGANIZATION

This report is organized into four sections, including the following:

- 1.0 Introduction – describes the purpose of the analysis, the scope of the biological assessment, the action area, and the methods.
- 2.0 Species Information – summarizes the current listing status, ecology, abundance, distribution, and threats to the wolf in Wyoming.
- 3.0 Analysis of Resource Management Plans – presents a summary of all the management actions at the front of the chapter, thus eliminating the need to repeat this information in the discussion of each FO; existing impact minimization measures; a description of wolf occurrence within the area affected by each RMP; an analysis of effects from each of the management prescriptions; and a determination specific to each management action for each RMP.
- 4.0 Conservation Strategies – presents conservation measures and best management practices developed specifically for this document.
- 5.0 References

METHODS

Each management action within 7 RMPs (**Table 1**) was reviewed to identify those with the potential to affect the wolf. For the Snake River Resource Area of the Pinedale Field Office (FO), management actions from the Draft Environmental Impact Statement (EIS) were evaluated. Wolf pack polygons were obtained as shape files from Joe Fontaine of the U.S. Fish and Wildlife Service, Helena, Montana. These shape files are the source for the maps posted on the internet for each annual report on the Wolf Recovery Plan (<http://westerngraywolf.fws.gov/index.htm>). Wolf information was evaluated and potential effects from the management actions were analyzed. Management actions were evaluated in terms of their potential to jeopardize the continued existence of the species. State, private, local, and tribal activities were also evaluated to assess their potential to cumulatively affect the wolf.

TABLE 1: RMPs ANALYZED IN WOLF BIOLOGICAL ASSESSMENT

Field Office	Resource Management Plan (Year Published)
Cody	Cody Resource Area Resource Management Plan (1990)
Kemmerer	Kemmerer Resource Management Plan (1986)
Lander	Lander Resource Management Plan (1987)
Pinedale	Pinedale Resource Management Plan (1988)
Pinedale	Snake River Draft Resource Management Plan EIS (2003)
Rock Springs	Green River Resource Management Plan (1997)
Worland	Grass Creek Resource Management Plan (1998)

After potential effects were identified, the results were used to establish a determination for each management action under each RMP. The analysis of potential impacts of BLM's ongoing activities is guided by the experimental nonessential status of the reintroduced population. Rules published in the Federal Register designate gray wolves in Wyoming as non-essential experimental populations under Section 10(j) of the Endangered Species Act. Within the designated areas described and depicted in the rules, all gray wolves will be managed in accordance with the prescribed provisions. Wolves designated as non-essential experimental that are not within units of the National Park or National Wildlife Refuge systems, but are within the boundaries of the non-essential experimental population area, are treated as proposed species for Section 7 consultation purposes.

Management direction provided in 50 CFR Part 17 indicates that there are no conflicts envisioned with any current or anticipated management action by BLM or other federal agencies. The same CFR also states that management of wolves in the experimental population would not cause major changes to existing private or public land use restrictions. Land use restrictions on public lands could be used, however, to control human intrusion of den sites when fewer than 6 breeding pairs exist within the experimental area.

Federal agencies are only required to confer with the USFWS when they determine that an action they authorize, fund, or carry out "is likely to jeopardize the continued existence" of the species. Thus the decision for each management action is whether the action:

- **Is likely to jeopardize the continued existence of the species – "Jeopardy"**

Or

- **Is not likely to jeopardize the continued existence of the species – "No Jeopardy"**

These determinations are further defined in the U.S. Fish and Wildlife Service (USFWS) Endangered Species Consultation Handbook (USFWS 1998). To “jeopardize the continued existence of “ is to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR §402.02).

2.0 SPECIES INFORMATION

LISTING STATUS

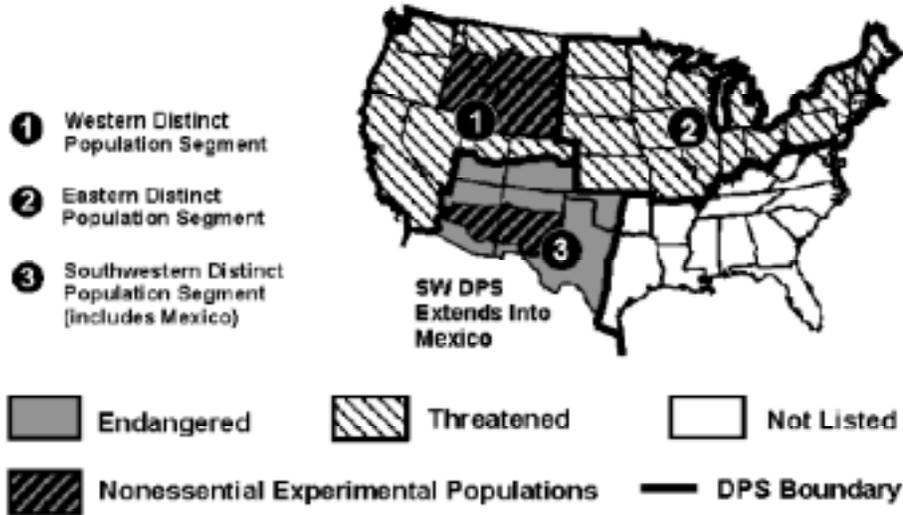
The gray wolf was listed as endangered under the Endangered Species Act (ESA) in 1974 in the conterminous 48 states (16 USCS 1531-1544). The eastern timber wolf subspecies (*C. l. lycaon*) was listed as endangered in Minnesota and Michigan, and the northern Rocky Mountain wolf subspecies (*C. l. irremotus*) was listed as endangered in Montana and Wyoming (USDOI 1974). A third subspecies, the Mexican wolf (*C. l. baileyi*) was listed in 1976. In 1978 the USFWS published a rule that relisted the gray wolf at the species level (*C. lupus*) as endangered throughout the lower 48 states and in Mexico (43 FR 9,607, March 9, 1978). In Minnesota the gray wolf was reclassified as threatened and critical habitat was listed in Isle Royale National Park and portions of Michigan and Minnesota. A wolf recovery team for the Northern Rocky Mountain (NRM) region was appointed in 1974 and a Recovery Plan was approved in 1987 (USFWS 1987).

In 1995 and 1996 USFWS reintroduced 66 wolves from Alberta and British Columbia into the wilderness areas of central Idaho and Yellowstone National Park (YNP) as nonessential, experimental populations (59 FR 60252, November 22, 1994) under Section 10(j) of the ESA (16 USCS 1539(j)) with the goal of reestablishing a sustainable gray wolf population in the northern Rocky Mountains (Wyoming, Idaho and Montana) (Bangs et al. 1998). At the end of 2002 there were 663 wolves including 43 breeding pairs: 284 individuals in the Central Idaho Recovery Area, 271 in the Greater Yellowstone Recovery Area, and 108 in the Northwest Montana Recovery Area (USFWS et al. 2003). 2002 was the third year in which there were 30 or more breeding pairs documented within the recovery area.

USFWS established that the reintroduced wolves in the NRM region would comprise an experimental, non-essential population. At the same time, USFWS established a rule under § 4(d) of the ESA that gives USFWS flexibility in responding to wolf-human conflicts outside of the experimental population areas (68 FR 15804). The 4(d) rule allows landowners and permittees who have Federal grazing allotments to non-injurious harass wolves without a permit, injuriously harass wolves with a permit, or kill a wolf in the act of attacking livestock or herding or guarding animal (68 FR 15804 at 15,828).

The USFWS has defined a recovered wolf population in the northern Rocky Mountain Recovery Area as one that contains at least 30 breeding pairs of wolves (an adult male and female raising two or more pups-of-the-year until December 31), with an equitable and uniform distribution throughout the three states for three consecutive years (USFWS et al. 2003). The USFWS found that 2002 was the third year in which at least 30 breeding pairs of wolves inhabited the Northern Rocky Mountain Recovery Area and the population of 663 wolves had achieved biological recovery objectives (USFWS et al. 2003). If the wolf population remains at least at current levels and distribution, and state management plans are developed, USFWS may publish its proposal to delist gray wolves in the northwestern United States.

On April 1, 2003, USFWS identified three Distinct Population Segments (DPS) of gray wolves in the lower 48 states (68 FR 15,804-15,878); Eastern DPS, Western DPS, and the Southwestern DPS (**Map 1**). To qualify as a DPS, a group of vertebrates must satisfy criteria of both discreteness and significance (61 FR 4,722, February 7, 1996). USFWS found that each of these segments comprised a group of wolves that was geographically separated from the other groups—they are “discrete” (68 FR 15,804 at 15,819), and each of these groups demonstrate unique evolutionary lineages and that the loss of any one would result in a substantial range gap—they are “significant”. USFWS concluded that these three DPS represent separate “reservoirs of diversity” and thus warrant reclassification reflecting this uniqueness.



April 2003

Map 1. Distinct Population Segments of Gray Wolf in the Lower 48 States (68 FR 15,804 at 15,862, 1 April 2003).

The Western DPS completely encompasses California, Idaho, Montana, Nevada, Oregon, Washington, Wyoming, and Utah north of U.S. Highway 50, and Colorado north of Interstate 70. Wolves that are part of an experimental population are not included in the DPS (68 FR 15,804 at 15,818). When FWS established the non-essential, experimental populations in the NRM area, the rule stated that this status would not be changed until the wolf populations were delisted (USFWS 1994). Thus there are two classifications based on geography in the NRM area: the Western DPS and the non-essential, experimental populations. With downlisting, all of the wolves in the NRM area are managed under almost identical rules, the 4(d) rule applied to the Western DPS and the regulations applying to the experimental population (68 FR 15,804 at 15,832).

The rule reclassifying gray wolves into three DPSs also downlists wolves in the Eastern and Western DPSs from endangered to threatened, except where they were already listed as threatened or as an experimental population. Wolves in the Southwestern DPS retained their endangered status. At the same time USFWS established a rule under § 4(d) of the ESA that applies to wolves listed as threatened in the Western DPS (68 F.R. 15,804, 15,863).

USFWS can propose delisting of a species when it determines that a listed population has recovered and there are reasonable assurances that it will not be threatened again when ESA protections are removed (16 U.S.C. §1533(a)). Before USFWS can delist wolves in the NRM it must be determined that human-caused mortality can be regulated (68 FR 15,804 at 15,828) which requires state management plans for Montana, Idaho, and Wyoming that are consistent with the long-term conservation of wolves in the region (USFWS et al. 2003). USFWS must reevaluate the status of wolves by analyzing their status with reference to the five factors listed in § 4(a)(1) (16 U.S.C. §1533(a)(1)), including the “adequacy of existing regulatory mechanisms.”

Wolves are currently listed in Wyoming as predatory animals and may be taken any time of year without limit. However, because of their status under the ESA, wolves are not currently managed pursuant to Wyoming statute and regulations. The gray wolf has been assigned the rank of G4/S2 by the Wyoming

Natural Diversity Database. Wolves in Wyoming are currently managed primarily by the USFWS, National Park Service (NPS), and United States Department of Agriculture Wildlife Services (Bangs et al. 2001).

If the wolf is delisted in the Northern Rocky Mountain Recovery Area, management authority will return to the states in which wolves reside if the states have enacted sufficient regulatory mechanisms as required for delisting (USFWS 1987).

Wyoming published a Final Management Plan (WGFD 2003) in preparation for satisfying the requirements of the Northern Rocky Mountain Recovery Plan for delisting. The Plan established a dual status for gray wolves in Wyoming of “trophy game animal” and “predatory animal” depending on the location of the pack or individual (WGFD 2003). If there are 15 packs in Wyoming (8 packs in YNP, Grand Teton National Park [GTNP] and John D. Rockefeller, Jr. Memorial Parkway, and 7 packs in the rest of Wyoming) then wolves would be trophy game animals within YNP and GTNP, the John D. Rockefeller, Jr. Memorial Parkway, and contiguous wilderness areas (Absaroka-Beartooth, North Absaroka, Washakie, Teton, Jebediah Smith, Winegar Hole, and Gros Ventre). Wolves located outside these areas will be classified as predatory animals (WGFD 2003). However, the delisting petition was rejected by USFWS in January 2004 due to the inadequacy of Wyoming’s plan to protect wolves. Wyoming is in discussion and possible litigation with USFWS on this point.

DESCRIPTION

The gray wolf (*Canis lupus*) is the largest of the wild canids. It has a long bushy tail and erect, slightly rounded ears. Its legs are longer, feet larger, and chest narrower than a dog of similar size. The wolf has long, thick, coarse fur that is typically grizzled gray but that can vary from black through white. The most common pelt colors in the northern Rocky Mountains are grizzled gray and black (USFWS 1994). Average height at the shoulders is 65-80 cm; total length (nose to tip of tail) is 1.3 to 1.5m with some individuals approaching 1.8m; and weight ranges from 36-41 kg for females and 41-50 kg for males (Ginsberg and Macdonald 1990).

HABITAT USE

Wolves are habitat generalists and historically occupied most habitats in the Northern Hemisphere including all of Wyoming, and populations flourished in areas with plentiful large prey (Fitzgerald et al. 1994, Long 1965, Mech 1970). The presence of abundant prey, which in Wyoming is elk, and relatively low levels of human activity are the main habitat requirements for wolves.

In the Great Lakes area, the existence of wolf pack territories was negatively correlated with agricultural lands, small-parcel private ownership, road density, and human population density (Mladenoff et al. 1999). A positive relationship was found with coniferous forest cover and county-managed forest lands. The road density threshold of 0.45 km/km² best classified pack and nonpack areas (Mladenoff et al. 1995, 1999).

Human activities associated with highways, roads, and other linear corridors cause fragmentation of wolf ranges and result in the death of wolves (Paquet and Carbyn 2003). Persistent occupancy of wolves is usually assured at road densities below 0.6-0.7 km/km². Road density is the measurable manifestation of human activity and the mortality of wolves is caused by the humans using the roads, rather than road density *per se*. Roads with low use can provide travel corridors for wolves.

Wolves also appear to avoid snowmobile activity. In Voyageurs National Park in Minnesota, wolf activity was absent during the times that snowmobile incursions occurred (USDI 1996). In areas where wolves occurred at higher road densities, the animals sustained high human-caused mortality and did not survive at levels that would sustain a population (Mech 1989). Such areas can persist as population sinks if there are large adjacent reservoirs of occupied wolf range.

In the Bow River Valley in Alberta, Canada, use of habitat types was related to human use levels and habitat potential (Paquet and Carbyn 2003). Alienation of wolves occurred when more than 10,000 people/month used an area, regardless of habitat quality. Wolf use patterns were altered at lower human use levels as well.

In the Central Rocky Mountains of Canada wolves were affected by topographic complexity and elevation. Wolves converged in broad river valleys in winter, where movement was less restricted by snow and elk converged (Callaghan 2002).

Diet

Wolves are opportunistic predators that feed primarily on ungulates though they will also take beavers and other small mammals (USFWS 1994). In YNP and adjacent areas elk have been the primary ungulate taken (> 85% of documented kills have been elk), followed by bison (2% of kills), deer (2%), moose (< 0.5%), and pronghorn (< 0.5%) (Mech et al. 2001, Ripple et al. 2001, Smith et al. 2000, USFWS et al. 2002). Most elk killed in GYA were calves, adult females, or individuals with low marrow fat and the adults killed were older than the mean age, by sex, within the general elk population (Mech et al. 2001). In Riding Mountain National Park, Canada, elk were the main food base. The kill rate per wolf was one elk per 14 days (Carbyn 1983). The kill success rate varies seasonally. In the Greater Yellowstone Area (GYA) from November 15 to December 15, when elk are in good condition, the kill rate is lower than during the month of March, when elk are in poor condition (Halfpenny 2004).

Wolves will also take livestock. In the western United States, the real and perceived impact of predation on livestock was a major factor in the extirpation of wolves (Young and Goldman 1944). Across the livestock industry losses due to wolf depredation are few; however, individual ranchers can, for a variety of reasons, sustain significant loss (Fritts et al. 1992, Mack et al. 1992). In addition to direct loss, indirect costs may accumulate because of increased management activities, needed changes in husbandry practices, or uncompensated losses. Defenders of Wildlife has, since 1987, made compensation payments of more than \$200,000 for wolf depredation of livestock and guard dogs (<http://www.defenders.org/wolfcomp.html>).

TABLE 2: CONFIRMED WOLF-CAUSED LIVESTOCK LOSSES IN GREATER YELLOWSTONE AREA, FROM 1995 THROUGH NOVEMBER 2002

	1995	1996	1997	1998	1999	2000	2001	2002	Total
Cattle	0	0	5	3	4 (1)	7 (3)	22 (20)	30 (25)	71 (49)
Sheep	0	13	67	7	13	39 (25)	117 (37)	36	292 (62)
Dogs	1	0	0	4	6 (4)	8 (5)	4 (4)	0	23 (13)
Horses	0	0	0	0	1 (1)	0	0	0	1 (1)
Wolves moved	6	8	14	0	0	6	8	?	42
Wolves killed	0	1	6	3	9	6	9	6	34

Values in Parentheses are the Total Number for the Year in Wyoming.
Source: USFWS et al. 2002 and WGFD 2003

Denning Sites

The first wolf den found in recent years in the U.S. consisted of five den openings on a flat, forested knoll adjacent to a meadow. The den openings were hidden in Engelmann spruce, Douglas-fir, and lodgepole pines; the meadow was thought to be used as a rendezvous site (Ream et al. 1989). Dens in northwest Montana and the Canadian Rockies are typically located in valley bottoms and lower slopes, with flat to moderate slopes, on south and east aspects, on depositional landforms, at sites close to trails, far from human habitation and activity, and close to meadows and other openings (Matteson 1992). Dens are frequently used repeatedly and thus den sites represent a significant habitat element for wolves.

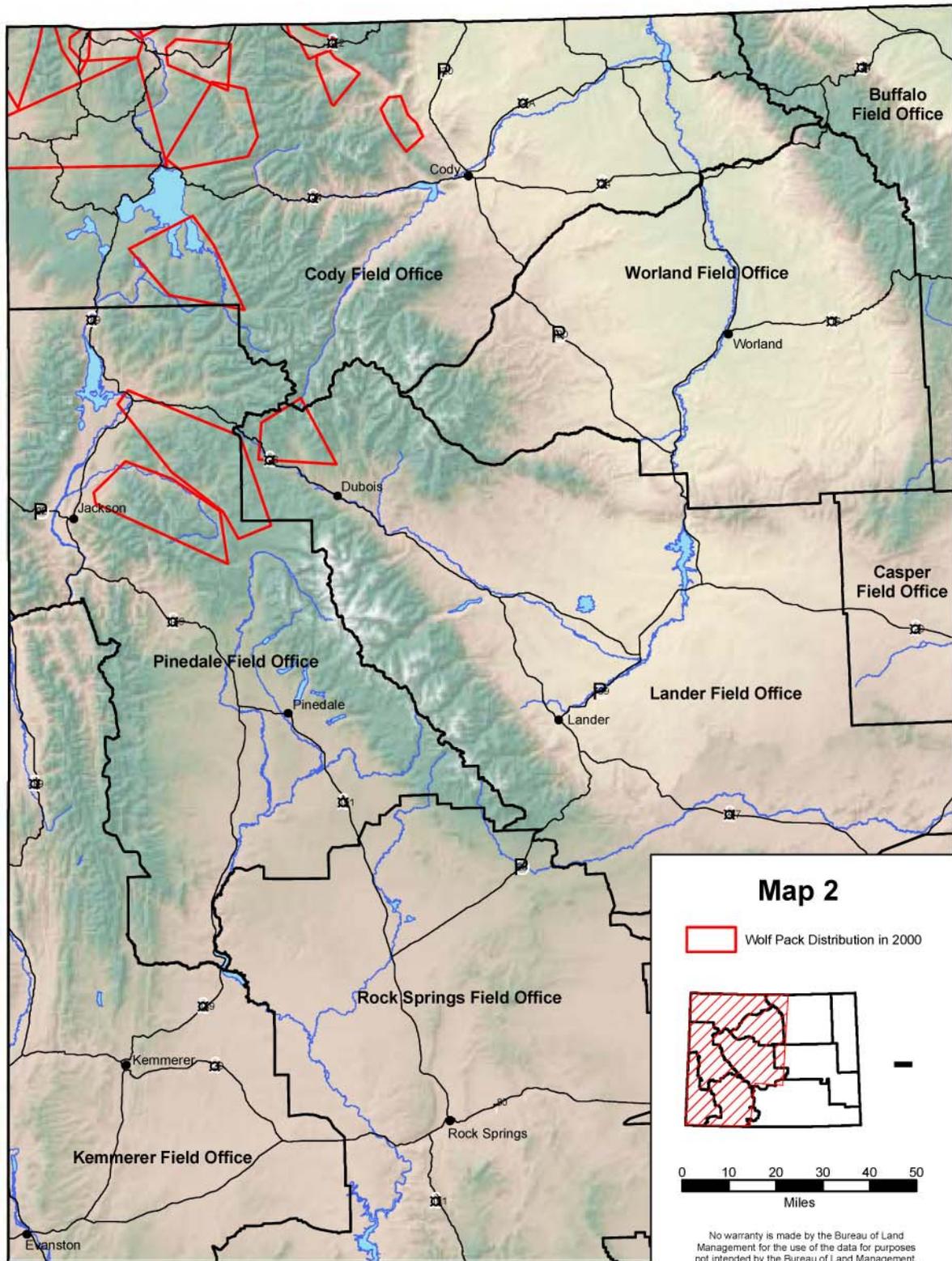
Wolves do not tolerate human activity near dens and pups, although researchers have been able to make observations without disturbing the animals. Disturbance can cause desertion of home sites. Dens within 2.4 km of roads or campgrounds were used by wolves and wolves may be adapting to human activity and disturbances (Mech 1995, Paquet and Carbyn 2003).

DISTRIBUTION

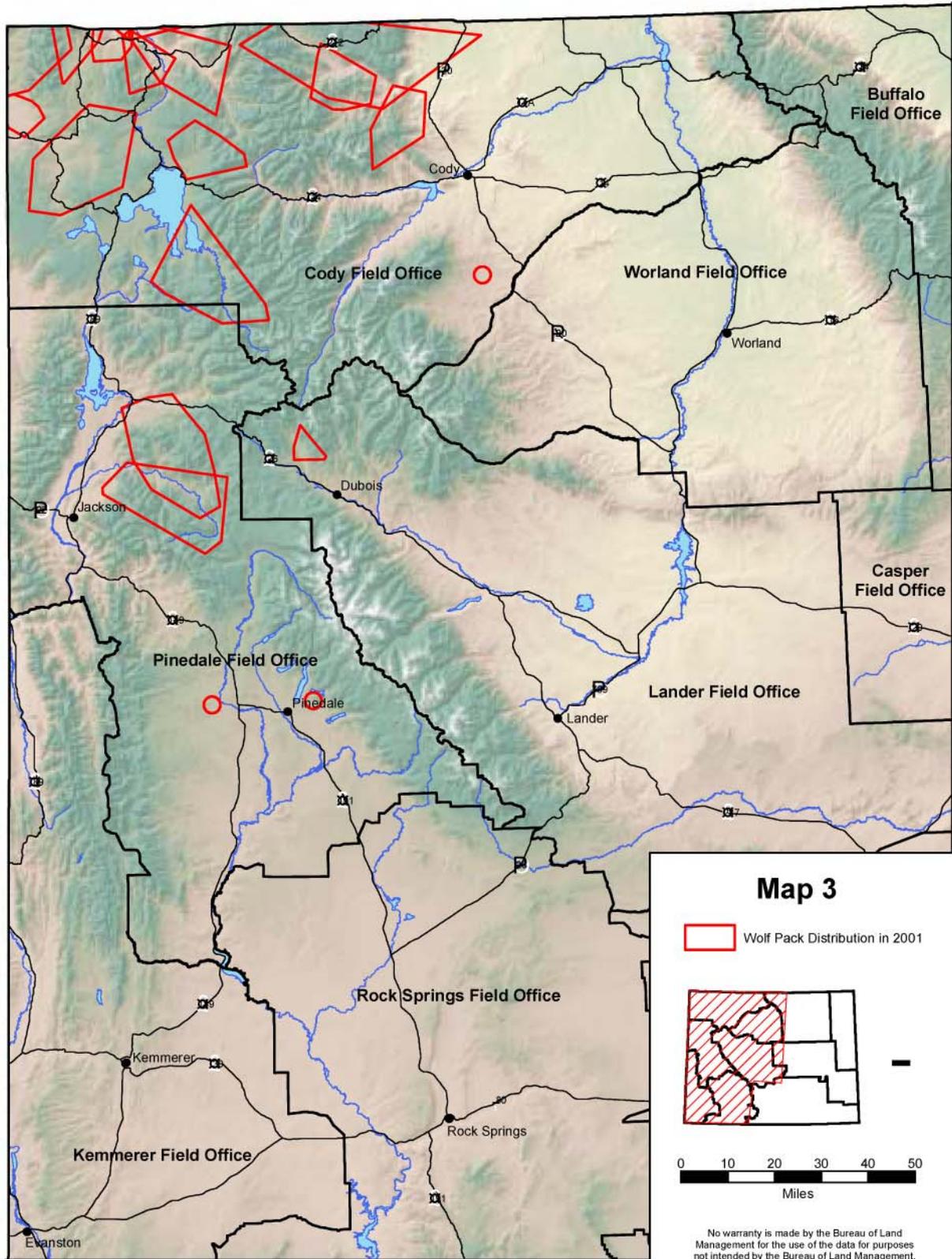
As recently as the mid-nineteenth century gray wolves existed throughout most of North America exclusive of the Gulf Coast region where the red wolf (*Canis rufus*) was found (Nowak 1983, Young and Goldman 1944). Wolves were present throughout the northern Rocky Mountain region prior to colonization by Europeans which resulted in reduction of native ungulate populations, introduction of livestock, and persecution of wolves (Lopez 1978, Young 1944). By the 1940s, wolves persisted only in isolated locations in the United States. In the late 1970s wolves were dispersing into the mountainous areas near Glacier-Waterton Lakes National Parks in Alberta, Canada, just across the border (Ream and Mattson 1982). And then in 1985 a pack of 12 wolves crossed the border from Alberta to Glacier National Park (Robbins 1986). Breeding was documented in 1986, for the first time in 50 years in the U.S. (Ream et al. 1989), and by 1992 at least 50 individuals were known to reside in at least four packs along the continental divide of Montana (Fritts et al. 1995, Pletscher et al. 1997, Ream et al. 1991). Wolves were documented from Idaho since the early 1980s. Prior to reintroduction, lone wolves have ventured into the GYA on a number of occasions (USFWS 1994), and a single wolf was documented in northwestern Wyoming in 1992 (Fritts et al. 1995).

After many years of effort and planning, wolves were reintroduced into the Greater Yellowstone Area (GYA) in 1995-1996 (USFWS 1994). This effort targeted large tracts of federal public lands (Yellowstone National Park (YNP) and the surrounding U.S. Forest Service wilderness areas) that supported large populations of wild ungulates and had a relatively low likelihood for wolf-human conflicts. Today wolves are found in the northwestern portion of Wyoming, largely in the GYA (**Maps 2-6**). There are 14 packs in YNP and 7 that spend most of their time in Wyoming (WGFD 2003). Numerous sightings of wolves suggest that they roam over much of western Wyoming. The known distributional extent of these wandering wolves is the Bighorn Mountains and Ten Sleep to the east, Morgan, Utah (outside Ogden) to the south, and into Idaho to the west (Jimenez 2004). Wolves have been sighted southwest of Meeteetse and around Worland and Thermopolis. Wolves are also routinely seen around Kemmerer and Cokeville, and Lander, and have shown up east of Rock Springs. In these southern portions of the Red Desert, the wild prey density is very low and cattle and sheep density is higher; the wolves switch to the available prey and conflicts result. Although wolves can prey on pronghorn, these ungulates do not constitute consistent dietary items.

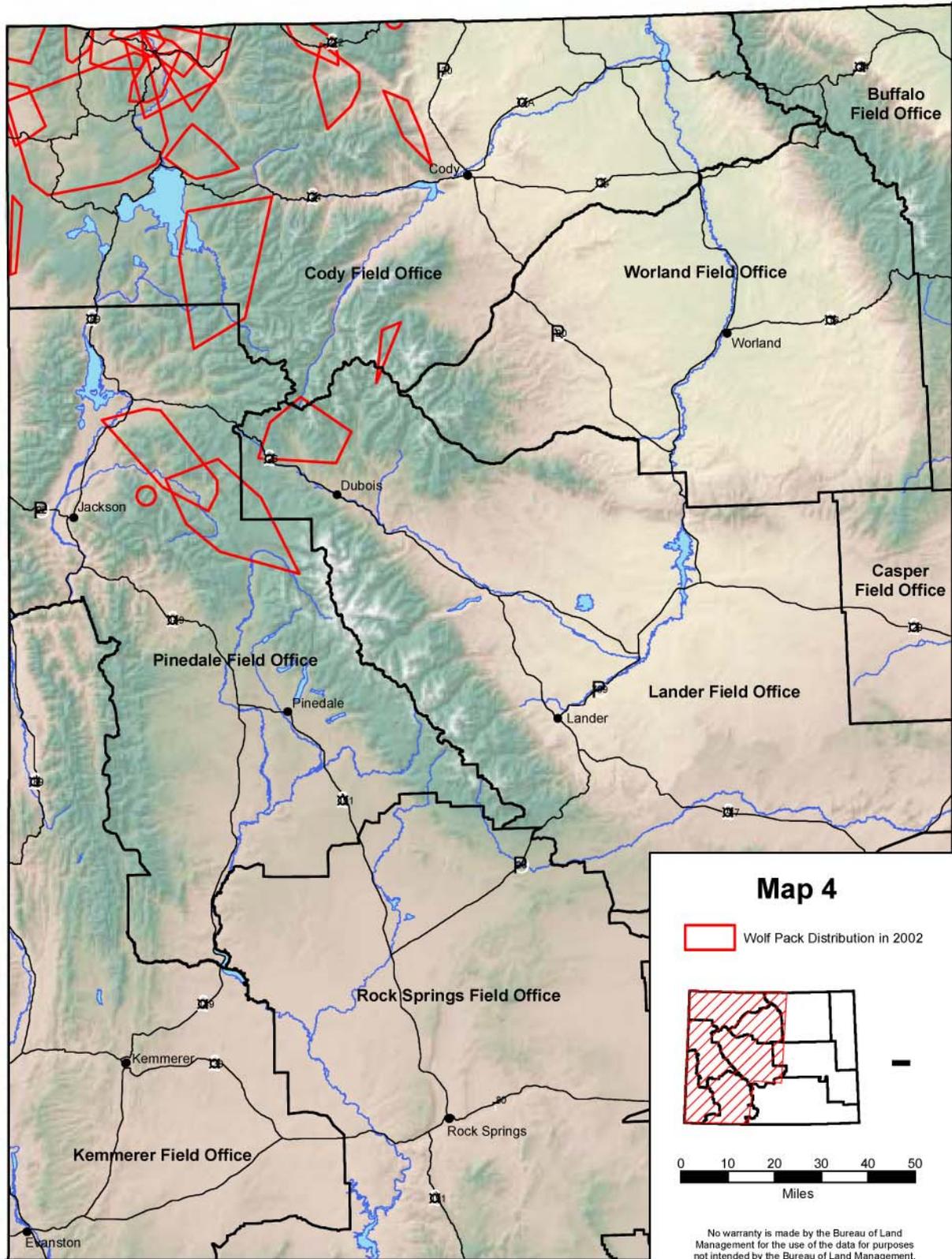
Map 2. Distribution of Wolf Packs in Wyoming in 2000 (USFWS et al. 2001, Figure 3).



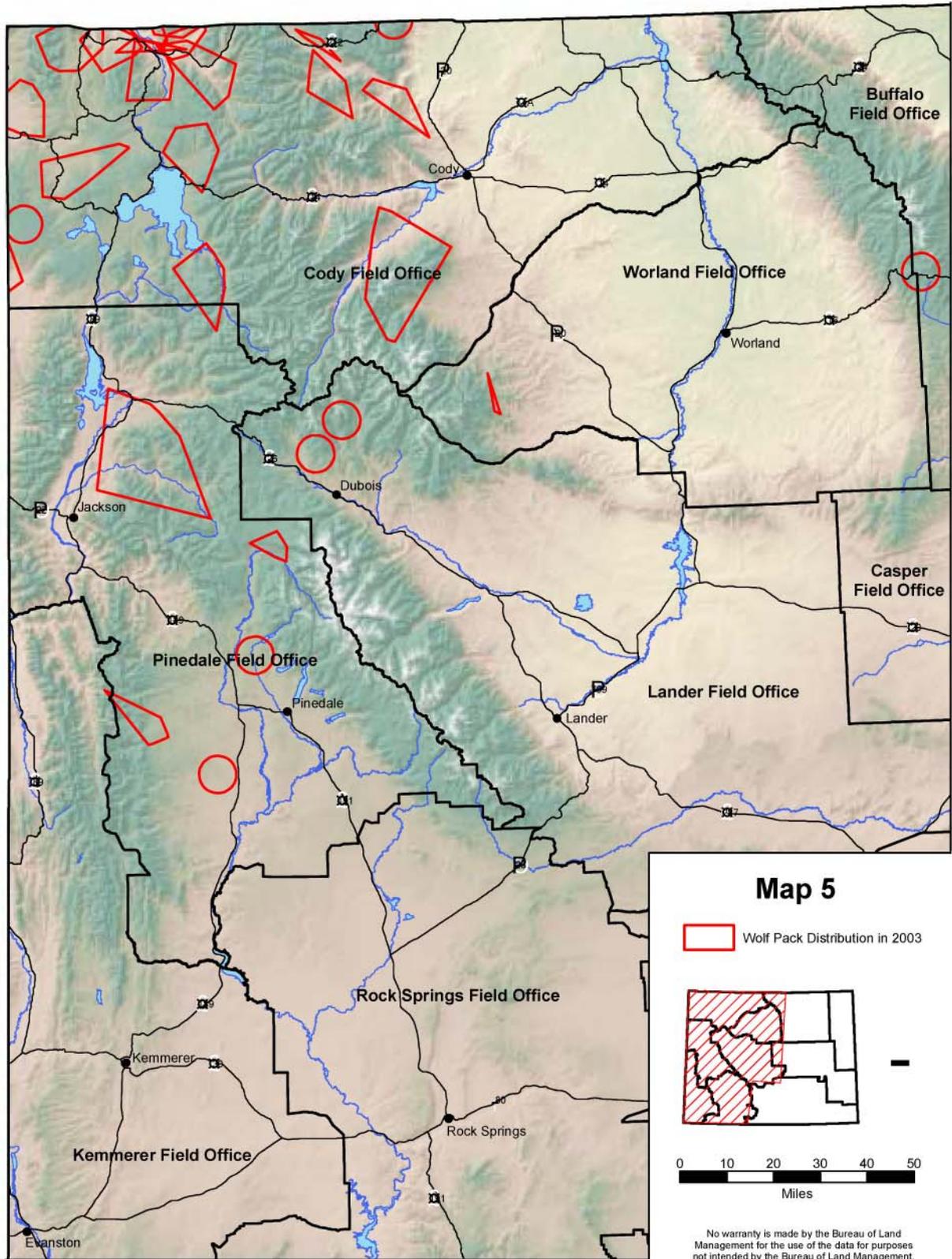
Map 3. Distribution of Wolf Packs in Wyoming in 2001 (USFWS et al. 2002, Figure 3).



Map 4. Distribution of Wolf Packs in Wyoming in 2002 (USFWS et al. 2003, Figure 3).



Map 5. Distribution of Wolf Packs in Wyoming in 2003 (USFWS et al. 2004, Figure 3).



Movement

Wolves expand their range via dispersal, usually settling into unoccupied territories within 50-100 km of their natal pack (Gese and Mech 1991, Wydeven et al. 1995) and these dispersing animals account for 10%-30% of individuals in a wolf population (Gese and Mech 1991). Longer distance dispersals are not unknown. Dispersers in the Central Rocky Mountain recovery area moved up to 800 km (Ballard et al. 1983, Boyd and Pletscher 1999). January-February and May-June were peak dispersal times (Boyd and Pletscher). This mobility of wolves provides for significant genetic exchange across regions, repopulation following wolf reductions (Stephenson et al. 1995), and source animals for recolonization.

Between 1995 and 1999, the Yellowstone Wolf Project documented 36 dispersal events (18 females and 18 males) (Smith et al. 2000) with males dispersing an average of 54 miles and females an average of 40 miles. Dispersals have been documented among and between all three recovery areas in the northern Rockies (Bangs et al. 1998, Mack and Laudon 1998, Smith et al. 2000) and into adjacent states (Washington, Oregon and Utah). Dispersal paths crossed international boundaries, state boundaries, public and private land boundaries, different land uses, and agency jurisdictions (USFWS et al. 2000).

In the central Rockies, colonizing wolves moved over large-scale landscapes rather than defined corridors (Boyd and Pletscher 1999). Consequently, it is not possible to define dispersal habitat. Rather, the appropriate approach would be to eliminate non-used habitat such as areas with high road density and human activity.

THREATS

Human-caused mortality including legal and illegal harvest, depredation control, and vehicle collisions are the largest cause of mortality and is the only source of mortality that can significantly affect wolf populations at recovery levels (USFWS 2000). In the GYA, of 20 documented wolf mortalities in 2000, nine were human-caused (six control actions, two vehicle collisions, and one illegal take), six resulted from natural causes, and five were of unknown cause (USFWS et al. 2001). Researchers have found that if annual mortality exceeds 30-40%, population growth of wolves may be suppressed (Ballard et al. 1987, Fuller 1989, Keith 1983). The response of wolves to humans is variable, as can be expected in a long-lived animal with a large degree of social transmission. Wolves are sensitive to human predation and harassment, which influence the distribution and survival of wolves. However, human-caused mortality is consistently noted as the major problem (Paquet and Carbyn 2003). Loss of habitat is a trend to be expected as human populations increase and more development occurs.

In unexploited populations annual mortality is 45% for yearlings and 10% for adults (USFWS 1994). Intraspecific conflict between neighboring packs, starvation, disease and injury are the primary causes of mortality (Mech et al. 1998). However, natural mortality does not regulate populations in the northern Rockies (USFWS 2000).

Flexible food habits, high annual productivity, and dispersal capabilities enable wolves to respond to natural and human-induced disturbances. These traits confer a high degree of resiliency on wolves (Weaver et al. 1996). Wolf distribution will ultimately be defined by the interaction of wolves' ecological requirements and human tolerance (Paquet et al. 2001), not by artificial delineations that are administratively determined. In short, ungulate abundance and distribution and human settlement patterns will define wolf habitat. The network of public lands in western Montana, central Idaho, and northwest Wyoming facilitates connectivity between the three sub-populations and the public lands in the rest of the Rocky Mountain west will provide dispersal routes. Wolf populations will fluctuate as a result of management actions, natural mortality, legal harvest, illegal take, wolf productivity, and ungulate population fluctuations.

Gray wolves occur in disjunct populations in the conterminous United States, and management goals will be set to maintain this population structure. Computer simulations of disjunct wolf populations indicate that these populations can survive as long as there is at least occasional movement between populations, and human persecution is not excessive and prey is sufficiently abundant (Callaghan 2002, Haight et al. 1998). Furthermore, it is the long-term levels of mortality and immigration that are important, more so than the short-term fluctuations in dispersal and mortality. However, one ultimate factor that will determine whether wolves persist where they have been reintroduced, and where they disperse, is human attitude. This will require a concerted effort on the part of federal and state agencies and of non-governmental groups. Another significant factor is stochastic: fire, weather (drought and/or hard winters), and disease. These unpredictable and often uncontrollable factors can create unforeseen circumstances and results on recovering wolf populations.

The Yellowstone fires of 1988 took out old growth, which caused a decline in the moose population. The hard winter of 1996-1997 caused a decline in the elk populations, as has the current drought. Disease can present a surprising vulnerability. The introduction in the early 1980s of a human-introduced canine parvovirus to the wolves at Isle Royale caused a crash in the wolf population from 50 to 14 animals in a period of two years (Smith et al. 2003). The effect of epizootics and enzootics on wolf population dynamics is not well documented. Where information is available, an estimated 2–21% of wolf mortality is due to disease. The transmission of disease from domestic dogs, e.g. parvovirus, is a grave conservation concern (Paquet and Carbyn 2003). Rabies is infrequent in wolf populations. Sarcoptic mange is an epizootic of concern, and some researchers suggest that it could be a regulating factor in canid populations. Other arthropod parasites are known but do not cause significant problems. Viral infections of concern are distemper and canine hepatitis.

The economic forces present often drive decisions that affect the status of wolves. Market interest usually run counter to conservation and restoration activities because the former cater to short-term financial gain rather than long-term sustainability of the environment. Wolves and their protection may encourage society to value biological diversity and the tangible and intangible benefits of such a species in our lives (Paquet and Carbyn 2003).

3.0 ANALYSIS OF RESOURCE MANAGEMENT PLANS

INTRODUCTION

In the introduction, under “Programs and Action” we describe all the management actions as a compilation of these actions in all the FOs. This will prevent and reduce their repetition under each FO. Rather, in each FO we will only mention those programs unique to that FO. The next section, “Existing Impact Minimization Measures”, addresses impact-reducing guidelines that are prescribed and followed as part of ongoing activities.

In subsequent sections each FO is listed separately and the management actions in the RMP for each FO with wolves known or suspected present are reviewed. The analysis involves evaluation of management actions for their potential to affect wolves and their known habitats, including management actions or mitigation measures that are unique to the particular RMP. A determination of potential effects is made. In addition, there is a section on cumulative effects.

Programs and Actions

Access Management Actions

The objective for access management is to provide suitable public access to BLM-administered public lands. This may include acquiring new access where needed, maintaining existing access and expanding existing access facilities, or abandoning and closing access where it is not compatible with resource values and objectives.

Access across private lands will be pursued as needed through a variety of methods including, but not limited to, purchase of rights-of-way or easements, land exchange, reciprocal rights-of-way, and other statutory authorities. Specific routes and acquisition procedures for securing access are determined through route analyses and environmental analyses as part of specific project and activity planning. Where appropriate, land exchanges or cooperative agreements are considered to provide access needs.

A detailed evaluation of areas with a high density of roads may be completed to determine needs for specific road closures or rehabilitation. Specific mitigation measures and design requirements for roads are developed through environmental analyses as part of specific project or activity planning. Access closure, abandonment, and acquisition are considered and established through activity planning and environmental analysis processes. Road or trail closure and abandonment is based on desired road or trail densities, demands for new roads, closure methods (e.g., abandonment and rehabilitation, closures by signing, temporary or seasonal closures), type of access needed, resource development or protection needs, and existing uses.

Air Quality Management Actions

The objective of air quality management is to maintain or enhance air quality, protect sensitive natural resources and public health and safety, and minimize emissions that cause acid rain or degraded visibility. Typical air quality management program activities include dust control, weather monitoring, and air quality data monitoring. The air quality management program may evaluate or restrict surface development activities. The BLM ensures that operators cover conveyors at mine sites, restrict flaring of natural gas, limit emissions, and restrict spacing on projects.

BLM-initiated actions or authorizations are planned in accordance with Wyoming and national air quality standards. This is accomplished through the coordination of activities with the Wyoming Department of Environmental Quality (WDEQ) and the U.S. Environmental Protection Agency. Laws controlling air pollutants in the United States are the Clean Air Act of 1970 and its amendments, and the 1999 Regional Haze Regulations. The concentrations of air contaminants in the planning area need to be within limits of Wyoming ambient air quality standards (WAAQS) and national ambient air quality standards (NAAQS). Both WAAQS and NAAQS are legally enforceable standards for particulate matter (PM₁₀), nitrogen dioxide (NO₂), ozone, sulfur dioxide (SO₂), and carbon monoxide (CO).

In addition to NAAQS and WAAQS, major new sources of pollutants or modifications to sources must comply with the New Source Performance Standards and Prevention of Significant Deterioration (PSD). The PSD increments measure PM₁₀, SO₂, and NO₂. The PSD program is used to measure air quality to ensure that areas with clean air do not significantly deteriorate while maintaining a margin for industrial growth.

Areas of Critical Environmental Concern Management Actions

The objectives of special management areas, such as Areas of Critical Environmental Concern (ACECs) are to ensure continued public use and enjoyment of recreation activities, while protecting and enhancing natural and cultural values; improving opportunities for high quality outdoor recreation; and, improving visitor services related to safety, information, interpretation, and facility development and maintenance.

Under the Special Areas Management program, the BLM closes areas where accelerated erosion is occurring; implements restrictions on logging and heavy equipment use; evaluates noxious weed and grasshopper control measures; applies restrictions on ground-disturbing activities; develops recreational trails; guides supervised tours; protects petroglyphs, artifacts, and cultural deposits from weathering and vandalism; and pursues land exchanges. Significant sites and segments along the Oregon/Mormon Pioneer Natural Historic Trails will be designated as ACECs.

Cultural Resources Management Actions

The objective of cultural resource management is to protect, preserve, interpret, and manage significant cultural resources for their informational, educational, recreational, and scientific values. Site-specific inventories for cultural resources would be required before the start of surface-disturbing activities, or if BLM-administered lands are proposed to be transferred out of federal ownership.

The BLM performs inventory activities as well as land management activities. During inventory activities, the BLM inventories, categorizes, and preserves cultural resources; conducts field activities; performs excavations; maps and collects surface materials; researches records; and photographs sites and cultural resources. Inventory data collection activities are used for documentation and development of mitigation plans before other resource program surface-disturbing activities. Inventory activities commonly entail the use of hand tools, power tools, or heavy machinery. Inventories are divided into Class I, Class II, and Class III inventories. The BLM does cultural resource inventories normally in response to surface-disturbing projects. Intensity varies between inventories. Inventories may involve 2-7 individuals and trucks, and may last from one day to several weeks.

Cultural resource land management activities involve managing sites for scientific, public, and sociocultural use; developing interpretive sites; restricting certain land uses; closing certain areas to exploration; prohibiting some surface-disturbing activities; preparing interpretive materials; and allowing the collection of certain invertebrate fossils. Archeological collections are authorized through a permit

system. The cultural resource program may authorize installation of protective fencing of trail segments, stabilize deteriorating buildings, acquire access to sites when necessary, perform certain surface-disturbing activities, pursue land withdrawals, explore and develop locatable minerals, designate avoidance areas, pursue cooperative agreements, and identify and interpret historic trails. Cultural resource interpretive sites, such as historic trails or rock art sites, may be developed to provide public benefits such as scenic overlooks, signs, and walking trails.

Adverse effects on significant cultural resources are mitigated. Surface-disturbing activities are avoided near significant cultural and paleontological resource sites and within ¼ mile or the visual horizon of significant segments of historic trails and canals. Sites listed on, or eligible for, the National Register for Historic Places (NRHP) are protected and would be managed for their local and national significance and in compliance with the National Historic Preservation Act, the Archaeological Resources Protection Act, the American Indians Religious Freedom Act, and the Native American Graves Protection and Repatriation Act, as appropriate.

Fire Management Actions

The objectives of fire management are to restore the natural role of fire in the ecosystem, and to protect life, property, and resource values from wildfire. The two major activities involved with the BLM's fire management activities are prescribed burning and wildfire suppression.

Prescribed fire objectives are to restore natural fire regimes and enhance rangeland habitats for livestock and wildlife. The prescribed fire program authorizes fire plans, firebreaks, prescribed burns, and coordination with necessary parties on a case-by-case basis. Some prescribed fires are conducted to dispose of slash and residue from timber sales, improve wildlife habitat and grazing potential, or to reduce hazardous fuel loads.

Wildfires threatening higher resource values, including commercial timber areas, developed recreation sites, and areas of wildland/urban interface, or fires with potential to spread to private, state, or other federal lands are suppressed. Fire suppression activities vary with the intensity of the wildfire and are conducted on an emergency basis. Fire lines are constructed to contain the wildfire. Water is withdrawn from nearby sources to suppress fires. Chemical fire suppression agents containing chemical dyes may be used, if needed. The use of aerial fire retardant is restricted near water resources. After a fire is extinguished, the BLM may use rehabilitation techniques to restore a burned or suppression area to its previous vegetative cover.

Activities authorized by this program include tree thinning, construction of roads and fire lines, application of fire-suppressing chemicals by hand and aerial application, and revegetation and mulching stream banks for rehabilitation. Activities often employ the use of off-road vehicles, hand tools, and heavy equipment such as bulldozers.

The fire damage restoration program proposes the BLM use a technique called Analysis of Burned Area Emergency Rehabilitation (BAER) on all areas damaged by fire. This technique is used to evaluate the impact of restoration efforts on the ecosystems involved.

Geology and Minerals Resource Management Actions

The lands administered by the Wyoming BLM contain some of the most prolific oil, gas, coal and trona producing areas in the Rocky Mountain region. Mineral development is subject to leasing, location, or sale based on the Federal mineral law (such as the Mineral Leasing Acts and amendments) covering that particular commodity. Conditions under which the development of these minerals can occur are

determined through land use planning. The planning area will be open to consideration for exploration, leasing, and development of leasable minerals including oil, gas, coal, oil shale, and geothermal. The objective of minerals management actions is to make public lands and federal mineral estate available for orderly and efficient development of mineral resources. BLM's mineral program is divided into salable minerals, leasable minerals and locatable minerals.

Salable Minerals

Deposits of salable minerals are scattered throughout Wyoming. Salable minerals include common varieties of sand, gravel, sandstone, shale, limestone, dolomite, and granite rock. Historical use of these materials includes building materials, road surfaces, and tools. Today salable minerals are mainly used for maintaining roads on public lands and also for activities associated with the oil and gas industry.

BLM provides sand, gravel, and stone from federal mineral deposits as necessary to meet the need of federal, state, and local road construction and maintenance projects in the planning areas. Before issuing contracts or free use permits for salable minerals, the BLM conducts the appropriate environmental analyses including special studies or inventories of cultural values, threatened or endangered plant and wildlife species, and other resources. Stipulations or conditions may be included in the terms of the contract to ensure protection of the natural resources present and reclamation of the land following project completion. Sand and gravel, scoria, flagstone, moss rock, and other minerals are available for free use or sale but are subject to conditions and stipulations developed on a case by case basis.

Site reclamation is required following any surface disturbing activity by mining for salable minerals. Reclamation includes removing all surface debris, recontouring, reducing steep slopes, and planting vegetation. All reclamation proposals must conform to State agency requirements and must be approved by BLM.

Salable minerals are disposed of under the Materials Act of 1947, as amended, and are discretionary actions.

Leasable Minerals

Leasable minerals include fluid (oil, gas, geothermal) and solid minerals such as coal, trona, and phosphate. Bentonite and Uranium are leasable on acquired lands.

Current use of coal is primarily for electric generation. Coal in Wyoming is most generally extracted using surface mining methods although in the past some coal was mined underground. Underground mining method is proposed for some future operations. Surface mining requires a federal coal lease from the BLM, mining permits from the State, mine plans approved by OSM. Surface mining involves the use of large equipment such as draglines, shovels, haul trucks, etc. Small drill rigs are used for exploration to determine the location, thickness, and obtain cores (for determining quality). Extracting coal using surface mining methods often results in large areas of surface disturbance from road construction, removal of topsoil and overburden, stock piling of these materials. Once an area is mined out, reclamation begins and includes recontouring as closely to the original landscape as possible the reconstruction of drainages, reseeding and monitoring to assure the habitat is useable. Coal is leased under the Mineral Leasing Act of 1920 and the Federal Coal Leasing Amendments Act of 1976.

Current uses of trona include baking soda, in paints, glass, toothpaste, soaps, ceramic tiles, porcelain fixtures, paper, water softeners and pharmaceuticals. Wyoming is the largest producer of trona in this country and has the largest known reserve of trona in the world. Trona is generally mined underground with the long wall mining method. Surface facilities are generally processing plants, offices, and maintenance buildings along with associated roads.

Current uses of uranium are as a nuclear fuel for generation of electricity, nuclear explosive, in medicine, agriculture and industry as radiation for diagnostic tools, to detect welding problems, in the manufacture of steel products, or used to reduce the spoilage of certain foods. Uranium is generally categorized as a locatable but becomes leasable on acquired lands. Surface facilities include processing plants, equipment maintenance buildings and offices.

Leasable bentonite also occurs on acquired lands. Bentonite is surface-mined with shovels, haul trucks, etc. Drilling is used to locate the bentonite. Large areas of surface disturbance occur through removal of the overburden, overburden stockpiles, surface facilities and roads. Surface facilities include processing plants, equipment maintenance buildings and offices.

Fluid leasable minerals include oil, gas, and geothermal steam. Leasing of oil and gas resources is under the authority of the Mineral Leasing Act of 1920 as amended. Leasing is administered by the BLM through a competitive and non-competitive system. BLM receives nominations of lands to be put up for sale at the bimonthly competitive oil and gas sales. These nominations gathered together into a parcel list and are sent to the respective field offices for the attachment of stipulations. These stipulations are derived from the Land Use Plan. The parcel list is returned to the state office and once verified are put together into the Notice of competitive oil and gas sale booklet. This Notice must be posted for the public 45 days before the lease sale is held. Once the parcel is sold, it is then issued into a lease.

Initial exploration for oil and gas resources is often conducted using geophysical methods. Geophysical exploration involves the use of ATVs and vehicles to lay the geophones, drill the shot holes for charges, or as “thumpers” to create the sound wave instead of using charges and then the removal of the geophones and reclamation of shot holes if used. Exploration for oil and gas (including coal bed natural gas) may also include the drilling of one or more wells to test for the reservoir and its productive viability. During the exploration phase of drilling, surface disturbing activities include the construction of roads, well pads, reserve pits, and other facilities.

Development of oil and gas fields includes construction of the same types of facilities used during exploration, but in addition it may be necessary to obtain federal rights of ways for product pipelines and power lines. Other surface uses associated with oil and gas development include construction of storage tank batteries and facilities to separate oil, gas and water. Compressor engines (can be gas powered or electric) may be required to move gas to a pipeline, and diesel, gas, or electric pumps and other related equipment may be needed to lift the oil, gas, or water from the well to the surface. Generally, there are an average of 3 acres for each drill site, 1 mile of road and 1 mile of pipeline for each drill site. This can vary widely with each project. Directional drilling requires a bigger pad than one well. Size is dependent on the number of wells drilled from each pad.

Water is often produced concurrently with oil and gas production and disposal methods can range from subsurface re-injection to direct surface discharge to discharge into a containment pond or pit. Some fields may have large volumes of water or very little water. Water that cannot be discharged to the surface because of its chemical makeup may be treated before surface discharge or may be reinjected. Roads may be two track unimproved roads to crown and ditched roads designed by an engineer. One day to over a month may be required to drill the well depending on the type of well (vertical or directional), depth and types of rocks encountered. Reclamation involves reseeding and the recontouring of unneeded roads and unneeded portions of the well pads.

Geothermal resources are available for exploration, development, and production and are subject to the same surface disturbing and other restrictions applied to oil and gas exploration, development and production. Similar to oil and gas leasing, the BLM administers geothermal leases through a competitive and non-competitive system. The Geothermal Steam Act of 1970 authorizes leasing.

Locatable Minerals

Locatable minerals include gypsum, silver, gold, platinum, cobalt and other precious and base minerals. Bentonite and uranium are also locatable except on acquired lands.

Minerals are locatable under the 1872 Mining Law. Most public lands are open to location with the exception of withdrawn lands. The Mining Law of 1872 sets the requirements for lode claims, placer claims, and mill sites as well as discovery, location, annual filings, assessment work, and mineral examinations to establish validity.

Forest Resources Management Actions

The objective of forest management is to maintain and enhance the health, productivity, and biological diversity of forest and woodland ecosystems and to provide a balance of natural resource benefits and uses, including opportunities for commercial forest production. Multiple uses are found in forests and the BLM manages forests for recreation, livestock grazing, wildlife habitat, and prescribed burning.

The program allows the cutting and removal of diseased trees, disease treatment by spraying, and herbicidal spraying of grasses and shrubs, and pre-commercial thinning, chaining, and shearing. Clearcuts, slash disposal, logging, helicopter logging, and skidder-type and cable yarding are allowed during timber harvest. Non-commercial timber harvest involves collection and cutting of firewood, Christmas trees, posts, poles, and wildlings. The BLM ensures that site regeneration and stand replacement follow timber harvest. Forest management activities may include conducting surveys, obtaining easements, pursuing legal access, allowing road development, and installing drain culverts and water bars.

Timber harvesting occurs on commercial forestlands with slopes less than 45 percent. Forest products are sold by permit. Individual authorized clearcuts may not exceed 20 acres. Areas within 200 feet of surface water are prohibited from harvest. Slash is to be lopped and scattered, roller chopped, or burned. Regeneration areas are often enclosed by fence to prevent wildlife and livestock from damaging seedlings. Private and state land may be accessed for forest management purposes through acquisition of easement.

Currently, cottonwood and willow trees are not harvested by the BLM in Wyoming. Non-commercial woodlands (e.g., riparian areas) are managed to optimize cover and enhance habitat for wildlife and to protect the soil and watershed values.

Hazardous Materials Management Actions

The primary objective of hazardous materials management is to protect public and environmental health and safety on public lands administered by BLM. Hazardous materials management also seeks to comply with federal and state laws, prevent waste contamination due to any BLM-authorized actions, and to minimize federal exposure to the liabilities associated with waste management on public lands.

Hazardous materials and waste management policies are integrated into all BLM programs. Public lands contaminated with hazardous wastes are reported, secured, and cleaned according to federal and state laws, regulations, and contingency plans. Warnings are issued to potentially affected communities and individuals if hazardous material is released on public land.

Lands and Realty Management Actions

The objective of the lands and realty management program is to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights-of-way access to serve administrative and public needs.

Public land tracts not critical to current management objectives will be disposed of through the realty management program. Non-federal lands may be acquired through exchange in areas with potential for recreation development or in areas containing important wildlife, cultural, scenic, natural, open space, or other resource values. Protective withdrawals may be established to protect and preserve important resource values, but require extensive mineral investigations.

Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting a right-of-way. Rights-of-way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights-of-way may be temporary or extend two years or longer. If restricted types of rights of way are required in avoidance areas or when such areas cannot reasonably be avoided, the adverse effects of construction will be intensively mitigated in these areas.

The program pursues cooperative agreements, develops recreation site facilities, considers offsite mitigation, minimizes access in wildlife habitat, fences revegetation sites, blocks linear rights-of-way to vehicle use, considers temporary use permits, considers new withdrawals, and leases acres for landfills.

Access management activities are generally in support of other resource management programs and are authorized under the Realty Management Program. The BLM rehabilitates access roads that are no longer needed, proposes easement negotiations, pursues access across private lands, acquires rights-of-way or easements, and exchanges lands.

Cases are considered individually in mineral exchanges. Public lands can be considered for sale or disposal on a case-by-case basis when a definite need for the land is identified and the proposal meets the requirements of the Recreation and Public Purpose (R&PP) Act and local land use plans. Leasing public lands for landfills is allowed under the R&PP Act, and sanitary landfilling is a common method of solid waste disposal.

Livestock Grazing Management Actions

The management objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on the public lands while improving wildlife habitat and watershed condition.

Management actions on grazing allotments are prioritized by and classified into one of three management categories: maintain (M), improve (I), and custodial (C). Certain areas may be closed to livestock grazing because of conflicts with other resource uses including, but not limited to, timber sale areas being re-harvested, crucial wildlife or endangered species habitat, developed recreation sites, or education areas. Range management activities include using prescribed fire, vegetation manipulation projects, changing the composition of existing vegetation, using noxious weed control, using mechanical or biological vegetative treatments to improve forage production, using heavy equipment, and the herbicidal spraying of sagebrush.

Fencing activities authorized by the livestock grazing management program may include fence construction and repair, designing and implementing grazing systems, and building livestock enclosures for important riparian habitat. Water management activities associated with range management may include the development of reservoirs, springs, pipelines, and wells, and providing access to these developments. Lease management activities include conducting monitoring studies, performing project work to enhance and improve riparian zones, designating stock trails, managing leases, developing management plans and agreements, and canceling or adjusting livestock driveways.

Permanent increases in available forage are considered for wildlife and watershed protection before additional livestock use is authorized. Livestock management includes converting to new types of livestock, authorizing livestock grazing, and adjusting season of use, distribution, kind, class, and number of livestock. Salt or mineral supplements may be provided.

Off-Highway Vehicle (OHV) Management Actions

The objective of OHV management is to offer outdoor recreational opportunities on BLM-administered public land while providing for resource protection, visitor services, and the health and safety of public land visitors. Using motorized off-highway vehicles requires no fee and no permit, but their use is restricted depending on whether the area has been designated as closed, limited, or open.

Off-Highway Vehicle management designates closed, limited, or open areas for OHV use; posts signs, maps, or brochures; permits OHV rallies, cross-country races, and outings; monitors OHV use; and performs necessary tasks requiring OHV use. Off-Highway Vehicle use (including over-the-snow vehicles) on BLM-administered lands is limited to existing roads and trails. Some areas are closed to OHV use.

Until signing has occurred, OHV use in “limited” areas will only be permitted on existing roads and vehicle routes. Off-Highway Vehicle travel will be prohibited on wet soils and on slopes greater than 25 percent if damage to vegetation, soils, or water quality would result. Seasonal restrictions may be applied in crucial wildlife habitats as needed.

Paleontological Resources Management Actions

The objective of paleontological resources management is to manage paleontological resources that are part of the BLM-administered public land surface estate for their informational, educational, scientific, public, and recreational uses.

Using the land for scientific purposes such as paleontological exploration is authorized through a permit system. Since 1985, 53 permits have been issued, and it was estimated that about 12 more could be issued between 1991 and 2005. Fossils are part of the surface estate, such that whoever owns the surface consequently owns the fossils. A paleontological collecting permit is required before collecting any fossil vertebrates, significant fossil invertebrates, and plants on BLM-administered public lands.

Potential effects on paleontological resources on BLM-administered public lands will be considered in site-specific environmental analyses before authorizing surface-disturbing activities. Site-specific inventories will be required where significant fossil resources are known or are anticipated to occur. Hobby collection of invertebrate fossils and petrified wood are allowed except in specified areas. The closing of BLM-administered public lands or restricting uses to protect paleontological resources are evaluated case-by-case.

Recreation Resources Management Actions

The objective of recreation resources management is to offer outdoor recreational opportunities on lands administered by BLM while providing for resource protection, visitor services, and the health and safety of public land visitors.

Categories of activities of the BLM for recreation management include allowing recreational access and use by the public, developing recreational areas, imposing restrictions, acquiring recreational access, and assessing effects of recreational use to the environment. The BLM monitors recreational use, develops management plans, and evaluates and updates recreational potential.

Recreational activities allowed by the BLM include hiking, hunting, mountain biking, boating, and fishing, OHV use (including snowmobiles), horseback riding, and camping. Casual use of BLM-administered public land for hiking, bicycling, hunting, fishing, and similar uses are allowed without charge. Large recreational events may include organized group hikes, motocross competitions, or horse endurance rides. The BLM develops recreational and camping sites. Recreational site development includes maintaining or developing recreational sites and facilities, developing campgrounds, providing fishing and floating opportunities, maintaining developed and undeveloped recreation sites, adding developments as opportunities arise, adding interpretive markers, and constructing roads and interpretive sites.

The Recreation program may place boundary signs, identify hazards on rivers, restrict recreational uses, limit motorized vehicles to existing trails, designate road use and recreation areas, require facilities to blend with the natural environment, and conduct field inventories.

Recreation areas may have specific restrictions to protect other important resources. Development and enforcement of stipulations and protective measures includes designating OHV use, enforcing recreation-oriented regulations, patrolling high-use areas, and contacting users in the field.

Riparian Areas Management Actions

The objectives for riparian areas management will be to maintain, improve, or restore riparian value to enhance forage, habitat, and stream quality. Priority for riparian areas management will be given to those areas identified as Colorado River cutthroat trout habitat.

Riparian areas management is an integral part of all resources and related management programs. Management actions may include reductions in livestock numbers, adjustments in grazing distribution patterns, fencing, herding, and livestock conversions. Those activities that affect or are affected by riparian values, will take into account the riparian areas management objectives and direction. Resource values and uses that affect or are affected by riparian values include wildlife and fisheries habitat, forest resources, livestock grazing, OHV use, visual resources, cultural and historical resources, minerals exploration and development activities, lands and realty activities, watershed and soils resources, recreation uses, fire management, and access.

Laws and guidelines abided by during riparian management include Executive Orders 11990 (wetland) and 11988 (floodplain), and section 404 of the Clean Water Act.

Sensitive Plants Management Decisions

The objective for sensitive plants management is to maintain and enhance known populations of sensitive plant species within BLM-administered public lands. As habitats or sites for any future listed species are identified within a resource area, protection measures will be developed in consultation with the U.S. Fish and Wildlife Service.

The known populations of sensitive plant species will be protected from disturbance by maintaining or establishing fencing around the populations and by intensively managing surface-disturbing activities in adjacent areas that could affect the populations. Case-by-case examination of any proposed surface-disturbing activity will be made to determine potential adverse effects and appropriate mitigation to minimize those effects. Developments, uses, and facilities will be managed temporally and spatially to avoid damage to the sensitive plant species.

Soil Management Actions

The objective for soil resources management is to maintain soil cover and productivity and provide for improvement in areas where soil productivity may be below potential on surface lands administered by BLM.

Timber harvest activities will be limited to slopes of 45 percent or less to protect the water quality and to keep soil from eroding. OHV travel will be prohibited on wet soils and on slopes greater than 25 percent if unnecessary damage to vegetation, soils, or water quality would result. Roads and trails will be closed and reclaimed if they are heavily eroded, washed out, or if access roads in better condition are available. No surface disturbance or occupancy will be allowed in areas of severe erosion between March 1 and June 15.

Surface Disturbance Restriction Decisions

The surface disturbance restrictions are necessary to protect certain sensitive resources and areas from adverse affects of surface-disturbing activities and human presence, and are inclusive of the various management actions developed in and analyzed for the approved RMP. These restrictions apply to all types of activities involving surface disturbance or human presence impacts and are applied in accordance with the guidelines described in the Wyoming BLM Standard Mitigation Guidelines for Surface-Disturbing Activities (SDA Guidelines). The SDA Guidelines include, where applicable, proposals for waiver, exception, or modification, based on analysis for individual actions. This would allow for situations where a surface-disturbing activity may actually benefit sensitive resources, and allow for those occasions when analysis determines that an activity will not affect those resources.

The SDA Guidelines will be used, as appropriate, to condition development activities in all programs where surface-disturbing activities occur and where the objectives of the RMP include the protection of important resource values. On a case-by-case basis, activities will be conditioned by any one or more of the mitigations in the SDA Guidelines to avoid or minimize impacts to other important resource values and sensitive areas. Use restrictions (e.g., dates and distances) may be made more or less stringent, depending on the needs of specific situations. The restrictions identified under the various resource programs are complementary to the standards in the SDA Guidelines and are not all-inclusive. They represent both actual requirements applicable to specific circumstances, and examples of requirements that will be considered and that may be applied, if necessary. Additional restrictions may be placed on surface-disturbing activities as necessary.

The mitigations identified in a particular RMP serve to provide a degree of protection to affected resources, not to unnecessarily restrict activities. The RMP provides the flexibility for modifications or exceptions to restrictions in specific circumstances where a restriction is determined not to apply or is not needed to achieve a desired objective.

Surface disturbance is characterized by the removal of vegetative cover and soil materials. Where actual excavation does not occur, activities may be allowed to occur with less stringent limitations provided that the objectives and purpose for the surface disturbance restrictions are met. Examples where less stringent application of the SDA Guidelines would apply are timber harvesting within 500 feet of streams or riparian areas and on slopes greater than 25 percent. This would be applicable to those timber harvest activities, such as tree cutting, skidding, and slash disposal that do not fully remove vegetative cover and soil materials. In the past, allowing these activities with a 100-foot streamside buffer distance and on slopes greater than 25 percent did not produce detrimental effects. However, road construction or staging/loading areas for logging equipment would not meet the less stringent definition and would be subject to the standard requirements of 500 feet and 25 percent slope.

The mitigations prescribed for federal mineral development on split estate lands (federal minerals beneath a nonfederal surface) apply only to the development of the federal minerals. These mitigations do not dictate the surface owner's management of their lands. The mitigations present restrictions on only those surface activities conducted for purposes of developing the federal minerals and that are permitted, licensed, or otherwise approved by the BLM.

When the BLM is considering issuing a mineral lease, the agency has a statutory responsibility under the National Environmental Policy Act to assess the potential environmental impacts of the federal undertaking. It also has the statutory authority under the Mineral Leasing Act (MLA) of 1920, the Mineral Leasing Act for Acquired Lands (MLAAL), and the Federal Land Policy and Management Act (FLPMA) of 1976 to take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activities. This authority exists regardless of whether or not the surface is federally owned.

The MLA, the MLAAL, and the FLPMA are not the only statutes that establish such authority. Other statutes that may be applicable include the Clean Water Act, the Clean Air Act, the National Historic Preservation Act, the Endangered Species Act of 1973, the Federal Coal Leasing Amendments Act of 1976, and the Surface Mining Control and Reclamation Act of 1977. Moreover, the recently enacted Federal Onshore Oil and Gas Leasing Reform Act of 1987 specifically requires the BLM to regulate surface disturbance and reclamation on all leases.

Threatened, Endangered, and Candidate Species Protection Actions

The management objectives of threatened, endangered and candidate species protection are to maintain biological diversity of plant and animal species; to support WGFD strategic plan population objective levels to the extent practical and to the extent consistent with BLM multiple use management requirements; to maintain and improve forage production and quality of rangelands, fisheries, and wildlife habitat; and to provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the Endangered Species Act (ESA) and approved recovery plans.

Known populations of threatened and endangered species will be protected, as mandated by law. The USFWS is the only agency that can list a species as endangered, threatened, proposed, or candidate.

The BLM's threatened and endangered species management activities include protecting habitat and known populations, enforcing timing stipulations, conducting surveys, and closing known locations of sensitive populations or habitat to surface-disturbing activities.

Vegetation Resource Management Actions

The objectives of vegetation resource management are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources; to enhance essential and important habitats for special status plants species on BLM-administered public land surface and prevent the need for any special status plant species being listed as threatened and endangered; and to reduce the spread of noxious weeds.

Vegetation treatments, including timber harvesting, sagebrush spraying or burning, will be designed to meet overall resource management objectives. Cooperative integrated weed control programs implement weed control work on adjoining deeded and state lands in cooperation with county weed and pest districts. The three types of control used by the BLM on public lands are chemical, biological, and mechanical. Biological control can involve the use of weevils, beetles, or goats. This method may be used in cooperation with mechanical control (e.g., dozing, cutting, chopping). Sagebrush control measures are also implemented by the BLM. These control methods may be chemical or mechanical. Fire is used as a management tool to improve range forage production, wildlife habitat, timber stand improvement, sale debris disposal, and to reduce hazardous fuel buildup. Noxious weed control is typically implemented along rights-of-way.

Trees will be planted on timber harvest areas that fail to regenerate naturally in order to achieve minimum stocking levels within five years after completing harvest and rehabilitation activities. Pre-commercial tree thinning will be initiated on overstocked seedling- and sapling-size stands. Temporary use of heavy equipment may be associated with these authorized activities.

If herbicides are proposed for use, minimum-toxicity herbicides should be used with appropriate buffer zones along streams, rivers, lakes, and riparian areas, including those along ephemeral and intermittent streams. Only federally approved pesticides and biological controls are used. Local restrictions within each county are also followed. Projects that may affect threatened or endangered plants or animals will be postponed or modified to protect these species. Pesticide Use Proposals (PUPs) and Biological Use Proposals (BUPs) are developed conjunctively with the County Weed and Pest Districts and the BLM. All PUPs and BUPs are reviewed by the state Noxious Weed Coordinator and approved by the BLM Assistant State Director.

Visual Resources Management Actions

The objective of visual resources management is to maintain or improve scenic values and visual quality, and establish visual resources management priorities in conjunction with other resource values. Visual resources are managed in accordance with objectives for visual resources management (VRM) classes that have been assigned to each FO. Visual resource classification inventories have been developed for some, but not all, of the areas in Wyoming.

To improve visual resources, the BLM designs facilities to blend in with the surroundings, reclaims watershed projects and water wells, regulates discharge of produced water, and restricts activities that might degrade visual resources.

No activity or occupancy is allowed within 200 feet of the edge of state and federal highways. Facilities or structures such as power lines, oil wells, and storage tanks are required to be screened, painted, and designed to blend with the surrounding landscape, except where safety indicates otherwise. Any facilities or structures proposed in or near wilderness study areas will be designed so as not to impair wilderness suitability.

Watershed and Water Resources Management Actions

The objective of watershed and water resources management is to maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards, to provide for availability of water to facilitate authorized uses, and to minimize harmful consequences of erosion and surface runoff from BLM-administered public land.

Passing of the Water Resources Research Act, Water Resources Planning Act, and the Water Quality Act of 1965 allowed the BLM to expand its water resources program and increased cooperation with soil conservation districts.

Activities authorized under water resources management may include implementation of watershed plans, identification of heavy sediment loads, monitoring and treating soil erosion, evaluating and restricting surface development activities, and monitoring water quality.

No surface disturbance will be allowed within 500 feet of any spring, reservoir, water well, or perennial stream unless waived by the authorized officer. Pollution prevention plans are developed for actions that qualify under the Wyoming Storm Water Discharge Program to reduce the amount of non-point pollution entering waterways. The rights to water-related projects on public lands will be filed with the Wyoming state engineer's office in order to obtain valid water rights.

Wild and Scenic Rivers Management Actions

The objectives of wild and scenic rivers management for public lands administered by the BLM that meet the wild and scenic rivers suitability factors is to maintain or enhance their outstandingly remarkable values and wild and scenic rivers (WSR) classifications until Congress considers them for possible designation. Wild and Scenic Rivers Management activities of the BLM include studying segments of the river for potential classification by Congress. The suitable determination is based on the uniqueness of the diverse land resources and their regional and national significance, making them worthy of any future consideration for addition to the WSR system.

Wilderness Resources Management Actions

Wilderness Study Areas (WSAs) on public lands are single-use resources managed in accordance with decisions issued by the U.S. Congress. The BLM managers ensure that proposed actions are consistent with the land use plan in effect for the area. Absence of roads, total aerial extent, naturalness, solitude, or a primitive and unconfined type of recreation, and other ecological, geological, educational, scenic, or historical features may be considered wilderness values.

Activities associated with this program may include inventories to identify wilderness areas, public involvement with the wilderness study process, authorization of mining claims under unique circumstances, or evaluations of proposed actions to determine potential impacts to known or potential wilderness values.

All WSAs are managed under the Interim Management Policy (IMP) until Congress issues management guidelines. There are three categories of public lands to which the IMP applies: (1) WSAs identified by the wilderness review required by Section 603 of the Federal Land Policy Management Act (FLPMA), (2) legislative WSAs (i.e., WSAs established by Congress, of which there are none administered by the BLM in Wyoming), and (3) WSAs identified through the land-use planning process in Section 202 of the FLPMA.

A Plan of Operation is prepared by operators before any mining exploration begins. The plan identifies the mining strategy and attempts to minimize environmental impacts. Discovery work for WSAs under Section 603 must be done to non-impairment standards. Only “unnecessary and undue degradation” requirements apply to Section 202 WSAs.

A mining claim may be staked at any time in an existing WSA. National Environmental Policy Act (NEPA) analysis is required, however, before any activity is authorized in a WSA. Environmental Assessments (EAs) or Environmental Impact Statements (EISs) are prepared to determine if a proposal meets non-impairment criteria. The use of categorical exclusion to eliminate this analytical process for uses and facilities on lands under wilderness review is not allowed.

Wild Horse Management Actions

The management objective of wild horse management is to maintain a viable herd that will preserve the free-roaming nature of wild horses in a thriving ecological balance and to provide opportunity for the public to view them. The FLPMA amended the Wild and Free Roaming Horse and Burro Act to authorize the use of helicopters in horse and burro roundups. Wild horse and burro numbers on BLM lands in Wyoming were estimated at 37,000 in 2004 (Breckenridge 2004); this compares with 17,000 in the entire West in the late 1960s.

The Wild Horse Program herds, corrals, transports, monitors, and rounds up horses for wild horse management. Herds are monitored by airplane census and counted each year. Helicopters may also be used to round up wild horses.

Land Use Plans are used to plan wild horse management. The BLM decides how many horses to allow on a certain area. This is termed the Approximate Management Level and the BLM can adjust horse numbers as needed. Issues taken into consideration include carrying capacity, trends in utilization, and public input. The BLM’s wild horse management specialists coordinate with wildlife biologists and archaeologists to ensure that wild horse management will not cause adverse impacts to biological or cultural resources.

Wildlife Habitat Management Actions

The objectives of wildlife habitat management are to maintain the biological diversity of plant and animal species; support the strategic plan population objective levels of the Wyoming Game & Fish Department (WGFD) to the extent practical and to the extent consistent with BLM multiple-use management requirements; maintain and, where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat; and, to the extent possible, provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the Endangered Species Act (ESA) and approved recovery plans.

Approximately 90 percent of wildlife program activities are in support of other resource programs such as fuels reductions, density of timber stands in deer and elk winter habitats, oil and gas exploration, timber harvest, or prescribed fires. Specific management goals and actions are for several wildlife groups and habitats including elk and other big game ranges, wetland and riparian areas, raptor and grouse breeding areas, and animal and insect damage control. Wildlife management maintains and, where possible, improves forage productions and quality of rangelands, fisheries, and wildlife habitat, and provides habitat for threatened, endangered, and special status animal and plant species on BLM-administered public land surface in compliance with the ESA and approved recovery plans.

Big game and fisheries management levels identified in the WGFD 1990-1995 strategic plan are supported by the BLM. The BLM cooperates with the WGFD in introducing or reintroducing native and acceptable non-native wildlife and fish where potential habitat exists. Wildlife habitat is monitored and population adjustments and habitat improvements are recommended to the WGFD, as appropriate. The BLM works with the U.S. Fish and Wildlife Service and the WGFD in evaluating and designating critical habitat for threatened and endangered species on BLM-administered public lands.

Wildlife program projects may include surveying, monitoring, habitat improvement activities such as developing habitat management plans, and creating cooperative management areas. The categories of wildlife management activity for the BLM include developing stipulations and protective measures, acquiring land, conducting inventories, performing livestock or forestry-related activities, and wildlife and fisheries habitat improvement projects.

The BLM develops stipulations and protective measures to enhance wildlife and fisheries habitat. These include authorizing withdrawals of some areas from mineral entry; limiting access of four-wheel drives, snowmobiles, horseback, and pedestrians; prohibiting surface development; and imposing road closures. The BLM may acquire riverfront land or easements, and conducts inventories of potential habitat and occurrences of threatened, endangered, and sensitive species.

Livestock-related wildlife management activities include the development of water sources, construction and maintenance of fences, the management of other resource activities to conserve forage and protect habitat, the improvement of forage production and quality of rangelands, and the improvement of range with mechanical treatment. Forestry-related wildlife management activities include the management of timber and the promotion of cutting, thinning, planting, seeding, and pitting.

Other wildlife management activities for terrestrial species include introducing species, monitoring habitat, fencing modifications for antelope passage, implementing public use closures for wintering elk and other big game, development of water areas for waterfowl and waterbirds, recommending habitat improvement projects, treatment to control exotic plants, prescribed burns, meadow restoration, cabling of junipers, changing types of grazing and season of grazing, prescribed burning, developing islands, allowing farming, managing accesses, authorizing agricultural entry and disposal, and using surface protection mitigations.

Other wildlife management activities for aquatic species include establishing a baseline fisheries inventory, fish habitat improvement, bank stabilization, development of watering sources, modification of barrier fences, exotic fish removal, construction of instream barriers to protect species from non-native invaders, installation of revetments and fish passage structures, installation of log overpours, macroinvertebrate sampling and analysis, installing gabion baskets, and placement of large boulders for instream fish habitat.

Existing Impact Minimization Measures

Certain existing guidance can serve to reduce impacts on wolves from management actions, and they are reviewed below.

The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities (**Appendix A**) is intended to attain statewide consistency in establishing requirements for avoiding and mitigating environmental impacts and resource and land use conflicts. The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities includes several guidelines that are applicable to a variety of resources, including the wolf. These guidelines apply to all surface disturbing activities on lands administered by BLM and are considered in the assessment of potential affects. Under the wildlife mitigation guideline, the following guidance applies to the wolf:

To protect important nesting habitat for raptors, sage grouse, and sharp-tailed grouse activities or surface use will not be allowed from February 1 to July 31 in certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30. These guidelines will be considered for all surface-disturbing activities. Sage grouse may occasionally be used as alternative prey by wolves, and the February 1-July 31 closure, within wolf habitat, will protect wolves during the denning periods (subpart 2b of Wildlife Mitigation Guideline).

No activities or surface use will be allowed on the portion of the authorization area for the purpose of protecting habitats (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) (subpart 2c of Wildlife Mitigation Guideline).

When portions of the authorized use area are known or suspected to be essential habitat for the wolf, a threatened/endangered species, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that wolves are identified or pack boundaries occur within the specified area, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, and facility design modifications) (subpart 2d of Wildlife Mitigation Guideline).

The BLM Guidelines for Livestock Grazing Management (**Appendix B**), approved August 12, 1997, also apply to surface disturbing activities. The guidelines apply to all actions that may disturb or disrupt the surface in all of the FOs. Although all the protective standards listed in the guidelines are valuable to habitat protection, Standard #2 and Standard #4 relate directly to wolves. Standard #2 addresses protection of riparian vegetation, which is an important habitat type for elk and other big game because of the forage it supplies. Standard #4 states: "Habitats that support or could support threatened species, endangered species, species of concern, or sensitive species will be maintained or enhanced."

CODY FIELD OFFICE

The Cody Record of Decision and Approved Resource Management Plan (RMP) was signed in November 1990 (BLM 1990). The RMP provides the management direction for approximately 891,600 acres of public surface lands and 1,508,000 acres of federal mineral estate within the Cody Field Office (FO). The Cody FO is located in north central Wyoming and occupies portions of Big Horn and Park Counties.

Environmental Baseline

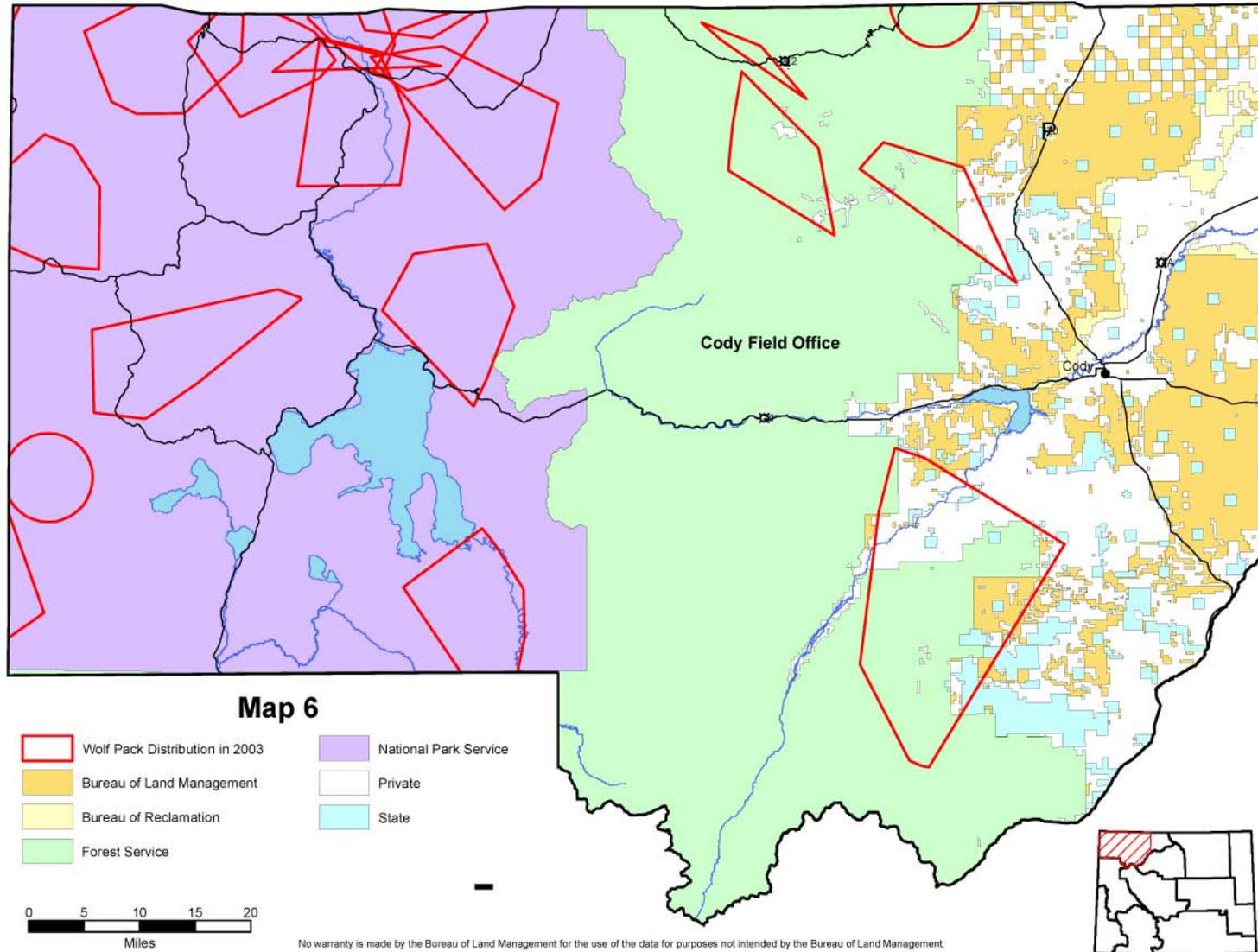
This section presents a summary of the distribution of wolves in the Cody FO and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats. Northwestern Wyoming is the epicenter of wolf reintroduction in the state. Wolves can be considered present throughout the FO. In 2003, there were 8 wolf packs entirely in the FO, and 8 wolf packs overlapping state or FO boundaries (**Map 6**). These pack home ranges overlapped with 18,911 acres of BLM land.

Existing Conservation Measures

The following section presents measures included in the Cody RMP that may directly or indirectly minimize impacts to the wolf:

- (a) “Through land exchanges, the BLM will try to acquire nonfederal lands...that contain recovery habitat for threatened or endangered species” (BLM 1990, p. 13).
- (b) “Vehicular use on BLM-administered public lands is designated as limited to designated roads and trails in the following areas – Essential and recovery habitat for threatened and endangered species” (BLM 1990, p. 22).
- (c) “Use of chemicals on noxious weeds will be controlled in areas designated as essential or recovery habitat for threatened, endangered, or sensitive plant and animal species in accordance with site-specific habitat requirements” (BLM 1990, p. 39).
- (d) “The BLM will make every reasonable attempt to coordinate with these agencies (Wyoming Game and Fish Department and U.S. Fish and Wildlife Service) and others who are interested in fish and wildlife habitat management activities on BLM-administered public lands and to accommodate their interests and concerns whenever possible” (BLM 1990, p.40).
- (e) “Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications)” (BLM 1990, Appendix B, p.60).

Map 6. Cody Field Office Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



(f) “The construction or development of a range improvement project would be denied if the proposal would affect or jeopardize the continued existence of federally listed threatened or endangered plant or animal species and/or its habitat. Consultation and coordination with USFWS would be required under such conditions to determine acceptable mitigating measures to avoid possible impacts” (BLM 1990a, Appendix G, p.94).

Analysis of Proposed Management Actions and Effects

The Cody RMP (BLM 1990) includes descriptions of each management prescription applied within the FO. These activities are summarized in the Introduction, above. Refer to the Cody RMP for a complete explanation of each prescription.

Air Quality Management

Management Actions

No specific management actions are presented with this program. However, actions conducted under other resource programs, including fire or mining, will be conducted in a manner so as to avoid violation of the Wyoming and National ambient air quality standards.

No specific requirements or guidelines that are applicable to wolf habitat mitigation are included for this resource in the RMP.

Effects Analysis

Actions related to air quality management will not result in negative impacts to wolf behavior or habitats. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** the wolf.

Areas of Critical Environmental Concern

Management Actions

There are four ACECs in the Cody FO: Carter Mountain (designed to Protect areas of unique alpine tundra and fragile soils), Five Springs Falls (designed to protect populations of four near-endemic rare and sensitive plant species), Little Mountain (designed to protect and manage important cave, cultural, and paleontological resources and to maintain scenic values), and Sheep Mountain Anticline (designed to protect important an important natural area with unique geological features). Many uses common to most Public lands in the Cody FO are allowed in these ACECs, including; exploration and development of leasable minerals is allowable in three of the ACECs; locatable minerals entry is allowable in one, and closed in two of the ACECs; and saleable minerals exploration and development is allowed in one and closed in one of the ACECs. Geophysical exploration is open in one and closed in one of the ACECs. All four are avoidance areas for right-of-way, and all allow continuation of livestock grazing. At Carter Mountain, surface-disturbing activities are prohibited on slopes greater than 7% to protect fragile tundra vegetation and soils

Effects Analysis

The four ACECs are designed to protect, manage, or enhance various special resources in the Cody FO. Many activities are still allowed within the ACECs, but some activities are limited or excluded, to preserve the specialized uniqueness designed to be protected or managed through ACEC designation. By limiting or excluding these activities, impacts from these activities to wolves would be reduced or excluded. Impacts from activities allowed to occur in these ACECs will be addressed in their respective sections in this document. In general, management of ACECs limiting or excluding various activities would have a beneficial impact on wolves.

Determination

Implementation of the ACEC management as described in the Cody RMP (1990) is **not likely to jeopardize the continued existence** of the wolf.

Cultural and Paleontological Management

Management Actions

No specific requirements or guidelines that are applicable to wolf habitat mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Actions

Portions of the FO that are located west of State Highway 120 and east of the Bighorn River are designated as full suppression areas for wildfires. This area occupies 240,100 acres. The remainder of the FO, approximately 841,100 acres, is designated a limited fire suppression area. Some methods of wildfire suppression will be restricted in sensitive resource areas. The use of heavy equipment will be restricted or prohibited in areas of fragile soils, in wetland and riparian areas, on lands above significant caves, on Sheep Mountain west of Cody, on Carter Mountain, and in timbered areas of the east end of Rattlesnake Mountain.

No specific requirements or guidelines applicable to wolf habitat mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Cody RMP (1990) is **not likely to jeopardize the continued existence** of the wolf.

Forestland Management

Management Actions

Forestlands on Rattlesnake Mountain are in a restricted forest management area. No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk. However, especially in winter, both elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Cody RMP is **not likely to jeopardize the continued existence** of the wolf.

Geothermal Management

Management Actions

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Activities and potential effects to wolves that result from development of geothermal resources are not unique and are similar to potential effects from mineral and oil and gas development. Construction of roads, pads, and other facilities associated with development of natural resources will allow for greater ease of movement by humans that may use these as new access points to wolf habitats and cause them harm. Increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves. Activities in the vicinity of dens and rendezvous sites may cause the animals to move. These impacts will be greatest in areas with dense elk and other big game populations.

Determination

Implementation of geothermal management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Hazardous Materials, Hazardous Waste, and Other Hazards Management

Management Actions

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Activities associated with hazardous materials management will be restricted to roadways, where wolves will likely have become accustomed to some degree of human disturbance. These activities will likely be very limited in scale and infrequent in occurrence.

Determination

Implementation of hazardous materials management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Lands and Realty Management

Management Actions

The BLM will seek to acquire and retain access in several areas, including recreational access along the North and South Forks of the Shoshone River.

Approximately 55,900 acres of BLM-administered lands have been identified for disposal in the Cody FO. Proposals for disposal of any BLM-administered lands in the FO will be considered. All disposal actions will be assessed for potential effects to other important resources prior to approval. Priority will be given to disposal of lands proposed to meet community needs. Exchange will be the preferred method of disposal or acquisition of lands by BLM. Lands included in several sections within the Cody FO will be targeted for acquisition because these lands contain recovery habitats for threatened and endangered wildlife species.

Designated utility and pipeline corridors and communication site windows include areas of existing right of way concentration areas and three existing communication sites. These designated corridors and windows are the preferred locations for future communication sites and utility and pipeline rights of way. Most of the FO is open for location of utility and transportation systems. Proposals will be addressed on an individual basis with emphasis on avoiding potential conflict areas.

The areas within 2 miles of the Bighorn River and within 1 mile of the Shoshone and Greybull Rivers and the Clark Fork of the Yellowstone River are avoidance areas for construction of aboveground power lines.

Reviews of withdrawn lands, under section 204(I) of Federal Land Policy and Management Act (FLPMA), will be completed to determine whether withdrawals are serving or needed for their intended purposes. These reviews are not a part of developing the RMP. Thus, no decisions are made on the termination of any withdrawals in this RMP. Existing stock driveway withdrawals will be retained, although the BLM reserves the right to modify historic trailing routes and use to mitigate any impacts associated with trailing, or to deny trailing use if the impacts cannot be adequately mitigated.

Withdrawals from locatable mineral entry and development will be initiated on the BLM-administered Bighorn River HMP/RAMP tract and the BLM-administered by BLM in the Yellowtail Wildlife Habitat Management Unit (HMU). Withdrawals from locatable mineral entry and development will be initiated on the Five Springs Falls ACEC and in the Little Mountain ACEC.

About 500,000 acres of land administered by BLM that were classified under the provisions of the Classification and Multiple Use (C&MU) Act were initially reviewed in 1981. At that time, C&MU retention classifications and segregations from the land laws were terminated on all but 2,840 acres and segregations from the mining laws were terminated on 200 acres.

The C&MU classifications in the FO were established by BLM and no other agencies or administrative authorities were involved. Approximately 493,000 of these acres were classified for retention in federal ownership for multiple use management and were segregated from disposal through operation of public lands laws. The remaining 7,000 acres were also classified for retention and multiple acres were also classified for retention and multiple use management and segregated from disposals, but in addition, were segregated from mineral location through operation of the mining laws, to protect important resource values.

Review of the remaining 497,000 acres of lands administered by BLM in the FO indicated that all of the classifications were either no longer serving their intended purpose or no longer needed for their intended purpose. These lands will be managed as follows:

Any terminations of C&MU classifications that were not completed in 1981, will be completed. When classification terminations are processed, they will be reviewed to identify needed refinements to the RMP management decisions or to identify the need for new protective withdrawals to be initiated.

Recreation values and rare plants at Five Springs Falls and important caves and scenic values with the Little Mountain ACEC will remain closed to locatable mineral entry and development under the existing C&MU classifications, until after the new withdrawals are in place.

All remaining lands under previous C&MU classifications will be managed under the various provisions and management decisions of the Cody RMP, as they apply.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Cody RMP (1990) is **not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing Management

Management Actions

The total authorized livestock grazing use will not exceed 90,895 animal unit months (AUMs). Livestock grazing will not be allowed in Bighorn River HMP/RAMP tracts, which totals approximately 2,500 acres.

The Guidelines for Livestock Grazing Management on BLM land in Wyoming apply (see Appendix B). No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by elk and other big game. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Minerals Management

Management Action

Surface-disturbing activities associated with all types of mineral exploration and development and geophysical exploration are subject to application of the Wyoming BLM Standard Mitigation Guidelines for Surface-Disturbing Activities.

The coal screening process has not been conducted in the FO. Interest in exploration or leasing of federal coal will be handled on a case-by-case basis. If an application for a coal lease should be received in the future, an appropriate land use and environmental analysis, including the coal screening process, will be conducted to determine whether the coal areas are acceptable for development and for leasing.

All parts of the FO that are open to oil and gas exploration are open to geophysical exploration. Those lands identified as closed to oil and gas exploration are also closed to geophysical exploration. On lands with “no surface occupancy” restrictions for oil and gas exploration and development activities, only causal use geophysical exploration will be allowed, unless otherwise specified. Surface disturbance restrictions for geophysical exploration activities apply to both leased and unleased land.

With the exception of the McCullough Peaks Wilderness Study Area, the FO is open to oil and gas leasing, subject to appropriate restrictions for surface disturbing activities. Throughout the FO, oil and gas reclamation plans will be prepared to improve reclamation in old fields and to allow for orderly development of new fields. Restrictions or requirements that are no longer applicable, insufficient, or too restrictive may be changed only with the use of conservation measures or Conditions of Approval in authorizing Applications for Approval, Plans of Operation, or Plans of Development.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicle Management

Management Action

Unless otherwise specified, vehicle use on BLM-administered public lands in the FO is designated as limited to existing roads and trails. Several areas, including the Bentonite Hills, Irma Flats, and Lovell Lakes Motorcross Area, have been designated as open to ORV use. Vehicle use on BLM-administered lands is designated as limited to designated roads and trails in the following areas:

- Essential and recovery habitat for threatened or endangered species;
- Areas with fragile soils or with Class I or II Visual Resource Management ratings;
- Areas containing significant cultural or paleontological resources;
- Areas over important caves or cave passages;
- The Bighorn River and West Slope Special Recreation Management Areas;

Rattlesnake Mountain; and
The Carter Mountain, Little Mountain, and Sheep Mountain Anticline ACECs and in the McCullough Peaks area.

No other specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

In areas designated as “closed” or “restricted,” suitable foraging and denning habitats will likely receive little or no impacts from ORV use. In other areas, where ORV use is limited to existing trails, these definitions are sometimes loosely interpreted by the user group and new roads may be created as well as deepening of unofficial roads. Sometimes these roads become very abundant in some areas, fragmenting vegetation and reducing cover for elk and other prey. Increased access for humans may be a source of increased mortality for wolves by shooting, snaring, and trapping.

Determination

Implementation of ORV management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Action

The objective of recreation management is to enhance opportunities for primitive recreation while increasing visitor services in some areas. Within the FO, recreation areas have been designated as special or extensive. Five special recreation management areas (SRMAs) are designated in the FO, which occupy approximately 125,000 acres of BLM-administered surface lands. The remaining FO is designated as an extensive recreation management area (ERMA). Recreational uses of the Bighorn River, such as fishing, boating, and hunting, will be managed under the Bighorn River HMP/RAMP.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Visual Resource Management

Management Actions

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Watershed Management

Management Action

A maintenance priority is placed on approximately 700 acres of existing spreader dikes and 10 existing detention dams in the FO. Other watershed projects will be maintained as necessary. Watershed improvement practices in the Wyoming's Bighorn Basin water quality plans will be implemented to reduce sediment loading in the streams and river segments. Priority stream segments for use of watershed improvement practices and development of watershed activity plans include portions of the Shoshone and Bighorn rivers:

Priority 1: The Shoshone River (from its confluence with the Bighorn River to the Buffalo Bill Dam). Priority drainages within the Shoshone sub-basin include Whistle, Deer, Coon, and Sand Creeks, Roan Wash, and Foster Gulch.

Priority 2: The Bighorn River (from Bighorn Reservoir to Greybull). Priority drainages within the Bighorn sub-basin are Crystal, Bear, and Dry Bear Creeks.

Surface disturbing activities will be prohibited within 500 feet of surface water and riparian areas, except when necessary and when their impacts can be avoided or mitigated. However, sagebrush control is allowed within 500 ft, unless site-specific environmental analysis indicates otherwise. No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with watershed management will not negatively impact wolves or their prey. The watershed improvement practices along the Shoshone and Bighorn rivers are likely to improve riparian vegetation and habitat which will benefit elk and other big game.

Determination

Implementation of watershed management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Wild Horse Management

Management Action

The objective of wild horse management in the McCullough Peaks Wild Horse Herd Management Area (WHHMA) is to maintain a viable herd that will maintain the free-roaming nature of wild horses in a thriving ecological balance and to provide opportunity for the public to view them. The McCullough Peaks WHHMA will be managed to maintain a population of 100 wild horses until monitoring data indicate changes in the population level are necessary.

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with wild horse management in the McCullough Peaks WHHMA are expected to be limited to occasional herding, corralling, and transporting of horses. These actions are not expected to detrimentally impact the behavior or denning sites of wolves.

Determination

Implementation of wild horse management, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Wildlife and Fish Management

Management Action

Vegetative manipulations and application of the Wyoming BLM Standard Mitigation Guidelines for Surface-Disturbing Activities will be used to maintain or improve uncommon and important wildlife habitats such as wetlands, mountain shrublands, shrub steplands, Douglas-fir, Engelmann spruce-subalpine fir, and aspen-conifer forestlands. Surface disturbance restrictions will be applied on BLM-administered tracts managed under the Bighorn River HMP/RAMP (recreation area management plan) (approximately 2,500 acres), and on BLM-administered lands in the Yellowtail Wildlife habitat management unit (HMU) (approximately 4,070 acres). For the protection of prey bases essential to threatened or endangered birds, spraying of insecticides will not be allowed until after a site-specific environmental analyses. When practical, BLM will consult with WGFD in applying mitigation for wildlife needs and before waiving, allowing exceptions to, or modifying wildlife-related land use restrictions and mitigations. The BLM will make a reasonable attempt to coordinate with WGFD and USFWS regarding fish and wildlife management on BLM-administered lands and to accommodate their interests and concerns whenever possible.

These projects are designed to improve habitat for elk and other game species by such actions as conifer removal in aspen stands to reduce encroachment. In other cases it may be a matter of responding to an action undertaken by a different party, such as occurred on the flank of Carter Mountain after a salvage sale. BLM fenced some areas to protect aspen suckers from elk foraging in the cleared areas.

Effects Analysis

The implementation of management actions associated with wildlife habitat management will likely have positive effects by maintaining or improving existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Cody RMP (1990), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Cody RMP management actions.

Resource	Determination
ACEC	Not likely to jeopardize the continued existence of the species
Air Quality	Not likely to jeopardize the continued existence of the species
Cultural and Paleontological	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species
Forestland	Not likely to jeopardize the continued existence of the species
Geothermal	Not likely to jeopardize the continued existence of the species
Hazardous Materials	Not likely to jeopardize the continued existence of the species
Lands and Realty	Not likely to jeopardize the continued existence of the species
Livestock Grazing	Not likely to jeopardize the continued existence of the species
Minerals	Not likely to jeopardize the continued existence of the species
Off-Road Vehicles	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Visual Resources	Not likely to jeopardize the continued existence of the species
Watershed	Not likely to jeopardize the continued existence of the species
Wild Horses	Not likely to jeopardize the continued existence of the species
Wildlife and Fish	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Cody FO. Future State, tribal, local, or private actions in the Cody FO include the following (Harrell 2003):

Oil field exploration proposed for the western side of the Bighorn Mountains
 Bentonite and gypsum mining on the western side of the Bighorn Mountains
 Seismic exploration outside of the town of Clark, near the Clark's Fork River
 Possible coal exploration in coal seams throughout the Cody FO

Even with the addition of the cumulative impacts resulting from the BLM activities described previously, implementation of the Cody RMP is **not likely to jeopardize the continued existence** of the wolf.

KEMMERER FIELD OFFICE

The Record of Decision for the Kemmerer Resource Management Plan, signed on April 29, 1986, is a comprehensive plan for managing the Kemmerer field office (BLM 1986). The Kemmerer FO occupies approximately 1.63 million acres in southwestern Wyoming. The FO occurs in Lincoln, Sweetwater, and Uinta Counties, and includes some lands in Idaho and Utah. These lands outside of Wyoming are managed for range resources only under the Kemmerer RMP.

The approved Kemmerer RMP represents a selection of management actions that will resolve the planning issues and provide multiple use management of the public lands and resources that will best meet present and future needs. As previously mentioned in this document, the Wyoming approved stipulations will be used, as appropriate, to condition development activities in all programs where surface disturbing activities take place and where the objectives of the RMP include the protection of important resource values. Restrictions specifically set forth in resource management plans are complementary to those included in the Wyoming BLM Mitigation Guidelines and BLM Guidelines for Livestock Grazing Management and are not all-inclusive.

The objectives of the RMP are to provide a degree of protection to certain resources rather than to restrict other activities. Four areas of no surface occupancy have been designated within the FO. These restricted areas include: bald eagle communal winter roosting sites (Woodruff Narrows, Morgan Canyon, and Rock Creek), the Bridger Antelope Trap, sensitive plant locations, and lands within a ¼ mile radius of perennial streams in the Raymond Mountain ACEC.

Environmental Baseline

One wolf pack extends onto the Kemmerer FO from the Pinedale FO. The 2003 mapping effort indicates a coverage of 487 acres on BLM land (**Map 7**). In addition, lone wolves and small groups of wolves have been observed around Cokeville and as far south as Kemmerer (Jimenez 2004).

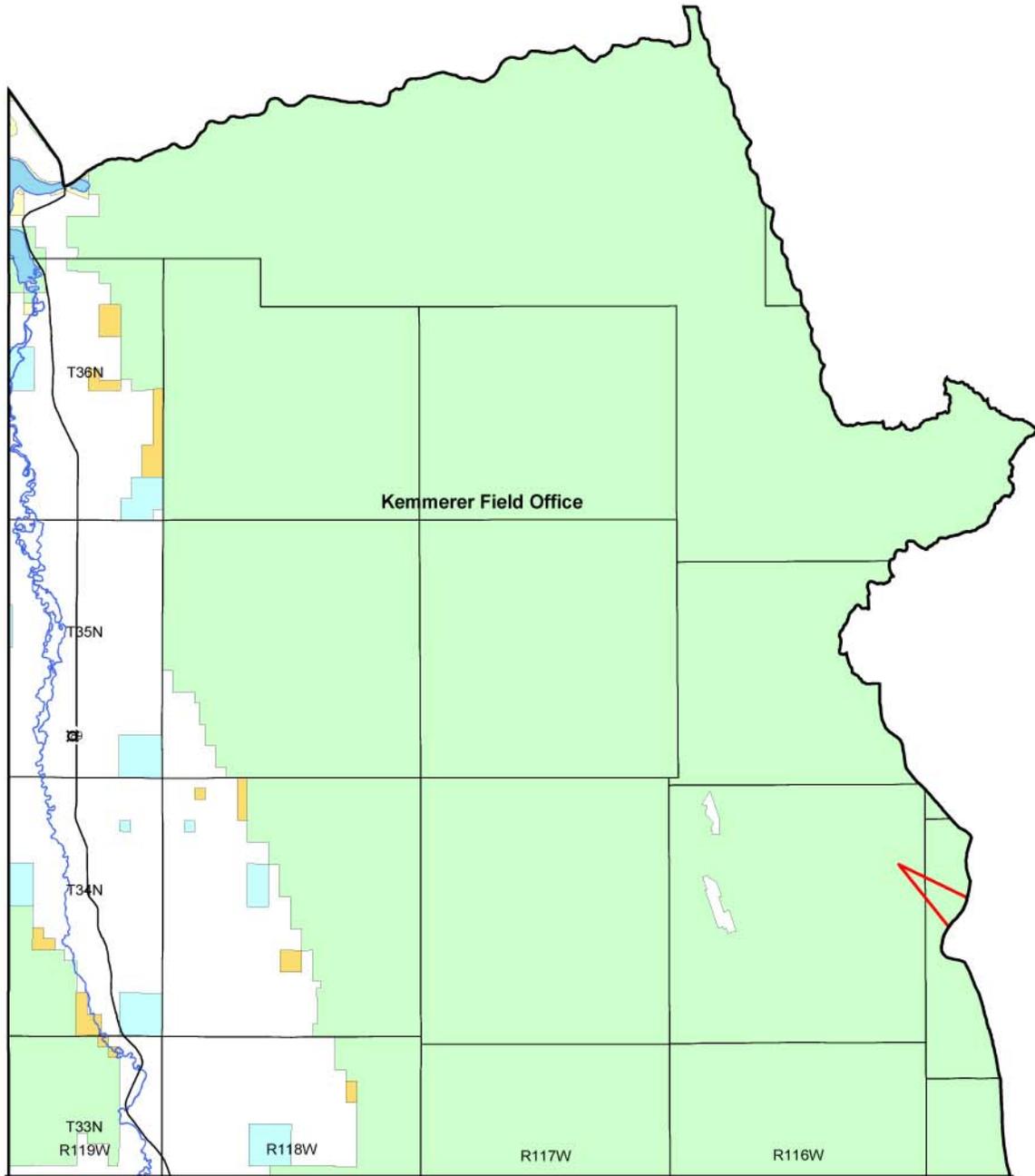
Existing Conservation Measures

The following section presents measures included in the Kemmerer RMP that may directly or indirectly minimize impacts to the wolf.

(a) “Four areas of “no surface occupancy” have been designated. They are: bald eagle winter roosts (Woodruff Narrows and Morgan Canyon), the Bridger Antelope Trap, sensitive plant locations, and within a ¼ mile radius of perennial streams in the Raymond Mountain Area of Critical Environmental Concern” (BLM 1986, p. 5).

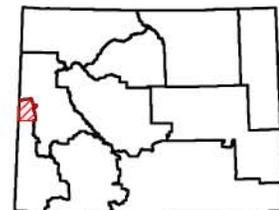
(b) “No activity or surface disturbance will be allowed for up to a ¾ mile radius from active raptor nest sites from February 1 through July 31 (except that bald eagle and peregrine falcon restrictions extend from February 1 through August 15). A nest site will be considered active if it has been used within the past three years. Actual distances and dates will vary based on topography, species, season of use, and other pertinent factors” (BLM 1986, p. 9, 29).

Map 7. Kemmerer Field Office Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



Map 7

-  Wolf Pack Distribution in 2003
-  Bureau of Land Management
-  Forest Service
-  Private
-  State



No warranty is made by the Bureau of Land Management for the use of the data for purposes not intended by the Bureau of Land Management.

Analysis of Proposed Management Actions and Effects

The Kemmerer RMP (BLM 1986) includes descriptions of each management prescription applied within the FO. These activities are summarized in the Introduction, above. The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities will be applied to all surface disturbing or disruptive activities.

Air Quality Management

Management Actions

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions related to air quality management will not result in negative impacts to wolves. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Kemmerer RMP (1986), are **not likely to jeopardize the continued existence** of the wolf.

Geology and Minerals Management

Management Actions

Geophysical, oil and gas, and mineral (for example; coal, sodium, oil shale, phosphate, and locatable and salable minerals) exploration will occur throughout the Kemmerer FO. More recently, wind farms are being erected, especially on ridgetops. Measures that are specific to wildlife and habitat resources are included in the management of geology and mineral resources. To protect riparian areas, no surface disturbance will be allowed within 500 feet of perennial streams or live water.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Soils Management

Management Actions

The protection of trees, shrubs, and ground cover from damage during construction will be required. Backfill will be required to be replaced in a similar sequence and density to preconstruction conditions. The restoration of normal surface drainage will be required. Any mulch used will be free of mold, fungi, or noxious weed seeds. The grantee or lessee will be responsible for the control of all noxious weed infestations on surface disturbances.

Recognized roads will be used when the alignment is acceptable for the proposed use. Generally, roads will be required to follow natural contours; be constructed in accordance with acceptable standards; and be reclaimed to BLM standards. On newly constructed roads and permanent roads, the placement of topsoil, seeding and stabilization will be required on all cut and fill slopes. No unnecessary side-casting of material on steep slopes will be allowed. Reclamation of abandoned roads will include requirements for reshaping, recontouring, resurfacing with topsoil, installation of water bars, and drill seeding on the contour. Stripped vegetation will be spread over the disturbance for nutrient recycling, where practical.

On well pads and facility locations, special attention will be given to parts of the surface use plant covering reclamation. This plan will include objectives for successful reclamation covering; soil stabilization, plant community composition, and desired vegetation density and diversity. The development of facilities on slopes between 25 and 40 percent will be restricted unless soil erosion controls can be ensured and adequate revegetation is expected. No surface occupancy will be allowed on slopes greater than 40 percent. Abandoned sites must be satisfactorily rehabilitated by the lessee.

Existing road locations will be used where possible to minimize surface disturbances. Where possible, clearing of pipeline and communication line rights of way will be accomplished with the least degree of disturbance to topsoil. Where topsoil removal is necessary, it will be stockpiled and respread over the disturbance after construction and backfilling are completed. Vegetation removed from the right of way will also be required to be respread to provide protection, nutrient recycling, and a natural seed source.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of soil resources is not expected to detrimentally impact wolves, their den sites, or their prey. Implementation of soil resource management actions may maintain or improve the condition of some habitats and therefore may result in beneficial effects to elk and other big game and wolves.

Determination

Implementation of soil resource management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of wolves.

Water Management

Management Actions

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource

in the RMP.

Effects Analysis

Actions associated with watershed management will not negatively impact wolves or their prey. Management actions are likely to improve riparian vegetation and habitat which will benefit elk and other big game.

Determination

Implementation of watershed management actions, as presented in the Kemmerer RMP, are **not likely to jeopardize the continued existence** of the wolf.

Livestock Management and Rangeland Program Summary

Management Actions

All noxious weed control will adhere to measures allowed in the Record of Decision for the Rock Springs District Noxious Weed Control EA or applicable updated guidance. Cooperation with county weed and pest control programs will continue.

Adequate stock trails will be designated and maintained to support the livestock management program. Approximately 6,160 acres of public land designated as administrative stock trails will be retained.

Predator control will continue in accordance with the Rock Springs District Animal Damage Control Plan. No herds of wild and free-roaming horses will be maintained in the Kemmerer FO.

Forage will be produced for livestock grazing and, at the same time, other resource values will be protected or enhanced. The overall objective will be to improve range condition on "I" allotments and to maintain range condition on other allotments. A long-term increase of 31,901 AUMs, for a total of up to 193,901 AUMs could be realized through management actions. Any realized forage increases will be distributed among various resource uses to achieve overall management objectives.

Vegetation manipulation projects will be proposed on up to 82,610 acres. Vegetation manipulation will be designed to minimize adverse impacts to wildlife habitat and to improve it, whenever possible. WGFD will be consulted in advance on all vegetation manipulation projects.

Approximately 4,500 acres of unallotted public lands that support approximately 646 AUMs could be made available for grazing. However, some of these lands may be disposed of through the Lands program.

No conversion of sheep to cattle will be allowed in allotments with riparian problems without a plan to address riparian issues. Management actions and range improvements proposed would have to be in place before a conversion is authorized.

Riparian areas will be addressed on all "I" category allotments during the development of monitoring or allotment management plans. This objective will be established on allotments as riparian problems are identified and priorities for implementation are adjusted.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Fish and Wildlife Habitat Management

Management Actions

Management actions will be directed toward maintaining or improving riparian habitat condition by minimizing impacts: from surface disturbing activities in or near the riparian zone through the use of avoidance; by crossing on temporary or permanent bridges or culverts; and through the reclamation to promote native riparian vegetation.

Water for antelope, sage grouse, and livestock will be provided in the Opal and Chrisum bench areas. Big game winter range will be improved using mechanical treatment, burning, or other vegetation manipulation methods. Seasonal closures for motorized vehicles may be used to protect big game winter range, as has been the case for the past three years from January 1 to April 30.

Management actions in riparian areas and wetlands will include measures to preserve, protect, and if necessary, restore natural functions. The objectives will be to minimize the degradation of stream banks and the loss of riparian habitat. Riparian areas in the Thomas Fork drainage will be managed to re-establish riparian/willow vegetation. Wetland areas will be improved for waterfowl production and sage grouse brood rearing. Stream improvement practices to improve riparian and wetlands areas for fisheries habitat will be implemented.

No activities that would jeopardize the continued existence of threatened and endangered species will be allowed in habitat for those species. WGFD and USFWS will be contacted prior to implementing projects that may affect habitat for threatened and endangered species. If a “may affect” situation is identified, a biological assessment will be prepared and formal consultation with USFWS will be initiated.

The objectives of the proposed Kemmerer Riparian HMP will be to complete an inventory of potential fisheries habitat, and to prioritize and implement restoration efforts. Its main goals will be to improve bank stability and riparian vegetation, to reduce sedimentation, and to increase fisheries habitat.

Inventories to locate important wildlife habitat will be conducted as funds are available. Inventories will be conducted to provide baseline data for a proposed management action, such as an HMP, or to provide information in response to other program activities. Important wildlife habitat will be monitored to determine seasonal habitat use and to identify areas in need of habitat improvement.

Effects Analysis

The implementation of management actions associated with wildlife habitat management will likely have positive effects by maintaining or improving existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Actions

Recreation area management plans (RAMPs) will be developed for prime areas of recreation potential. These include the Raymond Mountain Area, Pine Creek, Dempsey Ridge, Commissary Ridge, Upper Hams Fork, and Upper Smith's Fork areas.

Visual resources will continue to be evaluated as part of activity and project planning. Visual resource management (VRM) classes will be updated as situations change so that appropriate baseline information is included in project level planning. Large, long-term facilities will be required to be colored to blend with the natural environment when this is not in conflict with safety or with the purpose for which the facility has been designed.

For Off-Road Vehicle use, most of the Kemmerer FO (98 %) will be designated "limited" to existing roads and trails except for necessary tasks. The entire Kemmerer FO will be open to snowmobile use, with the exception of big game winter ranges.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Land Management

Management Actions

Authorizations in the Lands Program will be conditioned to avoid undue adverse impacts to other important resource values and sensitive areas. No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Kemmerer RMP (1986) is **not likely to jeopardize the continued existence** of the wolf.

Forestry Management

Management Actions

Forest management practices will be directed to prevent insect or disease infestations. Clearcuts will generally be limited to no more than 25 acres in size. Exceptions on this acreage limitation may be made (e.g., for insect or disease infestations). Clearcuts will be laid out considering stand characteristics, topography, and other resource values.

Areas of new seedling establishment will be inventoried at specified intervals; areas not meeting stocking standards will be reforested using native species. Silvicultural treatments will be identified for specific areas to improve the stands. Treatment may include burning, chaining, cutting, or shearing. Rehabilitation surveys will be conducted on old logging and fire areas to determine if regeneration is sufficient to ensure proper stocking of a new timber stand. The effects of grazing will also be assessed and remedial action (e.g., fencing) may be taken to protect reproduction. The objective is to achieve a fully stocked stand within 15 years. When, prior to 15 years, it is apparent that natural regeneration will not result in a fully stocked stand and if funding is available, the area will be planted. Natural regeneration of a fully established stand normally takes from 5 to 9 years.

Road development will be kept to a minimum. Road locations and specifications will be selected to meet transportation needs, safety requirements, and consideration of other resource values. Timber harvest and associated activities will be planned in a sequence that will be least disruptive to wildlife. An engineering analysis will be required where road grades exceed 10 percent. Roads will be routed away from areas that are likely to slump or slide. Cross drain culverts, water bars, or ditches will be installed, as needed to prevent erosion or washing away of the road. Temporary roads will normally be rehabilitated and closed after logging.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Cultural and Historic Management

Management Actions

All significant historical, archaeological, and cultural sites will be protected or mitigated. Erosion on Johnston Scout Rock will be stabilized. Title to Emigrant Springs (Slate Creek) will be sought. Interpretive signing will be developed. The trail register will be stabilized and preserved. A campground at Emigrant Springs (Dempsey) will be considered as a part of total development. Interpretive signs will be placed at the Alfred Corum gravesite and at nearby ruts of the Oregon Trail. Cultural resources management plans will be developed for significant sites. The need for such activity plans will be determined on a case-by-case basis.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Actions

The Kemmerer FO is divided into nine fire management areas that share common management objectives, topographic boundaries, or land ownership patterns. Fire suppression efforts within these areas will be driven by property threatened or resource benefits derived. All new developments that could be

damaged by wildfire will be required to have a fuel break stipulation to prevent the spread of fire from adjacent vegetation to the development.

If, due to potential resource damage, a need for full suppression is clearly indicated (Option I), suppression procedures are initiated. Where there are limited benefits to be derived from fire (Option II), the costs of suppression versus expected benefits are analyzed. This may result in limited suppression efforts. When fire may result in important resource benefits (Option III), four primary parameters will be evaluated to determine if fire would result in potentially unacceptable impacts or in conditions that would make it difficult to control the fire. If at some point, one or more of the parameters becomes unfavorable, management of the fire would revert to Option I (full suppression). These parameters include: 1) threat to persons or property, 2) adverse weather conditions or forecast, and 3) resource impacts. These parameters will be monitored throughout the course of the burn.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Kemmerer RMP (1986) is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Kemmerer RMP management actions.

Resource	Determination
Air Quality	Not likely to jeopardize the continued existence of the species
Geology and Minerals	Not likely to jeopardize the continued existence of the species
Soils	Not likely to jeopardize the continued existence of the species
Water	Not likely to jeopardize the continued existence of the species
Livestock and Rangeland	Not likely to jeopardize the continued existence of the species
Fish and Wildlife	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Land	Not likely to jeopardize the continued existence of the species
Forestry	Not likely to jeopardize the continued existence of the species
Cultural and Historic	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Kemmerer FO. One example is the proposed logging of 160 acres on private land on Commissary Ridge. Potential effects that could affect wolves or their habitats in the Kemmerer FO include the following:

- Existing and proposed wind farms
- Hard rock mining (including coal, trona, and phosphates)
- Livestock grazing on private lands
- Non-federal oil and gas fields and related energy development
- Vehicle collisions

In addition to the cumulative impacts resulting from the BLM activities described previously, implementation of the Kemmerer RMP (1986), is **not likely to jeopardize the continued existence** of the wolf.

LANDER FIELD OFFICE

The Record of Decision for the Lander Resource Management Plan (RMP) was signed in June 1987 (BLM 1987a). The Lander FO occupies portions of Hot Springs, Fremont, Sweetwater, Natrona, and Carbon counties in central Wyoming. The Lander FO includes approximately 2.5 million acres of surface lands and 2.7 million acres of federal mineral estate.

Environmental Baseline

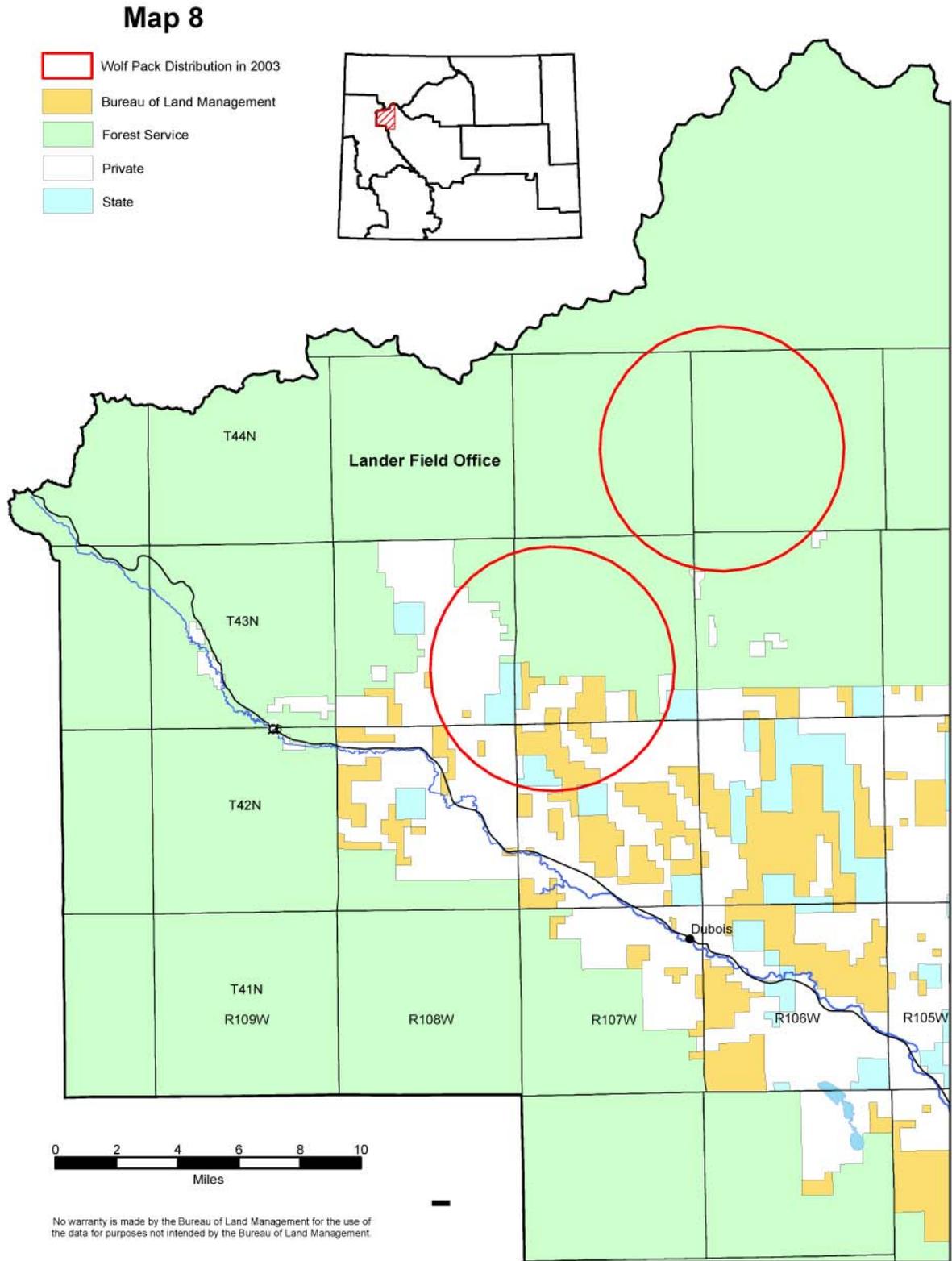
This section presents a summary of the known wolf presence in the Lander FO and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats. One wolf pack has consistently maintained a home range within the FO since 2000, and a second pack has had part of its home range in the FO (**Maps 2-5**). In 2003, there were two pack home ranges mapped at the west end of the Lander FO as circles, indicating that no telemetry data were available and the center of known activity is shown as a circle (**Map 8**). The surface area of wolf packs on BLM land determined by the circles is 3,889 acres; however, this is not a very meaningful measure of the full extent of wolf activity on BLM land. Lone wolves have also been sighted in a number of locations in the Lander FO, including behind Lander on the front range of the Wind Rivers (Breckenridge 2004).

Existing Conservation Measures

The following section presents measures included in the Lander RMP that may directly or indirectly minimize impacts to the wolf.

- (a) “BLM will continue to work closely with the Wyoming Game and Fish Department in all matters affecting fish and wildlife resources” (BLM 1987a, p. 4).
- (b) “ORV management will focus more intensive management on those management units having crucial wildlife values” (BLM 1987a, p. 9).
- (c) “New oil and gas leases issued in areas rated as having moderate, low or no potential for the occurrence of oil and gas reserves will include a no-surface-occupancy restriction to protect water quality, fisheries, riparian areas, sage grouse leks, steep slopes, threatened and endangered species, significant cultural sites, sensitive visual resources, and elk and moose crucial winter range. In addition, seasonal restrictions will be applied to the leases to protect important wildlife habitat areas” (BLM 1987a p.27, 40, 43, 45, 50, 60, and 69).
- (d) “Crucial wildlife areas will be critically examined before placement of any range improvement projects that can result in increased livestock use in these areas. Some crucial wildlife areas will require special intensive management actions” (BLM 1987a, p. 80).

Map 8. Lander Field Office Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



Analysis of Proposed Management Actions and Effects

The Lander RMP (BLM 1987a) describes each management prescription applied within the FO. Refer to the Lander RMP for a complete description of each management prescription (BLM 1987a).

Energy and Minerals

Management Action

Less than one percent of the slightly more than 2.7 million acres of federal mineral estate within the FO will be closed to leasing. All but 12,000 acres of the open acreage will be managed under a management prescription that will allow for enhanced management of the oil and gas resources by being less restrictive of oil and gas development related to other surface resource values in known geological structures and areas rated as having a high potential for the occurrence of oil and gas. This would be accomplished over the life of this plan as analyses are done to determine where the restrictions can be modified and still avoid significant impacts to other resources. In addition, as new information on the potential occurrence of oil and gas in any given area is obtained or new discoveries of oil and gas reserves are made, the potential rating for the area will be revised to reflect new data. New leases issued in these areas will be issued under the management prescription for that new rating.

Oil and gas leases issued within the FO will be conditioned with stipulations to protect other important resource values. If a particular method of geophysical exploration could be conducted within the constraints necessary to protect other resources, it will be allowed.

All federal lands within the FO will be open to locatable mineral exploration and development unless specifically withdrawn or segregated from appropriation under the mining laws. At the present time, approximately one percent of the federal mineral estate within the FO is closed to locatable mineral exploration and development. The portion of the FO that will be closed to locatable mineral exploration and development will increase by 30,000 acres to approximately two percent of the total federal mineral estate within the FO. The additional acreage proposed for withdrawal will be withdrawn to protect crucial wildlife habitat in the East Fork Elk Winter Range and Whiskey Mountain Bighorn Sheep Winter Range, and the remaining acreage will be scattered throughout the FO in small tracts primarily for the protection of significant cultural and historical resources.

In addition, in an attempt to minimize the acreage withdrawn to protect significant surface resource values, the plan will require that plans of operation be approved for all exploration and mining operations in certain areas designated as ACECs. Notices of intent usually allowed for operations disturbing five acres or less will not be allowed.

Prospecting, exploration and development, and leasing of phosphate resources will be allowed. The phosphate deposits are located in a belt running along the northeast flank of the Wind River Range and extend into three different management units. Phosphate activities within the Red Canyon and Lander Slope Management Units will require stringent stipulations and mitigation measures to protect surface-resource values. The Beaver Creek Management Unit, which contains approximately one-half of the known phosphate resources will remain open to exploration, development, and leasing with fewer restrictions than will be the case in the Red Canyon and Lander Slope Management Units. In the Red Canyon and Lander Slope Management Units, these restrictions will adversely affect the economic recovery of the phosphate resource.

The Lander FO has received APDs in forested land in the northwest portion of the FO (Carroll 2003). No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Fish and Wildlife

Management Actions

Improvement of aquatic and riparian habitats for fish, beaver, moose, and many other animals will receive to priority in the South Pass and Beaver Creek Management Units, high priority in the Green Mountain Management Unit, and special attention in the Red Canyon Management Unit. Aquatic and riparian habitat management plans will be developed for an area encompassing parts of the upper Sweetwater River and Beaver Creek drainages and for the Green Mountain area.

Improvement of important big game ranges will receive high priority. The use of prescribed burning, cutting, thinning, planting, seeding, pitting, herbicide treatment, or other appropriate methods will be employed. Priority areas for action will be the Red Canyon and Lander Slope Management Units for elk and other big game habitat, the Whiskey Mountain unit for bighorn sheep, the southwest part of Beaver Creek unit and the South Pass unit for moose and mule deer, and the Sweetwater Rocks portion of the Gas Hills unit for mule deer. Terrestrial habitat management plans will be developed for the Red Canyon and Lander Slope units, the Sweetwater Rocks, and the south-central part of the Beaver Creek unit.

Development of small-scale, simple, or routine habitat improvement projects and maintenance of useful existing projects will be continued throughout the FO. Such action will be subject to normal interdisciplinary environmental review, and budgetary and management constraints.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

The implementation of management actions associated with big game habitat management will have positive effects by maintaining, improving, and expanding existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Forest Management

Management Actions

Most of the timber management in the FO will occur in the Green Mountain Management Unit. Small volumes may be offered from South Pass and Dubois units and larger volumes from the Lander Slope unit.

Minor forest products will continue to be sold from timbered areas on a demand basis, depending on resource management objectives. Most fuel wood cutting will occur in the Green Mountain Management Unit.

Sawtimber volumes offered in the Green Mountain Management Unit will be approximately two million board feet (MMBF) per year and minor forest product volumes will be 1.5 to 2 MMBF per year. This will be undertaken for 10 years, or until the majority of the larger timber has been salvaged.

From the Lander Slope unit, approximately 10 MMBF will be offered in a large sale that will take up to five years to harvest. After completion of this sale, logging activity will cease for 10 years, and another sale could be offered. The primary objective of the harvesting program will be to achieve management of the timber resources by salvaging the dead and dying timber and regenerating the harvested areas. However, other resource objectives such as habitat enhancement will be integrated into management plans to enhance these other values.

These will not be sustained-yield harvests, but will be salvage of the dead and dying timber and will eventually create an uneven-aged forest that will have many benefits, including enhancement of wildlife habitat. Individual clear-cut areas, in all cases, will be limited to 25-acre blocks.

Prescribed burning techniques will be included in management plans for conifer and aspen stands to achieve multiple resource objectives. Standard and special provisions will be employed on all sales and burns to achieve management objectives. The size of prescribed burns will be determined on an individual project basis. Regeneration of all harvested and burned areas will be assured, either through natural or artificial regeneration.

Most of the timber acquisition activities are uninitiated by small companies seeking timber for fencing projects or log cabins. There are currently no large-scale timber sales or large clear-cuts planned (Oberlie 2003).

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk and other big game. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Lander RMP is **not likely to jeopardize the continued existence** of the wolf.

Land Ownership Adjustments and Utility Systems

Management Actions

The majority of the 2.5 million areas of public lands in federal ownership will be retained. One hundred seventy-two tracts, encompassing approximately 24,000 acres, meet the basic criteria for disposal. Based upon the analysis in the Lander RMP/EIS, 108 of these tracts, encompassing 12,500 acres, could be considered for future disposal through either sale or exchange.

Major utility and transportation systems will be located to make use existing corridors whenever possible, to provide for cost-efficient routes and to provide for protection of other resource values such as scenery and wildlife. Most of the area will be open for location of major utility systems. However, areas with the most potential conflicts have already been identified as areas to avoid. The avoidance areas will be areas where rights of way may be granted only when no feasible alternative route or designated rights of way corridor is available. These areas include Whiskey Mountain Bighorn Sheep Winter Range, the East Fork Crucial Elk Winter Range, the Dubois Badlands, the Lander Slope, Red Canyon, South Pass, Sweetwater Canyon, the Sweetwater Rocks, and ¼ mile or the visible horizon, whichever is less, on each side of the Oregon/Mormon Pioneer National Historic Trails.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Power lines, communication towers, pipelines, filming permits, and access roads typically occur within rights of way. The construction of roads within rights of way may open new areas to human activity. These activities bring additional human contact with wolves, one of the greatest sources of mortalities to them.

Land exchanges of forested areas, broad riparian valley, or adjacent shrub steplands could reduce available habitat to wolves. However, current BLM land holdings would likely be evaluated for unique characteristics prior to disposal, including suitability and use by wolves. Lands identified as being used by a wolf pack would not likely be available for disposal. Lands not under BLM jurisdiction that are suitable or occupied wolf habitat may be targeted for acquisition and subsequent management by BLM. Such

acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Action

Management and maintenance will be provided at seven existing recreational sites, including Atlantic City, Big Atlantic Gulch, and Cottonwood campgrounds; Split Rock and Devil's Gate interpretive sites; and Wild Horse Point Overlook and Castle Gardens picnic areas. The Split Rock and Devil's Gate interpretive sites are included in the Oregon/Mormon Pioneer National Historic Recreation Management Plan.

An interpretive marker will be added for the Red Canyon National Landmark overlook. Hazard reductions will be implemented and maintained on Green Mountain and South Pass. Plans for resource protection and maintenance of dispersed recreational opportunities and settings in the South Pass Historic mining area will be provided in a recreation management plan.

BLM will continue to monitor recreational use throughout the FO. Area personnel will supervise recreational use and provide enforcement of recreation-oriented regulations and special designations. Monitoring and use supervision will be accomplished by patrolling high-use areas and contacting users in the field. Special efforts will be made to ensure compliance with the terms of special recreation-use permits, authorizing commercial guide/outfitter services, permits for tours of the Oregon/Mormon Pioneer National Historic Trails, and special designations dealing with recreation such as 14-day camping limit on public lands and off-road vehicle designations. Quotas will be established for commercial hunting camps in the Green Mountain, Lander Slope, Red Canyon, and Whiskey Mountain Management Units.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicles (ORVs)

Management Actions

Existing ORV designations completed in 1981 on one-half of the FO will be continued. Designations will be completed on the remaining areas of public lands. ORV management will focus more intensive management on those management units having crucial wildlife values, significant visual resources, high watershed sensitivity, and outstanding natural character. Intensive management will limit ORV use to designated roads and vehicle routes and impose seasonal closures (from approximately December through June) on areas or roads where vehicle use is totally incompatible with other resource values. ORV use in the remainder of the FO will be limited to existing roads and vehicle routes, except for the performance of necessary tasks. Examples include picking up big game roadkills, repairing range improvements, managing livestock, mineral activities where surface disturbance does not total more than five acres.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

In areas designated as “closed” or “restricted,” suitable foraging and denning habitats will likely receive little or no impacts from ORV use. In other areas, where ORV use is limited to existing trails, these definitions are sometimes loosely interpreted by the user group and new roads may be created as well as deepening of unofficial roads. Sometimes these roads become very abundant in some areas, fragmenting vegetation and reducing cover for elk and other prey. Increased access for humans may be a source of increased mortality for wolves by shooting, snaring, and trapping.

Determination

Implementation of ORV management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Cultural and Natural History Management

Management Action

Important resources include the Oregon/Mormon Pioneer National Historic Trails and associated sites, South Pass Historic Mining Area, Castle Gardens, Beaver Rim, Red Canyon National Natural Landmark, and the Warm Springs Canyon flume, natural bridge, and geyser will receive enhanced protection.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. These potential impacts are dependent upon several factors including the number of people involved with each field effort, the time of year, duration of field activities, use of heavy machinery versus hand tools, and type of wolf habitat affected. Surface disturbing activities associated with cultural resource investigations can vary in size and degree of disturbance. These projects may require the use of hand tools, power tools, or heavy machinery. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Action

Approximately 2 percent of the lands administered by the BLM in the Lander FO will be under full fire suppression, with no equipment restrictions. Full fire suppression management has the objective of suppressing all wildfires as quickly as possible with all available resources. Approximately 60 percent of the lands administered by the BLM will have full suppression of wildfires with limited or restricted use of heavy equipment. This does not preclude the use of heavy equipment, such as bulldozers, but does limit their use on initial attack and requires fire authorities to analyze a fire situation critically before committing heavy equipment to a fire. Approximately 38 percent of the public lands in the FO will be under limited suppression of wildfires. There will be no initial attack on the fire and an observer will monitor a wildfire to determine if management objectives are met. Suppression of wildfire will occur when the fire (a) exceeds or has the potential to exceed the size specified in a predetermined plan, (b) threatens private property, (c) threatens man-made structures, or (d) threatens human life. Prescribed burns will be allowed in all management units.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Access Management

Management Action

Access roads no longer needed would be rehabilitated, as outlined in the RMP. Negotiations with private landowners concerning BLM access easements will be proposed for areas where public or administrative access will be needed.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Development of new and expansion of existing access to lands administered by BLM may be in the form of corridors designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Soils, Water, and Air Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of soil, water, and air resources is not expected to detrimentally impact wolves, their denning sites, or their prey. Implementation of soil resource management actions may maintain or improve the condition of some habitats and therefore may result in beneficial effects to wolves and their prey.

Determination

Implementation of soil, water, and air resource management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing (and Wild Horse) Management

Management Action

The Lander FO has two grazing study areas: Green Mountain and Gas Hills. Rangeland program summaries (RPSs) for these study areas are included in the RMP. There are 291 allotments in the Lander FO. Category M allotments comprise 29 percent of the allotments and 27 percent of the acreage in the FO. Category C allotments comprise 28 percent of the allotments and 4 percent of the acreage in the FO. Category I allotments comprise 43 percent of the allotments and 69 percent of the acreage in the FO.

Management decisions affecting grazing use will be made when monitoring data are sufficient to support those decisions. They may include changing livestock numbers, periods of use, or a combination of both. Monitoring will be a continuing process to assure that any changes in grazing use accomplish the objectives. If monitoring studies indicate a need to further modify periods of use, livestock numbers, class of livestock, or grazing systems, these adjustments will be made after consultation with the affected livestock operators and any other affected parties.

Wild horse herd management plans will be developed in Category I Allotments that will specify necessary measures to maintain a healthy, viable herd that is consistent with multiple-use objectives for the allotment. The 1979 population level of wild horses will be set as the maximum level for an interim population level. Wild horses will be monitored, along with the habitat, to allow further adjustments as necessary to maintain viable herds and satisfactory range condition. As funding allows, horse numbers will be reduced with roundup expected every 5 years. All horses will be removed from the East Beaver Allotment number 1801. Appropriate Management Levels were established in the RMP for the Environmental Assessments for the Evaluation of Wild Horse Herd Areas completed in 1993 and 1994. The upper and lower AMLs are 50-100 for Dishpan Butte Herd; 60-100 for Conant Creek Herd; 50-86 for Rock Creek Mountain Herd; 160-250 for Muskrat Basin Herd; 60-82 for Antelope Hills/Cyclone Rim Herd; 65-100 for Crooks Mountain Herd; and 170-300 for Green Mountain Herd.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing and wild horse management in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk. Cattle grazing and wild horse grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management and wild horse management actions, as presented in the Lander RMP (1987a), are **not likely to jeopardize the continued existence** of the wolf.

Wilderness Management

Management Action

Three management units in the Lander FO are wilderness study areas (WSAs). These units encompass six WSAs totaling 48,000 acres and include Sweetwater Canyon, Sweetwater Rocks (four WSAs), and

Cooper Mountain.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with wilderness management will not result in detrimental impacts to wolf behavior or habitat. These actions will result in positive effect to wolves by limiting harassment and disturbance to suitable denning, travel, and foraging areas.

Determination

Implementation of the wilderness management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Areas of Critical Environmental Concern

Management Action

Approximately 117,000 acres, representing 4.7 percent of the Lander FO will be designated as areas of critical environmental concern (ACECs) and will require intensive management of all activities. The following areas will be designated ACEC in the Lander FO:

- Lander Slope Management Unit (25,000 acres of federal surface)
- Red Canyon Management Unit (15,000 acres of federal surface)
- Whiskey Mountain Management Unit (4,000 acres of federal surface)
- East Fork Management Unit (1,000 acres of federal surface)
- Dubois Badlands Management Unit (5,000 acres of federal surface)
- Majority of the South Pass Management Unit (12,000 acres of federal surface)
- Portion of Green Mountain Management Unit (18,000 acres of federal surface)
- Beaver Creek Management Unit (7,000 acres of federal surface)

Significant sites and segments along the Oregon/Mormon Pioneer Natural Historic Trails will be designated an ACEC and are located within the Beaver Creek and Gas Hills Management Units. These sites and segments include approximately 22,600 acres of protective corridor on surface lands administered by BLM; approximately 3,100 acres of current withdrawal or proposed withdrawals; and approximately 7,000 acres of trail corridor on split estate lands. There are approximately 780 acres of partially impacted sites and segments on surface lands administered by BLM that are included in the ACEC but will be considered on a case-by-case basis and approximately 450 acres on split estate.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with ACECs are not anticipated to have detrimental impacts to wolf behavior or their habitats. The overall effect of protecting ACECs will result in positive effects to wolves by limiting disturbance to potentially suitable denning, travel, and foraging areas.

Determination

Implementation of the ACEC management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Lander RMP management actions.

Resource	Determination
Energy and Minerals	Not likely to jeopardize the continued existence of the species
Fish and Wildlife	Not likely to jeopardize the continued existence of the species
Forest	Not likely to jeopardize the continued existence of the species
Land Ownership and Utilities	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Off-Road Vehicles	Not likely to jeopardize the continued existence of the species
Cultural and Natural History	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species
Access	Not likely to jeopardize the continued existence of the species
Soils, Water and Air	Not likely to jeopardize the continued existence of the species
Livestock Grazing	Not likely to jeopardize the continued existence of the species
Wilderness	Not likely to jeopardize the continued existence of the species
ACECs	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Lander FO. Potential effects that could affect wolves or their habitats in the Lander FO include the following:

- Subdivision development along rivers (especially along the Wind River near Dubois) that results in loss of elk and other big game habitat and increased human presence
- Sand and gravel operations along river corridors that reduce elk and other big game habitat

In addition to the cumulative impacts resulting from the BLM activities described previously, implementation of the Lander RMP could add further impacts to the wolf that may result from current non-federal actions.

PINEDALE FIELD OFFICE

The Record of Decision and Resource Management Plan (RMP) for the Pinedale Resource Area was signed in December 1988 (BLM 1988). This plan provides the management direction for approximately 931,000 acres of public surface land and 1,185,000 acres of federal mineral estate that are administered by the BLM in the Pinedale Field Office (FO). This plan addresses BLM-administered lands in Sublette, Lincoln, and Teton Counties.

Environmental Baseline

This section presents a summary of the known wolf packs in the Pinedale FO and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats. Between 2000 and 2002, two to four wolf packs took up residence in the Pinedale FO. In 2003, five wolf packs occurred within the boundaries of the FO, including a new wolf pack that established a territory west of Daniel and is now named the Daniel Pack (**Map 9**). A sixth pack has a partial home range in the FO but resides mostly in YNP. Wolf packs cover 35,469 acres of BLM land in the FO, the most of any of the FOs. However, two of the packs are mapped as circles, indicating that telemetry data are not available to show the complete home range and are thus not realistic estimates.

Existing Conservation Measures

The following section presents measures included in the Pinedale RMP that may directly or indirectly minimize impacts to the wolf.

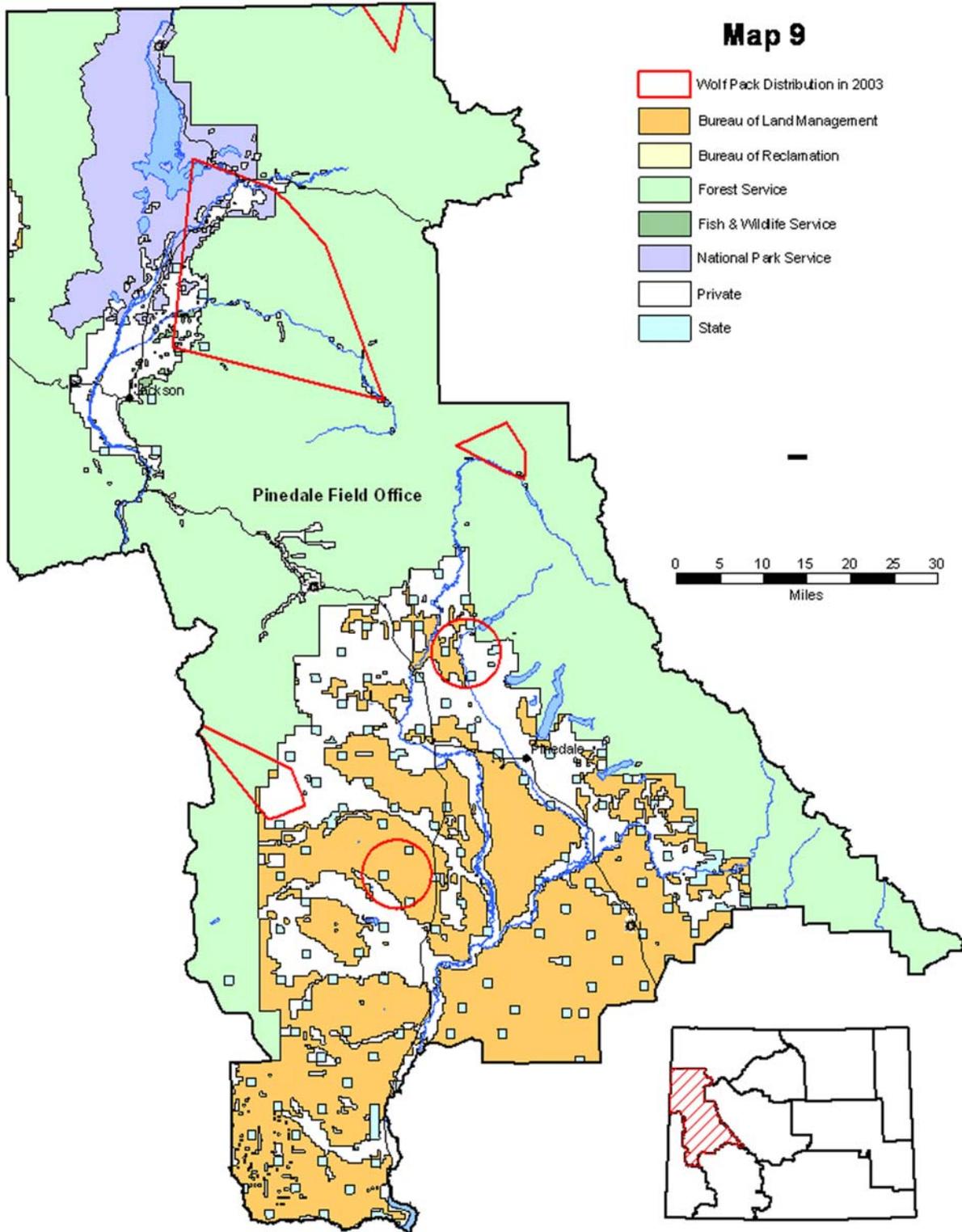
(a) “Threatened and endangered (T&E) species and their habitats will be protected. Actions which would degrade habitat to a point of jeopardizing the continued existence of a T&E species will not be allowed. The U.S. Fish and Wildlife Service (USFWS) will be consulted on any action with reasonable potential to affect endangered species or their habitats. A biological assessment will be prepared on all proposals where T&E species habitat will or may be affected and a biological opinion will be requested from the USFWS. All actions will include consideration for T&E plant and animal species. The Pinedale Resource Area will continue to be inventoried to identify potential habitat and occurrence of T&E species. Identification of habitat occupied by T&E species and habitat with potential to help support these species would be managed in accordance with the national recovery plans.” (BLM 1988, p.21).

(b) “Habitat occupied by federally listed T&E plant and animal species will be monitored to ensure compliance with the Endangered Species Act)” (BLM 1988, p.21).

(c) “To protect important raptor nesting habitat, activities or surface use will not be allowed from February 1 through July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor winter concentration areas from November 15 through April 30” (BLM 1988, Appendix A-1, p. 59).

(e) “Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications)” (BLM 1988, Appendix A-1, p.59).

Map 9. Pinedale Field Office Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



No warranty is made by the Bureau of Land Management as to the use of the data for purposes not intended by the Bureau of Land Management.

Analysis of Proposed Management Actions and Effects

The Pinedale RMP (BLM 1988) includes descriptions of each management prescription applied within the FO. These activities are summarized in the Introduction, above. Refer to the Pinedale RMP for a complete explanation of each prescription.

Surface Disturbance Restriction Decisions

Management Actions

Necessary protection from surface-disturbing activities will be provided for wintering wildlife on about 461,090 acres of crucial and noncrucial winter range. Seasonal restrictions will be incorporated into all land use authorizations where appropriate. This includes approximately 13,440 acres of noncrucial elk winter range in the Bench Corral area; approximately 3,400 acres of noncrucial elk winter range in the Miller Mountain area; and approximately 12,800 acres of noncrucial deer winter range in the Mesa area.

No surface occupancy will be allowed on elk feedgrounds. Exceptions may be allowed if analysis indicates that proposed activities will either benefit or cause no adverse impacts to the elk. Further public input will be required for exceptions that are not designed to specifically benefit elk. No activity or surface disturbance will be allowed in elk calving areas during periods of use, usually between May 1 and June 30.

Sage grouse nesting areas will be protected in accordance with the Wyoming BLM mitigation guidelines. Surface occupancy or use, including but not limited to the drilling of wells, the construction of well pads, roads, pipelines, or other types of rights of way, and/or the installation of permanent or high profile structures (buildings, storage tanks, overhead powerlines, etc.) within ¼ mile of a sage grouse lek (strutting ground) will be restricted or prohibited unless the operator and Authorized Officer arrive at an acceptable plan to mitigate anticipated impacts. Activity will generally be restricted to existing roads and trails. Other activities may be allowed if environmental analysis indicates that nesting sage grouse concentrations will not be adversely affected. Activity between the hours of 12 midnight and 9:00 a.m. will not be allowed within approximately one half mile of leks (e.g., during strutting season).

Seasonal restrictions will be applied to active raptor nests. Priority for further inventory of raptor nest locations will be given to areas where activities and surface disturbance are proposed.

No surface disturbance will be allowed within 500 feet of riparian habitat, wetland, and (or) live water unless a high potential for successful rehabilitation exists and (or) impacts will be temporary in nature. No surface disturbance will be allowed on the Upper Green River special recreation management area, except as identified in a management plan for that area. No surface disturbance will be allowed within one-quarter mile or the visual horizon (whichever is closer) of contributing segments of historic trails. Waste disposal facilities (e.g., drilling fluid pits, solid waste, and sanitary facilities) will not be authorized on floodplains, wetlands, and related riparian zones. Surface disturbance will be minimized in crucial watersheds, such as Soap Holes Basin and Tip Top, with emphasis on reducing soil erosion and sediment and salinity contributions to the Green River Basin water system. Surface-disturbing activities will be appropriately restricted in accordance with the Standard Mitigation Guidelines and standard practices applied to surface-disturbing activities.

No surface occupancy will be allowed on cultural sites 48SU301, 48SU350, and 48LN300, and on developed and semi-developed recreation sites. No exceptions will be allowed without further public input. The NSO established for cultural resource site 48SU301 was established on a 160 aliquot part subdivision so that it could be readily and legally described in land description terms. The intent of the NSO is to prohibit surface occupancy on the physical cultural resource properties of the site. It is also intended to prohibit surface occupancy within the immediate viewshed of the various site properties (i.e., that portion of the viewshed that occurs within the NSO boundary). It was not intended to prohibit surface occupancy in those portions of the NSO that occur outside the viewshed and that contain no cultural properties.

No surface occupancy will be allowed in the Rock Creek drainage within the Rock Creek Area of Critical Environmental Concern (ACEC) (approximately 4,200 acres). The only exceptions are activities proposed to benefit the Colorado River cutthroat trout habitat. No exceptions will be allowed without further public input.

Effects Analysis

Implementation of surface disturbance restrictions throughout the Pinedale planning area will not detrimentally impact wolf behavior or habitats. Measures intended to restrict surface disturbances, especially at elk and other big game feed grounds and within 500 ft. or riparian areas, may result in secondary effects that are beneficial to the wolf by protecting elk and moose.

Determination

Implementation of surface disturbance restriction management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the species.

Air Quality Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the Pinedale RMP.

Effects Analysis

Actions related to air quality management will not result in negative impacts to wolf behavior or habitats. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Minerals Management

Management Action

The 7,636-acre Scab Creek area will be closed to oil and gas leasing. The remainder of the planning area (approximately 1,185,000 acres) will be open to consideration for leasing, exploration, and development of oil and gas. Once an oil and gas lease has been issued, it constitutes a valid existing right and BLM cannot unilaterally change the terms and conditions of a lease. Therefore, in areas where oil and gas exploration and development activities are restricted or in areas closed to oil and gas leasing, an existing lease in the area would not be affected by the closure and restrictions cannot be added to the lease. Closures and additional lease restrictions could not be fully implemented until after a lease expires and new leases are issued for the same area. However, additional restrictions can be applied at the Application for Permit to Drill (APD) stage, and at subsequent development stages, that would mitigate potential impacts from oil and gas operations within existing lease areas so long as rights to develop the leases remain intact.

The BLM will evaluate industry-proposed measures to protect health and safety through the drilling permit process. Of particular concern will be the requirements of approved contingency plans for hydrogen sulfide (H₂S) release. Requirements of operators could include conducting dispersion analyses to determine ambient H₂S concentrations during well blowouts, collecting onsite meteorological data, preparing detailed evacuation plans, and placing offsite warning signs.

The Riley Ridge Project Monitoring Program will be continued. Further monitoring will include gathering of geological data in the Deadline Ridge-Graphite Hollow crucial elk winter range to aid in preparation of the proposed activity plan. Monitoring will be coordinated with other resource monitoring programs such as wildlife, surface and ground water quality, grazing, and cultural resources, as appropriate.

Geophysical notices of intent will be evaluated on a case-by-case basis. All acreage in the planning area will be subject to various appropriate limitations (e.g., vehicle use restrictions), including about 517,170 acres subject to seasonal limitations. In addition, the use of explosive charges may not be allowed in any area if analysis determines that unacceptable adverse impacts would occur. Generally, all authorizations will be issued with appropriate application of surface disturbance mitigation requirements.

Specific limitations include: Approximately 7,636 acres in the Scab Creek area will be closed to geophysical activities; areas closed to ORV use will also be closed to vehicle use for geophysical activities; in the Beaver Creek Area of Critical Environmental Concern (ACEC), geophysical vehicles will be restricted to existing roads and trails; geophysical vehicle travel through developed and semi-developed recreation sites will be restricted to established roads and trails, geophysical activities in the remaining no surface occupancy (NSO) areas (mostly cultural sites and elk feedgrounds) will be evaluated on a case-by-case basis and may be restricted if unacceptable impacts would occur to other resources (e.g., water quality, cultural, wildlife, recreation, and visual resource values).

The Rock Creek ACEC and surrounding area (about 17,000 acres) will be available for consideration for oil and gas leasing with appropriate stipulations, following the completion of an activity plan and associated environmental analysis. That portion of the Rock Creek ACEC within the Rock Creek watershed boundary will be leased with an NSO stipulation for protection of the pure strain of Colorado River cutthroat trout in Rock Creek.

Leasing guidelines and objectives in the remaining parts of the Rock Creek ACEC and portions of the adjacent Deadline Ridge-Graphite Hollow crucial elk winter range will be established in a site-specific minerals/wildlife management plan (activity plan) and environmental analysis. This plan will include an evaluation of the ongoing elk habitat use study and compilation of geologic data.

The plan will also include the following direction:

Oil and gas leasing direction, regarding related activities in the evaluation area east of the Rock Creek ACEC, will be designed to ensure continued elk winter use in the Deadline Ridge-Graphite Hollow area. Oil and gas development will be allowed if determined to be compatible with continued elk use of the crucial winter range. No substantial adverse impacts to this elk habitat will be allowed.

Oil and gas leasing direction, regarding related activities in the evaluation area west of the Rock Creek ACEC, will be guided by the RMP multiple use guidelines and objectives. Evaluation may allow for some development on this portion of the crucial elk winter range, as long as RMP planning objectives are met.

The Deadline Ridge-Graphite Hollow wildlife/leasing study and activity plan will identify any suitable areas for surface occupancy based on the previously mentioned mineral leasing guidelines and objectives. Any requests for relief from leasing restrictions that are in conflict with these guidelines and objectives will be analyzed on an individual basis. Based on the analysis, either the conflicting actions would be denied or a plan amendment would be initiated to modify the plan objectives.

Upon completion of the Deadline Ridge-Graphite Hollow activity plan, large contiguous areas may be offered for lease with the NSO stipulation. These areas may only be accessed through directional drilling. The NSO stipulation would be used, rather than a no lease provision, under the assumption that industry is the best judge of whether technology would enable access to the oil and gas resources in compliance with the terms of the lease.

Leasing with the NSO stipulation could become necessary if the area is characterized by steep, and in many cases unstable slopes, with stream/riparian zones "filling" the valley bottoms. Any disturbance on the steep slopes or in the riparian zone threatens the crucial elk and cutthroat trout habitats directly.

With the exception of withdrawn lands, the planning area will be open to mineral location. Areas identified in the future as needing total protection from locatable mineral activities will be closed to mineral location and considered for withdrawal. For example, if analysis of the Rock Creek drainage portion of the Rock Creek ACEC indicates that this level of protection is necessary, a withdrawal from mineral location will be initiated on the area (approximately 4,200 acres).

Applications for mineral sales (e.g., sand, gravel) will be analyzed and processed on a case-by-case basis and appropriate surface disturbance mitigation requirements will be included in permits. The established common use area in sections 15, 22, 27, and 34, T27N, R115W, will remain available for development. However, those portions of the common use area in sections 15 and 22 will be managed under the Interim Management Policy and Guidelines for Lands Under Wilderness Review until Congress acts upon the wilderness recommendations.

In the Pinedale FO, oil and gas drilling is occurring in high-elevation forested areas, on the east side of the Wyoming Range. The APDs are on hold, and 12 wells are waiting for APDs at present.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Natural History and Paleontological Resources Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. These potential impacts are dependent upon several factors including the number of people involved with each field effort, the time of year, duration of field activities, use of heavy machinery versus hand tools, and type of wolf habitat affected. Surface disturbing activities associated with cultural resource investigations can vary in size and degree of disturbance. These projects may require the use of hand tools, power tools, or heavy machinery. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Soils and Watershed Management

Management Action

The Wyoming BLM Standard Mitigation Guidelines for Surface-Disturbing Activities and the standard practices applied to surface-disturbing activities are used to control nonpoint sources of water pollution. These are examples of best management practices (BMPs) relative to the Clean Water Act of 1972, as amended. As other BMPs for nonpoint sources of water pollution are developed, they will be incorporated into the guidance for this plan where they conform with the RMP objectives.

Projects proposed on BLM-administered lands will be evaluated on a case-by-case basis for affects on

soil and water resources. Soil management practices will be applied on a site-specific basis using soil survey data, and will be related to the soil characteristics such as the steepness of slopes, the length of slope, and soil chemistry and composition. Watershed management practices will follow similar guidelines.

Examples of management practices to be applied throughout the planning area include seasonal closures due to saturated soil conditions and the standard practices applied to surface-disturbing activities. At certain times of the year, use will be precluded until soil moisture is such that the use or activity will not result in degradation of the soil resource and watershed condition. These closures occur predominately in the spring and autumn.

A monitoring program for specific surface waters will be continued to identify trends on water quality. Public drinking water at recreation sites will also be protected and monitored to be in compliance with EPA safe-drinking water standards.

A Level II ground water study of the Riley Ridge/LaBarge area will be completed to define the ground water resource and to determine what additional ground water monitoring and protective measures are necessary in regard to subsurface activities conducted in the area (e.g., oil and gas drilling activities).

Ground water protection will continue to be provided by applying appropriate procedures. Special precautions will be taken to ensure protection of ground water quality when surface disturbance is to occur on ground water recharge zones.

An activity plan for reducing erosion and channel degradation will be prepared for the Tip Top watershed. Specific actions could include road maintenance, recontouring, and reseeded of disturbed sites to help achieve soil stabilization.

A watershed/recreation plan will be prepared on the Stuart Point-Mount Airy area for reducing sedimentation while still allowing off-road vehicle (ORV) use. A more detailed description of this area can be found in the ORV section.

All actions will comply with Executive Orders 11988 Floodplain Management and 11990 Protection of Wetlands, and the State of Wyoming Department of Environmental Quality water quality standards.

Effects Analysis

Actions associated with watershed management will not negatively impact wolves or their prey. The watershed improvement practices along the Shoshone and Bighorn rivers are likely to improve riparian vegetation and habitat which will benefit elk and other big game.

Determination

Implementation of watershed management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Wildlife Habitat Management

Management Actions

The U.S. Fish and Wildlife Service (USFWS) will be consulted on any action with reasonable potential to affect endangered species or their habitats. A biological assessment (BA) will be prepared on all proposals where T&E species habitat will or may be affected and a biological opinion will be requested from the USFWS.

Threatened and endangered (T&E) species and their habitats will be protected and monitored. Actions that would degrade habitat to a point of jeopardizing the continued existence of a T&E species will not be allowed. The Pinedale planning area will continue to be inventoried to identify potential habitat and occurrence of T&E species. Identification of habitat occupied by T&E species and habitat with potential to help support these species would be managed in accordance with the national recovery plans. Potential habitat includes high density prairie dog towns for black-footed ferrets, wetlands for whooping cranes, high cliffs over riparian zones for peregrine falcons, and cottonwood stands along the Green, New Fork, and East Fork rivers for bald eagles. Management prescriptions for potential habitat will include consideration for future occupancy by T&E species. Key habitat characteristics will be identified to help ensure maintenance of high quality areas for natural reoccupation.

Areas with habitat having potential to support transplanted or introduced wildlife species (other than T&E species) will be identified in the development of activity plans and managed in accordance with the RMP objectives. Proposals for introductions or species transplants to BLM-administered public lands will be evaluated and analyzed, and the impact to and of other resources will be considered. Cooperative agreements will be developed, if necessary, to facilitate species transplants and habitat management.

Some examples of wildlife that will be monitored and/or otherwise safeguarded include mule deer, elk, antelope, and sage grouse use patterns. Habitat trend for the species will be interpreted through survey data collected, in cooperation with livestock and watershed studies and monitoring activities. Interdisciplinary selection of key areas and plant species will ensure that crucial habitats are monitored. In the Deadline Ridge-Graphite area, management emphasis will be placed on maintaining crucial elk winter habitat. In elk feedgrounds, management emphasis will be on maintenance of habitat quality and continued use of the areas as elk feedgrounds. To maintain the integrity of the elk feedgrounds, certain activities would be constrained on lands near them. The NSO restriction would be imposed for all activities except those that have impacts which are temporary in nature or that are compatible with elk habitat management.

The Colorado River cutthroat trout (a BLM sensitive species) will be monitored in cooperation with the Wyoming Game and Fish Department.

Riparian area maintenance, improvement, and restoration will help promote quality fish habitat on streams and lakes. Coordination with WGFD will continue on the Comprehensive Management and Enhancement Plan, and the East Front Aquatic Habitat Management Plan (HMP) will be implemented to promote riparian habitat management and protect the Colorado River cutthroat trout in Wyoming to improve habitat and expand the range of these trout so they are no longer imperiled. Efforts to control siltation into the East Fork and New Fork rivers will be pursued to improve the water quality of these fisheries. Water Quality Standards for other fishing streams and lakes will be coordinated with WGFD and the State Department of Environmental Quality. Adherence to these standards will help maintain existing fish habitat.

High priority will be given to improvement of wildlife habitat through vegetation manipulation. Any areas identified in the future as suitable for treatment to benefit wildlife will be considered. In addition, the East Front Aquatic HMP and the Upper Green River HMP will include consideration of habitat improvement and related projects for enhancing habitat for waterfowl and aquatic species.

Vegetation treatments for livestock grazing and other resource objectives will include consideration of wildlife objectives and related restrictions. Habitat will also be enhanced by other improvements, such as development of water facilities. During development and implementation of activity plans (e.g., allotment, timber, watershed, or wildlife habitat management plans), consideration of habitat improvement needs and locations will be included. Road closures may be imposed to protect fisheries and elk habitat. The Wyoming Game and Fish Department is conducting a study of big game response to oil and gas development on the Riley Ridge natural gas project area. Findings and recommendations from this study will be used in considering future development of minerals on big game ranges. No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

The implementation of management actions associated with wildlife habitat management will likely have positive effects by maintaining or improving existing habitat conditions for elk and other big game. This is due to the monitoring of elk and other big game, which will protect against population declines; the maintenance of crucial elk winter habitat in Deadline Ridge-Graphite area; certain activities that may be limited on elk and other big game feedgrounds; and road closures that may be implemented to protect elk and other big game habitat. These measures that monitor and protect elk and other big game and their habitat will protect food resources for wolves.

Determination

Implementation of wildlife habitat management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing Management

Management Actions

The current grazing preference objective of 107,907 animal unit months (AUMs) will be maintained or increased through implementation of allotment management plans (AMPs), range improvements, and vegetation manipulation. If these measures fail to provide the grazing preference objective, while providing for protection of other resource values as established in the plan, livestock reductions may become necessary. Any adjustments in livestock grazing use will be made as a result of monitoring and in consultation with grazing permittees and other affected interests.

The 20,991 acres of unallotted forage on public lands will be considered for allocation on a case-by-case basis in accordance with RMP goals and objectives. The number of AUMs to be allocated will be determined after the lands have been evaluated. Adequate stock trails will be maintained to support livestock trailing needs. Adequate forage for wintering elk will be provided to the extent possible (population levels based on Wyoming Game and Fish Department 1987 population objectives) in the Bench Corral, Miller Mountain-Fort Hill, Riley Ridge, and Graphite elk winter ranges. In cases where adequate forage for wintering elk is not available, adequate forage could be provided through a combination of management practices, including livestock grazing systems, grazing adjustments, and vegetation manipulation. Livestock water developments on crucial elk winter ranges will only be allowed if they do not result in adverse impacts to the crucial range.

Initial categorization is 41 “I” allotments, 141 “M” allotments, and 26 “C” allotments. New allotment management plans (AMPs) will be written and implemented on “I” allotments. New AMPs or activity plans will require environmental analyses. All grazing systems will be designed to maintain or improve plant diversity. Specific objectives will be determined during AMP preparation to provide forage diversity for antelope, mule deer, and sage grouse as well as livestock. Grazing systems will be designed to limit forage competition for forbs and other desirable plants, particularly in the spring of the year.

Some allotments have very small acreages available for treatment. Because of the high cost of treating such small areas, they are not likely to be treated. Other allotments containing large acreages may not receive the total projected treatment due to resource considerations (e.g., sage grouse nesting areas and erodible soils). Acreage of brush control may increase or decrease on certain allotments depending on rangeland management needs addressed in AMPs and other activity plans.

All brush control projects will involve site-specific environmental analysis; coordination with affected livestock operators and the WGFD; and will include multiple use objectives for other resource uses including livestock, wildlife, and watershed.

Prescribed fire will generally be the preferred method of vegetation manipulation for the conversion of brushland to grassland. Wildfires occurring in areas with a fire prescription will be allowed to burn as long as they remain within the prescriptions and meet land use objectives. Other vegetation manipulation methods will be considered on a case-by-case basis.

To reduce streambank degradation, salt blocks for livestock and wildlife use will not be placed within 500 feet of live water, wetland, or riparian areas, unless activity plans show that it is necessary to meet management objectives.

Any forage increases realized from management prescriptions and range improvement practices will be allocated to wildlife, watershed, and livestock. Site-specific objectives for wildlife, watershed, and livestock grazing will be developed to identify each resource use to receive a forage allocation.

Actual forage allocation from forage increases will be based on site-specific analysis and must conform to the multiple use objectives of the activity plans. The allocation of forage resulting from treatments financed by permittees, as in “M” category allotments that do not have crucial wildlife ranges, will be evaluated on a case-by-case basis. More forage may be allocated to livestock grazing than to other resource uses, in accordance with the current federal grazing regulations, including consistency with the multiple use management objectives set forth in this document. Consultation with the affected parties will be necessary at the outset of planning for the project allocating increased forage to ensure satisfactory proportioning of the additional forage.

Monitoring of the range and the vegetation resource will be conducted at a level sufficient to detect changes in grazing use, trend, and range conditions. These data will be used to support and direct grazing management decisions consistent with national policy. Ecological range site condition mapping will be completed.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian

shrubs that also are used by elk and other big game. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game. Both of these actions reduce forage for elk and other big game, and thus also reduce food resources for wolves.

Determination

Implementation of livestock grazing management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Riparian Management

Management Actions

The objectives for riparian management will be to maintain, improve, or restore riparian value to enhance forage, habitat, and stream quality. Priority for riparian management will be given to those areas identified as Colorado River cutthroat trout habitat. Management actions may include reductions in livestock numbers, adjustments in grazing distribution patterns, fencing, herding, livestock conversions, etc. Unallotted public lands containing riparian areas will be managed according to the same objective, with emphasis on wildlife and watershed objectives, but not necessarily to the exclusion of livestock uses. Refer to management actions described under all other programs for accomplishing riparian objectives. Riparian management is an integral part of all resources and related management programs. Those activities that affect or are affected by riparian values, will take into account the riparian objectives and direction. Resource values and uses that affect or are affected by riparian values include: wildlife and fisheries habitat, forest resources, livestock grazing, ORV use, visual resources, cultural and historical resources, minerals exploration and development activities, lands and realty activities, watershed and soils resources, recreation uses, fire management, and access.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with riparian management including increased human presence and use of machinery or fire to implement management actions. Implementation of vegetation management actions are likely to result in positive effects to elk and other big game habitats in riparian areas, particularly foraging habitats, by the creation or expansion of habitats suitable to elk and moose.

Determination

Implementation of the riparian management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Wild Horse Management

Management Actions

The objective of wild horse management will be to resolve conflicts for water and forage between wild horses and other resource uses. No forage or other resources will be provided to wild horses. BLM does not actively manage for wild horses in this FO; management actions associated with wild horse management occurring on the resource area are limited to occasional herding, corralling, and transporting of horses.

No specific requirements or guidelines applicable to wolf mitigation are included in the management actions for this resource.

Effects Analysis

Management actions associated with wild horse management are not expected to detrimentally impact the behavior of wolves or foraging, denning, or travel habitats.

Determination

Implementation of wild horse management, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Forest Management

Management Actions

The objectives of forest management will be to provide a supply of forest products to the various segments of the public and to maintain or enhance other resource management objectives.

Consistent with forest management and other resource management objectives, the forested lands are classified into four management categories:

Category 1, Intensive Management, will include areas where the forested lands would be managed for multiple-use, but with emphasis placed on forest product utilization and forest management activities.

Category 2, Restricted Management, will include forested lands where wildlife, watershed, and recreation resource values will be emphasized and actions such as partial cutting, extended forest crop rotations, etc., or other restrictions to forest management, would be applied.

Category 3, Management to Enhance or Maintain Other Resources, will only allow forest management activities (e.g., harvesting or thinning) on lands in this category when such activities will benefit resources or values other than forestry or will promote public safety. All forestlands included in this category are not included in the forest management base or in timber harvest calculations.

Category 4, No Forest Management, includes all areas where forest management is excluded.

Approximately 24,223 acres of commercial conifer would be available for production of forest products. Of this 24,223 acres, approximately 20,836 acres would be subject to harvest method/equipment use and minimum cover level restrictions (Category 2). The remaining 3,387 acres would be unrestricted, except for general forest management guidelines applicable to all forest management activities (Category 1). Approximately 13,506 acres of woodland (Categories 1 and 2) will be available for forest product disposals on a demand basis. An additional 3,113 commercial conifer and woodland acres will be removed from the forest base (Categories 3 and 4). The 1,611 acres in Category 3 will be available for forest management activities when such activities are deemed necessary to maintain the integrity of the resource being protected (e.g., wildlife, watershed) or to promote public safety. All forestlands in categories 1, 2, and 3 will be available for emergency salvage of timber damaged or killed through insects, disease, wildfire, or other such events.

Forested lands in Categories 1 and 2 will be managed to harvest an estimated 18.2 million board feet of timber over a 20-year period. Average annual harvest level will involve approximately 137 acres, but may vary to meet individual sale area objectives, depending on proposed harvest methods and individual sale

conditions.

Sales of forest products (sawtimber, firewood, Christmas trees, posts, poles, and wildlings) will be made available to individuals and to commercial vendors. Forest product sales will be conducted on all forest areas, except where specifically excluded (e.g., the Rock Creek drainage and 7,636 acres in the Scab Creek area).

In addition to harvest, approximately 1,200 acres of precommercial thinning will occur during the 20-year period (BLM 1985a). Precommercial thinning projects will generally be designed to achieve an 8-foot spacing (e.g., roughly 680 trees per acre would be left uncut) and should not significantly affect cover levels.

Within the general forest management objective and guidelines, each of the following four management units has separate sub-objectives and planned actions. The Deadline-Pinegrove unit will be managed to give full protection to the Colorado River cutthroat trout in the Rock Creek drainage and to maintain October 1985 levels of forest cover for wildlife in the remainder of the unit. Approximately 953 acres will be available for harvest over a 20-year period. All forest management activities will be excluded in the Rock Creek drainage. A minimum of 90 percent of the conifer acreage in the Graphite and Riley Ridge crucial elk winter ranges will be maintained. Annual cover level fluctuations will not be allowed except for emergency salvage. No clearcutting or road construction will be allowed within 1,000 feet of Beaver Creek. Exceptions will be granted only if additional site-specific analysis verifies that such actions will not adversely affect crucial Colorado River cutthroat trout habitat.

The North Piney unit will be managed to give full protection to the elk feedgrounds and to maintain October 1985 levels of forest cover for wildlife, primarily elk. All forest management activities will be excluded from the Finnegan and North Piney elk feedgrounds, except when such management would be necessary to maintain the integrity of the feedground environment. Approximately 680 acres will be harvested for forest products over a 20-year period.

The Miller Mountain unit will be managed to provide full protection to forested portions of the Fort Hill-Fontenelle elk winter range and to maintain approximately 90 percent of the conifer acreage in the remainder of the unit in cover for wildlife. Forest management activities will be excluded from the Fort Hill elk winter range. Exceptions will be allowed for emergency salvage when the wildlife will benefit. Approximately 396 acres or 10 percent of the conifer base, excluding the Fort Hill winter range, will be harvested over a 20-year period.

The Eastside-Hoback unit will be managed to give full protection to the forested portions of the elk feedgrounds and to manage the remaining forested lands for forest products on an allowable harvest/sustained yield basis. Approximately 781 acres will be harvested for forest products over the next 20 years. Forest management activities will be excluded from the Franz and Scab Creek elk feedground, except for salvage and sanitation harvests when necessary to maintain the integrity of the feedground environment to benefit the elk.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk and other big game. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big

game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory, which would be harmful to wolves.

Determination

Implementation of forest management actions, as presented in the Pinedale RMP is **not likely to jeopardize the continued existence** of the wolf.

Wilderness Management

Management Actions

Proposed wilderness areas will be managed for wilderness values in accordance with the decision of Congress. The two wilderness study areas (WSAs) in the planning area, the Scab Creek WSA and the Lake Mountain WSA, were evaluated in two previous wilderness environmental impact statements (BLM 1981 and BLM 1983). As a result of these analyses, the BLM recommended the Scab Creek WSA for designation as wilderness and the Lake Mountain WSA for nondesignation as wilderness. Both recommendations are pending further processing and Congressional decision.

Until Congress acts, these WSAs will be managed under the "Interim Management Policy and Guidelines for Lands Under Wilderness Review" (BLM 1987b). Congressional decisions on the Scab Creek and Lake Mountain WSAs will be incorporated into the approved Pinedale RMP. Should Congress designate one or both of the WSAs (partially or entirely) as wilderness, the management of the designated areas will be for wilderness values, as described in the appropriate wilderness EIS. Should Congress not designate one or both areas (partially or entirely) as wilderness, the management of the nondesignated areas will be in accordance with the approved Pinedale RMP. The undesignated areas will lose their identity as WSAs and will be managed along with the adjoining area as prescribed in the approved Pinedale RMP.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with wilderness management will not result in detrimental impacts to wolf behavior or their habitats. These actions will result in positive effect to wolves by limiting harassment and disturbance.

Determination

Implementation of the wilderness management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Visual Resource Management

Management Actions

VRM classes have been established in line with overall resource management objectives of the approved

Pinedale RMP. These are subject to change and further definition as more inventories and evaluations are conducted. A program will be initiated to improve the visual quality of oil fields in the planning area by working with the companies to reduce the visual impact of existing facilities. Projects of all types within established VRM class areas will generally be required to conform with the objectives and characteristics of the classification, or the project will be modified in order to meet the VRM class objective. Short-term modifications in portions of visual class areas may be approved if a site specific environmental analysis determines that impacts would be acceptable. The VRM class areas will be monitored periodically for cumulative impacts that may potentially conflict with their classifications.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicle Management

Management Actions

The Bench Corral elk winter range will be closed to all ORV use, including over-the-snow vehicles, from November 15 through April 30. Lands around the Franz, Finnegan, Scab Creek, Fall Creek, and North Piney feedgrounds will also be closed to ORV use and unauthorized human presence from November 15 through April 30. The Deer Hills, Oil Field, and Mesa deer and antelope winter ranges will have a winter travel limitation restricting vehicle travel from November 15 through April 30 on an as-needed basis. These seasonal limitations will be implemented in cooperation with the Wyoming Game and Fish Department during severe winters or periods of disturbance of the wildlife wintering in these areas of concern. One hundred twenty acres in the Holden Hill area will be closed to all ORV use.

In general, off-road vehicle use will be monitored periodically to determine actual use and public demands. Monitoring of high density roaded areas will be conducted as described in the section on Access Management. The Desert General Use area will remain open to generalized ORV uses. This is an area of over 224,000 contiguous acres of public land. The Desert Open Area will be monitored to determine if unacceptable impact levels are occurring or being approached, which will require that ORV use be re-evaluated and limited accordingly.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Actions

Management emphasis will be placed on the current recreation management areas including Scab Creek, the Green and New Fork rivers, Oregon Trail routes, and Boulder Lake. Recreation facilities will be installed where needed to accommodate the anticipated recreation uses and use levels and to provide for adequate public health and safety.

The order of priority for recreation management will be:

Congressionally designated areas,

Major rivers and lakes where BLM has clear jurisdiction,

Areas with outstanding recreation resource values not already provided for in the area, and

Areas where the recreation capacity is regularly exceeded, threatening other important resource values.

Cooperative recreation projects and those with contributed funding can be given priority for development in conformance with established recreation objectives and priorities. Withdrawals from exploration and development of locatable minerals will be pursued, as necessary, on developed and semi-developed recreation sites (currently about 585 acres). Recreation management for the Scab Creek area, the Green and New Fork rivers, and the Oregon Trail routes will emphasize maintaining or improving the quality of the sites and the recreation experience. Public lands along the Green and New Fork rivers will be managed to provide fishing and floatboating opportunities. Necessary facilities will be developed to provide for protection of users and the resources. Boulder Lake will be established as a special recreation management area and related recreation facilities will be developed to improve public access and use opportunities. A maximum 16-day camping limit will be implemented throughout the planning area. Areas requiring shorter limits will be posted. Written authorizations will be required for longer periods. A temporary, no overnight camping stipulation may be imposed in an emergency. Where applicable, recreation facilities will be developed and managed in a manner that will maintain, restore, and improve riparian values. Special recreation permits, commercial recreation uses, and major competitive recreation events will include mitigation developed to ensure the protection of other resources in accordance with objectives of all resource values involved.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Wild and Scenic Rivers Management

Management Actions

It was determined that five upstream public land parcels along the Green River review segment meet the Wild and Scenic River (WSR) suitability factors and should be managed to maintain or enhance their outstandingly remarkable values for any possible future consideration for inclusion in the NWSRS. The suitable determination is based on the unique qualities of the diverse public land resources and their regional and national significance, making them worthy of future consideration for addition to the NWSRS.

Interim management practices for the five public land parcels along the Green River meeting the scenic classification (involving 8.56 miles along the river) will focus on maintaining or enhancing the outstandingly remarkable scenic, recreational, and historic values and the relatively unmodified character of the area in a near-natural setting. Any activities that would conflict with this objective are prohibited. Some intrusions on the public lands involved may be allowed if they are not readily evident or are short-lived, and do not adversely affect maintaining the scenic classification.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with wild and scenic river management are not expected to detrimentally influence wolf behavior or impact suitable habitats. These actions will likely result in positive effects by maintaining or enhancing habitats suitable for wolves and their prey.

Determination

Implementation of wild and scenic rivers management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Cultural Resource Management

Management Actions

Cultural resource management activity plans (such as the Oregon/Mormon Pioneer National Historic Trails Management Plan) will be completed and implemented to identify, salvage, and protect cultural and historical sites. Activity plans will be prepared for any current or future sites listed on, or determined eligible for the National Register of Historic Places (NRHP), including sites 48LN300, 48SU350, and 48SU301, and the Overlook Rock Shelter, the Aspen Stone Circle site, the Cora Butte alignment site, the Willow Lake site, and the Boulder Lake site. Site-specific management prescriptions will be developed in the activity plans. Significant cultural resource sites will be nominated to the National Register of Historic Places. As necessary, withdrawal from exploration and development of locatable minerals on significant cultural resource sites will be pursued.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. These potential impacts are dependent upon several factors including the number of people involved with each field effort, the time of year, duration of field activities, use of heavy machinery versus hand tools, and type of wolf habitat affected. Surface disturbing activities associated with cultural resource investigations can vary in size and degree of disturbance. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Lands and Realty Management

Management Actions

Prior to taking any disposal action, an environmental analysis will be conducted on the proposal and the involved lands will be evaluated for compliance with the disposal criteria listed in and for consistency with objectives of this RMP. Approximately 6,400 acres have been identified as suitable for future consideration for disposal, and another 14,500 acres have been identified as suitable for consideration for disposal only by exchange. Proposals to dispose of any other BLM-administered public lands will be considered and evaluated on a case-by-case basis. Special attention will be given to retaining enough public lands at the Cora Y highway crossing, at the south end of Fremont Lake, and at other important wildlife migration routes to provide for free movement of migrating big game animals. Acquisition of nonfederal lands will be pursued by BLM, if needed, to accomplish management objectives of this RMP. Such acquisition will primarily be considered in areas of predominantly federal ownership, when other management options such as cooperative agreements are not available, and then primarily through exchange. Lands actions (e.g., exchanges) will be pursued to enhance and maintain key wildlife habitats. Land exchanges to acquire state and private lands in crucial habitats in important and predominantly federal management areas (e.g., Rock Creek ACEC, New Fork Potholes, key riparian areas) will be pursued.

Desert Land Entry petition applications will be disqualified when the public lands are identified as:

Lands within the capability classes that the Department of Agriculture, Agricultural Stabilization and Conservation Service, is seeking to remove from cultivation under the Conservation Reserve Program.

Lands that the Department of the Agriculture, Soil Conservation Service show as being "nonirrigable."

Lands identified as sensitive, unique, or necessary to fulfill the management objectives of this RMP.

Agricultural land entry petition applications will also be disqualified when the public lands would be utilized for the growth of government price-supported crops, or when use of water supplies would deplete an underground water supply beyond its annual recharge capability, thus threatening existing water users.

Whenever necessary, withdrawals in support of other resource management objectives and actions will be

pursued. Public lands within active livestock driveways that are continuing to serve their designated purpose, will continue to be segregated from all forms of disposal under the public land laws. The withdrawals for stock driveways that are not serving their designated purpose will be terminated. Mineral locations on stock driveways will be handled under 43 CFR 3815. Disposal proposals that will not be compatible with the continued use or purpose of stock driveways will not be approved. Existing land withdrawals (held by agencies other than BLM) currently encumbering public lands will be reviewed to determine the need for continuation, modification, revocation, or termination of the withdrawals. Classification and Multiple Use Act retention and disposal classifications (Orders W-19140, W-25810, and W-12668) in Sublette and Lincoln counties will be terminated. In areas covered by these orders, discretionary management under the provisions of the Federal Land Policy and Management Act (FLPMA) will be consistent with the provisions of the RMP.

Areas closed to mineral leasing, having a no surface occupancy (NSO) restriction, or other otherwise identified as unsuitable for surface disturbance or occupancy in other sections of this RMP will be managed as avoidance or exclusion areas for rights of way. Such areas include, but are not limited to, recreation and cultural sites, the Rock Creek ACEC, and the Deadline Ridge-Graphite evaluation area. However, following a supporting environmental analysis, some types of rights of way projects may be allowed in such areas if they: a) would not create substantial surface disturbance; b) would be located in areas with a high potential for reclamation; c) would have impacts which would be temporary in nature; and d) would be compatible with the resource values being protected.

Areas requiring mitigations and restrictions for surface-disturbing activities will be managed as restricted areas for rights of way. Restrictions include, but are not limited to, seasonal restrictions for wildlife, sensitive watersheds, steep slopes, ORV designations, and other measures necessary to prevent degradation of cultural, historical, and recreational sites. Restricted areas for rights of way include wildlife crucial winter ranges, the Beaver Creek ACEC, the Upper Green River Special Recreation Management Area (SRMA), and the Soap Holes area. Areas that are not identified as avoidance, exclusion, or restriction areas are considered open to rights of way. Two transportation/transmission corridors are designated. Actual corridor widths will be flexible within the constraints provided in the various resource objectives of the RMP.

Corridors are preferred routes for transportation and transmission facilities. Identification of corridors does not preclude location of transportation and transmission facilities in other areas, if environmental analysis indicates that the facilities are compatible with other resource values and objectives. Further identification of corridors does not mandate that transportation and transmission facilities will be located there if they are not compatible with other resource uses, values, and objectives in and near the corridors or if the corridors are saturated. Each right of way application will be reviewed and analyzed using the environmental data that exist for the area as a basis to determine compatibility with existing uses and resource values.

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves

that may not be afforded under non-federal ownership.

Determination

Implementation of land resource management actions, as provided in the Pinedale RMP (1988) is **not likely to jeopardize the continued existence** of the wolf.

Access Management

Management Actions

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Development of new and expansion of existing access to lands administered by BLM will create new corridors designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of access management actions, as presented in the Pinedale RMP (1988), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Actions

The objective of fire management is to protect public safety, life, and property while providing the maximum benefits of both prescribed fire and wildfire to overall resource management. Fire will be considered a vegetative manipulation option to:

- Convert brush to other desired species,
- Rejuvenate desired species,
- Increase forage,
- Increase vegetation nutrient value and palatability,
- Promote wildlife habitat diversity,
- Improve vegetative cover on areas with insufficient protective ground cover, and
- Maintain or improve range, wildlife habitat, and watershed condition.

Fire will also be considered a management option for disposal of timber slash, seedbed preparation, hazard reduction, control of disease or insects, thinning, or species manipulation in support of forest management objectives. In preparing activity plans, consideration will be given to fire applications in meeting resource management objectives. A fire management action plan will be written for the planning area. Specific boundaries and fire management prescriptions will be consistent with or in support of the other identified resource values and management objectives.

Areas will be identified where a prescribed set of conditions will be acceptable in the event of an ignition. Prescribed fires will generally be confined to 200 acres or less in areas where current vegetation stages are desirable. Fire protection on public lands will be managed by taking appropriate suppression actions through the fire management plan. Resource and operational support for presuppression and suppression planning will be coordinated with the Forest Service, Sublette County Sheriff's Office, Wyoming State Forestry Division, and local fire protection districts.

Wilderness areas will be managed as prescribed fire areas. Fire suppression in wilderness areas requires restraint in suppression methods. In any designated wilderness areas, the fire management objective will be to manage fire in ways that will cause the least degradation to wilderness values.

Prescribed burning will be conducted so as to:

- Not violate ambient air quality standards,
- Avoid visibility impairment,
- Minimize public nuisance, and
- Minimize smoke intrusions into sensitive areas.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Pinedale RMP (1988) is **not likely to jeopardize the continued existence** of the wolf.

Areas of Critical Environmental Concern

Management Actions

The objective for managing the Rock Creek ACEC is protection of the Rock Creek drainage to assure quality aquatic habitat for the sensitive Colorado River cutthroat trout and to provide crucial winter range for a portion of the Piney elk herd. The entire ACEC area and the Deadline-Graphite elk winter range area (approximately 17,100 combined acres) will be deferred from mineral leasing until a mineral and wildlife evaluation is completed. The entire ACEC will be managed as a right of way avoidance or exclusion area, where rights of way will not be allowed unless a supporting environmental analysis indicates that the action meets the objective for the ACEC, minimal impacts would occur, and(or) the action would benefit the Colorado River cutthroat trout or elk habitat.

A No Surface Occupancy (NSO) restriction for leasable minerals and other surface-disturbing activities will be applied in the 4,200-acre Rock Creek drainage (unless activities are for the purpose of benefiting the Colorado River cutthroat trout). Geophysical exploration activities in this area are restricted to portable methods only. The use of explosive charges will be prohibited if analysis determines that unacceptable adverse resource impacts would result. If analysis indicates this level of protection is necessary, the drainage area will be closed to exploration and development of locatable minerals, and a withdrawal from mineral location and surface entry will be pursued. Livestock grazing and related improvements will continue to be allowed, provided no adverse affects occur to the Rock Creek drainage. No forest management activities will be allowed within the drainage. The drainage will be managed as a Class I VRM area and will be closed to ORV use, including over-the-snow vehicles (43 CFR 8340.0-5).

Approximately 1,000 acres of the ACEC (that portion outside the drainage) will be evaluated to identify any locations where surface occupancy can be allowed. Geophysical exploration activities in this area will be evaluated on a case-by-case basis and will be restricted if analysis determines that unacceptable adverse impacts would occur to the water quality, fisheries, wildlife, recreation, or visual values in the area. This portion of the ACEC will be open to exploration and development of locatable minerals. A plan of operations will be required for any locatable minerals activities in the area. This portion of the ACEC will be managed as a Class II VRM area, and ORV use will be limited to existing roads and trails with seasonal restrictions to protect wintering wildlife.

The objectives for managing the Beaver Creek ACEC are to assure quality aquatic habitat for the sensitive Colorado River cutthroat trout and to protect elk calving habitat. The area is open for consideration of mineral leasing and related activities. All vehicle use, including geophysical exploration vehicles, will be limited to existing roads and trails. This area will be closed to the use of explosive charges if analysis determines that unacceptable adverse impacts would occur to the water quality, fisheries, wildlife, recreation, or visual values in the area. The Beaver Creek ACEC will be managed to maintain, improve, or restore riparian habitat conditions. The ACEC will be managed as a Class III VRM area.

A detailed activity plan will be prepared to establish guidelines for uses that could affect or jeopardize habitat quality for the Colorado River cutthroat trout and elk calving. Management prescriptions in the activity plan will include identifying specific transportation routes to reduce the potential for spills of toxic materials, and needs for seasonal use or other types of restrictions, in compliance with the decisions stated above.

Surface disturbance within 1,000 feet of the streams and on slopes of 25 percent or greater will be prohibited. Partial timber cutting will be allowed provided that no adverse impacts will occur to the Colorado River cutthroat trout. Clearcutting or road construction within 1,000 feet of Beaver Creek will not be allowed. Exceptions will be granted only if additional site-specific analysis verifies that such actions will not adversely affect crucial Colorado River cutthroat trout habitat. Roads and rights of way will follow existing alignments unless design criteria will preclude adverse impacts to the trout and elk calving habitat. Stream crossings will be limited to lower elevations and gentler slopes. Use of equipment and vehicles, including geophysical exploration activities, will be allowed if consistent with the objectives of the ACEC.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

The two ACECs are designed to protect, manage, or enhance various special resources in the Cody FO.

Many activities are still allowed within the ACECs, but some activities are limited or excluded, to preserve the specialized uniqueness designed to be protected or managed through ACEC designation. By limiting or excluding these activities, impacts from these activities to wolves would be reduced or excluded. Impacts from activities allowed to occur in these ACECs will be addressed in their respective sections in this document. In general, management of ACECs limiting or excluding various activities would have a beneficial impact on wolves.

Determination

Implementation of the ACEC management as described in the Pinedale RMP (1988) is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Pinedale RMP management actions.

TABLE 6: SUMMARY OF DETERMINATIONS FOR THE PINEDALE RMP	
Resource	Determination
Surface Disturbance Restrictions	Not likely to jeopardize the continued existence of the species
Air Quality	Not likely to jeopardize the continued existence of the species
Minerals	Not likely to jeopardize the continued existence of the species
Natural History and Paleontological Resources	Not likely to jeopardize the continued existence of the species
Soils and Watershed	Not likely to jeopardize the continued existence of the species
Wildlife Habitat	Not likely to jeopardize the continued existence of the species
Livestock Grazing	Not likely to jeopardize the continued existence of the species
Riparian	Not likely to jeopardize the continued existence of the species
Wild Horse	Not likely to jeopardize the continued existence of the species
Forest	Not likely to jeopardize the continued existence of the species
Wilderness	Not likely to jeopardize the continued existence of the species
Visual Resources	Not likely to jeopardize the continued existence of the species
Off-road Vehicle	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Wild and Scenic Rivers	Not likely to jeopardize the continued existence of the species
Cultural Resources	Not likely to jeopardize the continued existence of the species
Lands and Realty	Not likely to jeopardize the continued existence of the species
Access	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species
Areas of Critical Environmental Concern	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Pinedale planning area.

Potential effects that could affect wolves or their habitats in the Pinedale FO include the following:

Subdivision development along rivers (especially along the New Fork and Green Rivers)
Natural gas development south of Pinedale
Sand and gravel operations along river corridors

Certain components of these projects, if completed, could directly or indirectly affect wolves or their habitats. In addition to the cumulative impacts resulting from the BLM activities described previously, implementation of the Pinedale RMP could add further impacts to the wolf that may result from current non-federal actions.

PINEDALE FIELD OFFICE: SNAKE RIVER RMP

The Snake River RMP was initiated in 1999. The Snake River planning area occupies 1,345 acres within Pinedale Field Office. At the time this biological assessment was prepared, the Snake River RMP was not finalized.

Environmental Baseline and Existing Conservation Measures

See the Pinedale Field Office for the general discussion of this section.

Analysis of Proposed Management Actions and Effects

The following text briefly summarizes the activities and any specific mitigation measures associated with management actions in the Snake River Planning Area. The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities will be applied to all surface disturbing or disruptive activities. As described previously in this document, these guidelines include timing limitations and restrictions on surface occupancy. Refer to the Draft Snake River RMP for a complete explanation of each prescription.

Climate and Air Quality Management

Management Actions

Air quality program actions consist of monitoring efforts in cooperation with USFS, Wyoming Department of Environmental Quality (DEQ), and the U.S. Environmental Protection Agency (EPA). Monitoring stations are not located on lands under BLM jurisdiction, although the Jackson weather station is within the Snake River planning area. Monitoring for air quality components, including carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, particulate matter, visibility, and atmospheric deposition, is conducted from various facilities throughout Wyoming. The nearest station to the planning area is either in Yellowstone National Park (YNP) or Pinedale.

The development of additional river access points and recreation sites on lands under BLM administration would also contribute to noise and dust levels in the planning area. Smoke from campfires at primitive campgrounds would likely affect local air quality measures during the summer months, when campground use is highest.

Effects Analysis

Actions related to climate and air quality management will not result in negative impacts to wolf behavior or habitats. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Cultural and Natural History Resources Management

Management Actions

The planning area contains both prehistoric and historic cultural resources. It is not known if the planning area contains traditional cultural properties or sites considered sensitive to modern Native Americans. Within the planning area, formal inventory work conducted by the BLM is limited. Preserved sites under BLM jurisdiction are few in number because of the recent age of many of the Snake River floodplain sediments. Prehistoric campsites are preserved in alluvial soils on the higher terraces of the Snake River. The soils in the river channel include alluvial loams and extensive river-deposited quartzite cobbles. When cobbles dominate the surface, the potential for finding buried sites is low. The NPS (YNP 1997) indicated that regular changes in the river channel would tend to destroy or displace prehistoric sites in the Snake River floodplain. There is a low probability of locating rock art on public lands along the Snake River, because of the lack of sandstone cliffs suitable for the inscription of petroglyphs.

The potential for locating historic period Euro-American sites in the planning area is good. The Snake River is famous for periodic flooding and many dikes, levees, water diversions, bank stabilizations, and other flood control structures were constructed during the historic period. Other possible historic period sites include stock maintenance sites, place mining sites, bridge remains, ferries, historic trash scatters, and other cultural material remains over fifty years of age. Future inventory may include an assessment of the area's historic landscape potential.

In recent years, there has been an increased interest in the archaeology near Jackson, Wyoming. Spurred by a series of NPS, USFWS, and USFS projects there is an increased understanding of the prehistory of the area. Most of these projects have concentrated on large sites where mitigative excavations have taken place.

Effects Analysis

If an archeological site were discovered, the associated inventory activities would be localized and limited to no more than a few acres. Actions associated with an archeological dig site include access or road building, increased vehicle traffic, and increased human activity. Human activities associated with class II or class III inventories would not disrupt normal wolf behavior. In addition, this effect is expected to be limited in duration and severity.

Determination

Implementation of cultural and natural history resource management actions as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Actions

Fire frequency during recorded history has been low, due to the moist riparian environment which keeps lightning caused fires from spreading. Wildland fire ignitions on the BLM parcels have been infrequent, and are generally suppressed at 0.1 acre or less.

In accordance with the 2001 Federal Wildland Fire Management Policy, firefighter and public safety are

the first priority in fire management. All of the Snake River parcels fall into Category A – Areas where wildfire is not desired at all. Suppression is required to prevent direct threats to life and property. The USFS has fire protection responsibility for the BLM-lands in Teton County. Under a mutual aid and protection agreement, Teton County is a first responder to any wildland fire incident on BLM-lands.

Use of prescribed fire was eliminated from detailed analysis because of the scattered nature and small size of the parcels, and the age of most of the cottonwood stands. In addition, spotted knapweed (*Centaurea maculosa*), a noxious species present on most or all of the public land parcels, will increase following fire. Control of prescribed fires would be difficult due to the lack of natural firebreaks; fire control activities could cause erosion and siltation of the Snake River. Most of the BLM parcels also are near private homes, barns, and meadows, making fire control extremely important; the expanded control measures required in these situations would be cost-prohibitive.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Hazardous Waste and Waste Management

Management Actions

In the unlikely event hazardous materials are released into the environment, a rapid and possibly sustained effort may be necessary to secure and remove or neutralize the hazardous material. Surface disturbing activities for emergency response may require a high level of human presence in areas typically void of human activity. Non-emergency removal of contaminants would be scheduled at such a time that would not cause, or would minimize adverse impacts to wildlife.

Effects Analysis

Activities associated with hazardous materials management will be restricted to roadways, where wolves will likely have become accustomed to some degree of human disturbance. These activities will likely be very limited in scale and infrequent in occurrence.

Determination

Implementation of hazardous materials management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Lands and Realty Management

Management Actions

The lands and realty management objectives are to support multiple-use management goals of other BLM resource programs, respond to public requests for land use authorizations, sales, and exchanges, and acquire access to serve administrative and public needs. Maintaining “open public access to...natural resource areas,” including the Snake River, for vehicle use, biking, hiking, horseback riding, and skiing is a community goal described in the Jackson/Teton County Comprehensive Plan of 1994.

Public lands in the area consist of relatively small tracts with fair accessibility. While some parcels are easily accessed, other can be reached only from the river channel. Parcels that have good access include some of the largest parcels and the most valuable for recreation, including parcels 9-10, 11-14, 17-19, 23, and 26. Parcels 3 and 8 are accessible through Grand Teton National Park (GTNP), but only by hiking from public roads within the park. Parcel 23 is accessible from the Fall Creek Road. Parcel 27 can be accessed from US Highway 189/191; however, it contains a trash transfer station and access is controlled by Teton County. Parcels 4-7, 15-16, 20-22, and 24 can only be accessed from the river, and it is extremely difficult to identify the parcels from the river channel.

The BLM is responsible for administering mineral exploration and development on 15,123 acres of federal mineral estate within the planning area. This mineral estate, which is mostly outside the river corridor, underlies privately owned lands.

According to the Jackson Hole Land Trust website, roughly 9,000 acres of conservation easements, along with some private lands, have been purchased in and around Jackson Hole for the preservation of critical wildlife habitat, open space and scenic vistas, and historic ranching heritage. The Jackson/Teton County Comprehensive Plan of 1994 describes the acquisition of conservation easements as “an effective programmatic strategy for accomplishing natural resource protection and preservation of community character.”

Rights of way proposals would be addressed on a case-by-case basis, with emphasis on avoiding conflict or sensitive areas. The location of rights of way to cross the Snake River on public land would only be allowed at the Wilson Bridge and the South Park Bridge. The following would be right of way exclusion areas: raptor nesting and concentration areas; documented occurrences and associated habitats of BLM Wyoming sensitive species; ESA designated critical habitat. The following would be right of way avoidance areas: big game crucial winter habitat; aquatic and wetland habitat; BLM Wyoming sensitive species habitat; important cultural resources that are listed or eligible for listing on the National Historic Register; and scenic areas identified as Visual Resource Management (VRM) Class II areas.

There are no utility corridors designated on the lands under BLM jurisdiction within the planning area. No interest has been expressed in developing utility corridors on the BLM parcels because they are disconnected, interspersed with private lands, and many are located in riparian habitats. BLM-lands do not contain suitable conditions for communications sites. The BLM has granted several rights of way in the past for utilities and access roads. It is anticipated that sand and gravel development activity and the population growth in the area will continue to create a demand for rights of way.

Withdrawals are used to preserve sensitive environmental values, protect major federal investments in facilities, support national security, and provide for public health and safety. They segregate a portion of public lands and suspend certain operations of the public land laws, such as desert land entries or mining claims. Land withdrawals can also be used to transfer jurisdiction to other Federal land-managing agencies.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing Management

Management Actions

Livestock grazing is authorized in four grazing allotments totaling 544 acres in the planning area. The level of authorized use is 300 animal unit months (AUMs). Sixty-two AUMs are authorized for spring grazing, subject to an annual authorization. The remaining use takes place primarily during the summer on 10-year grazing leases issued under section 15 of the Taylor Grazing Act. Only a few range projects have been constructed in these allotments. There are also about 529 acres of unallotted public lands.

No grazing allotment management plans or grazing systems have been implemented in the planning area. Some rangeland monitoring information, including actual use records, utilization studies, and field observations, has been collected and the condition of riparian areas has also been assessed. All of the allotments have been evaluated for conformance with the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management (**Appendix B**). The Walton allotment (Parcels 9-10) failed to meet standard #4 because of past heavy grazing use on a portion of the allotment, which has reduced the health of the native shrub community. Management changes intended to bring the allotment into compliance with the standard have been established. The Porter Estate allotment (parcel 21) also failed standard #4, although a cause could not be determined. Monitoring is ongoing to determine a course of action that will address this condition. The Snake River Ranch allotment (parcels 23 and 24) met all the Standards, although parcel 24 (which is not protected by the levee) generally has been lost to river erosion. While parcels 15-16 are also under grazing lease to the Porter Estate, they have not been grazed by livestock in recent years.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Minerals and Geology Resources Management

Management Actions

There have been no oil and gas discoveries near the planning area, and no oil and gas wells have been drilled within the planning area. The nearest wells to the planning area, all of which were dry holes, were drilled along the Darby Thrust Fault in and around Hoback Junction, about 14 miles south of Jackson. The potential for hydrocarbon resources within the planning area north of the Cache Creek Thrust Fault is unknown. The potential for hydrocarbon resources in the southern portion of the planning area is moderate.

Evidence of volcanic activity is present in the planning area. Numerous hot and warm springs in and around the planning area provide evidence of hot magma at depth. The geothermal potential within the study area is moderate to good. However, the potential for commercial development of this resource is low. Legislation has been introduced at the state and federal level to protect geothermal resources within the greater Yellowstone ecosystem from drilling and development. Hot springs are located on the periphery of the planning area on state and private lands.

No economic coal deposits exist within the planning area. The only coalmine known to exist within the area was on the northwest side of Boyles Hill. The potential for the occurrence of these leasable minerals, including sodium, potassium, and oil shale, is low. No deposits are known to exist within the planning area.

Outcrops of the Phosphoria Formation in the Meade Peak Member, East and West Gros Ventre Buttes, and south of Snow King Mountain within the planning area, and Teton Pass (west of the planning area) are limited in extent because of steep bedrock dips of 15 to 60 degrees. Because of these limited exposures and steep dips in mountainous terrain, it is unlikely that any phosphate would be developed.

The Snake River channel primarily consists of material from glacial outwash deposits from the upstream portion of the Snake River, and landslide material from the Gros Ventre and other landslides located along the two rivers. The most important mineral material occurring within the planning area is gravel. Demand for sand and gravel in Jackson Hole is increasing as the number of homes, businesses, and roads in the area continues to grow. In the past, the planning area contained many gravel pits and quarries to meet the needs of highway, county, and private road construction, and levee construction and maintenance. Today, the planning area contains only three gravel operations. Two gravel companies operate on private lands along the Snake River. The third operation was located north of the South Park highway bridge to supply gravel for widening U.S. Highway 189 south of Jackson. No sand or gravel is currently commercially produced from federal lands or mineral estate in the planning area.

In portions of the river where gravel is currently being extracted from private lands, high river flows in the spring have been replacing the gravels extracted during the previous year. This creates a new supply of gravel each year in the same location.

Gold is the primary locatable mineral deposit within the planning area. The potential for gold within the river gravel is low. The gold occurs as minute flakes and flour within large volumes of sand and gravel. Recreational panning may occur on BLM-lands in the planning area. The source area for the gold is unknown.

All public lands are open to exploration for locatable minerals except those withdrawn to protect other resource values and uses or those lands with acquired mineral status. BLM has limited management authority over mining claim operations conducted under the General Mining Law (GML) of 1872. These operations are managed using the surface regulations in 43 CFR 3809. Activity authorized under the GML is not subject to many of the stipulations that are used in the salable and leasable mineral programs to protect sensitive resources from surface disturbance caused by mineral development. There are no active mining claims within the planning area; however, claims have been located in the past. Several claims were located in the late 1960s, with the latest activity in 1982. For the most part, these were placer claims located along the Snake River for gold but all claims in the planning area have been abandoned. The potential for placer gold development is low within the planning area, since it is unlikely that sufficient amounts of gravel could be mined to make an operation profitable. No past placer operations in Jackson Hole Valley are known to have yielded economically profitable amounts of gold.

Actions associated with locatable minerals include surface disturbance for mining, reclamation, and construction of access roads, buildings, and utility lines. An EA is required prior to any significant action. Small-scale mining may occur in the planning area but individual casual use activities do not require an EA unless activities become significant. All work must be reclaimed prior to bond release from the DEQ.

Approximately 5,937 acres of public lands and mineral estate described in public land order (PLO) 7143 (published on June 1, 1995 in the Federal Register) are closed to mineral or surface entry until June 1, 2005. As explained in the PLO, "mineral or surface entry" pertains to activities such as the staking and development of mining claims for locatable minerals and desert land entry, but does not apply to the sale, exchange, or transfer of public lands; mineral leasing; or the extraction of sand and gravel through sales and permits. Public land and mineral estate not included in the area described in PLO 7143 are currently open to locatable mineral or surface entry. Under the Preferred Alternative, all 15,123 acres of BLM-administered mineral estate would be closed to locatable mineral entry.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Off-Highway Vehicle Management

Management Actions

Most of the existing roads on the BLM parcels are part of the U.S. and/or Teton County transportation system. Off-highway vehicles (OHVs) used in the planning area include snowmobiles, motorcycles, all-terrain vehicles, and mountain bikes. OHV use on the BLM parcels is minimal, due to limited public road access and is restricted to existing roads and trails, including levees. Some exceptions may include tasks necessary for retrieval of harvested big game, fire fighting activities, or hazardous/waste material removal. However, some unauthorized trails are becoming established. Motorized boating occurs, but is currently not a popular activity. Mountain biking on the levees is a common recreation activity. Some use also occurs off road and this contributes to the perpetuation of unauthorized trails.

The BLM recognizes the use of bicycles and other human-powered, mechanized conveyances as appropriate recreational activities. Federal regulations do not specifically address management of non-motorized vehicle use. There are substantial differences in the types of use, associated impacts, and management approaches between non-motorized and motorized vehicle activities. Until a national strategy and rules for non-motorized vehicle use on public lands are established, the BLM will continue to include non-motorized use within the context of OHV designations.

Effects Analysis

Under the revised RMP new access opportunities are proposed. These new access designations would likely increase the opportunity of OHV use within areas occupied by wolves. Sometimes these roads become very abundant in some areas, fragmenting vegetation and reducing cover for elk and other prey. Increased access for humans may be a source of increased mortality for wolves by shooting, snaring, and trapping.

Determination

Implementation of ORV management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Paleontological Resources Management

Management Actions

Pleistocene-age river terrace deposits along the Snake River have a low potential to contain vertebrate fossils. The occurrence of fossils in the river gravels and riparian areas is remote. There is a slightly higher potential for fossil occurrence on the parcels (20, 22, and 26) that include lands above the river terraces.

Effects Analysis

If a paleontological site were discovered, the associated inventory activities would be localized and limited to no more than a few acres. Actions associated with a paleontological investigation can include access or road building, increased vehicle traffic, and increased human activity. Human activities associated with these investigations are not likely to affect wolf behavior. In addition, these effects are expected to be limited in duration and intensity.

Determination

Implementation of paleontological resource management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Resources Management

Management Actions

The types of recreation activities available on BLM-lands in the planning area or as a result of public access include: float fishing and scenic floating (both private and guided), waterfowl hunting, mountain biking, hiking, dog walking, wildlife viewing, cross-country skiing and OHV activities. Public lands in the planning area are closed to overnight camping. According to the draft RMP, development of recreational and camping sites may be pursued on select BLM parcels. Likewise, if parcels are acquired by other entities, additional public recreation facilities may be developed. There is the potential for recreational activities to occur year-round in most of the planning area, though some parcels would receive minimal use during the winter period because of poor accessibility. Visitor use is highest during the summer months.

Restricted public use is allowed on most of the private lands in the Snake River channel through recreational easements. This access does not extend outside the river levees; in many cases it does not include the levees themselves. These easements do not provide increased access to the river, but a greater range of activities when one is on the river. These easements allow for specific uses of the river on private lands, including floating, fishing, wading, hiking, and picnicking. Most notably, boats can be anchored for fishing in these areas. Other uses, including camping, building fires, and hunting are prohibited on the easements.

The majority of river floating activity occurs during the warmest months following the high flows of early summer snow melt. Float fishing use begins in April with the opening of trout fishing season and peaks as fishing conditions improve during late summer and fall. Walking, biking, and horseback riding are the most common upland activities. Swimming and wade fishing are also popular activities and most commonly occur near the public access locations provided at the Wilson Bridge and near Emily Stevens County Park, adjacent to Parcel 9.

The only developed boating access on public lands is the Wilson Bridge boat ramp (parcel 13). The Wilson Bridge boat ramp is a boating take-out and put-in for approximately 23 miles of the Snake River. This access, developed in cooperation with Teton County, consists of a gravel ramp for launching and landing boats, a parking area, restrooms, and information kiosk. The National Park Service (NPS) provides boating access at Moose, Wyoming, for floating downstream to the Wilson Bridge access. Private landowners provide some limited floating access.

The Wyoming Game and Fish Department (WGFD) provide other public boating access through an access agreement on private lands located at the north end of the South Park Bridge. An area on public lands on the south side of the South Park Bridge (parcel 26) has occasionally been used for landing and launching boats, but has not been developed for this purpose. There is currently a proposal to develop a boat launch area on public lands near the South Park Bridge. Access to this parcel is possible from Hwy 89/191 but a closed, signed gate is meant to discourage public access from March 15th through September 1st. This access was closed seasonally for the protection of bald eagle roosting/perching habitat and potential raptor nesting in the cottonwood trees.

Commercially guided scenic float and fishing trips are popular in the planning area as part of the tourism-

based economy of the town of Jackson. Commercial, competitive, and large group floating activities are currently unregulated within the planning area, except where floating access is provided by the NPS. The USFS regulates commercial, competitive, and group use in river segments below the South Park Bridge. Commercial and private floating use fluctuates yearly, but water-based recreation activity and demand throughout the region has increased dramatically over the past 20 years. Rough estimates of floating use in the Wilson to South Park segment exceed 25,000 people per floating season. As many as 60 boats per day may launch from the Wilson Bridge boat ramp. The demand for these services and activities will likely continue to grow. River use allocation measures have been implemented by other land management agencies to protect wildlife habitat, provide for human health and safety, and maintain a quality recreation experience. The river segments within the planning unit provide for substantial commercial and private floating use. Upland use by the public for recreation activities on public lands and easements within the river corridor likely exceeds 25,000 visits per year. The demand for recreation facilities and recreation activities currently exceeds the supply of services and opportunities. This imbalance is expected to continue regardless of applied existing or future management scenarios. A trend of increasing recreation visitation is also expected to continue, further widening the gap between supply and demand.

Recreation management activities may include trail and road construction, building of campgrounds and associated outbuildings, maintenance associated with management, and associated human and vehicle activities.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Soil Resources Management

Management Actions

Removal of waste rock in floodplains or streams is the principle activity associated with soil resources. Other activities may include surveying (mapping), core drilling, using truck mounted soil augers, digging soil characterization pits and shovel holes, and surface soil erosion studies. These soil resource activities in the planning area are mainly in support of other programs. Soils found along the Snake River floodplain generally are dark, poorly drained, and have a fine sandy loam surface about 24 to 30 inches thick overlying extremely gravelly loamy sand to a depth of 60 inches or more. These soils are characterized by a fluctuating water table between 3 feet and the surface from May through July and are subject to flooding from May through June. Flooding and high water tables put severe limitations on building site development, sanitary facilities, and permanent recreational facilities. Wildlife habitat potential is good and the potential as a gravel source is good. These soils are a poor source for topsoil and for material with which to construct dikes, embankments, or levees.

Upland areas, with slopes from 10 to 90 percent, are dominated by dark, well drained, silt loam or loam

soils greater than 60 inches to bedrock. Some areas have rock fragments throughout the soil profile. These steep slopes are the main limitation to building site development, sanitation facilities, and permanent recreational facilities. Wildlife habitat potential is fair to good while the soils are a poor source for gravel or topsoil.

Effects Analysis

Actions associated with soil resource management are not likely to affect wolf behavior. Implementation of soil resource management actions may ultimately maintain or improve the condition of some habitats and therefore, may result in beneficial effects to elk and other prey.

Determination

Implementation of soil resource management as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Vegetation Resources Management

Management Actions

Vegetation resources management objectives are to maintain or improve the diversity of plant communities to support livestock grazing, wildlife habitat, watershed protection, visual resources, and reduce the spread of noxious weeds. To maintain or enhance essential and important habitats for special status plants species on BLM-land surface and prevent the need for any special status plant species being listed as threatened and endangered.

The BLM has committed to meeting the following range management standards from the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands (**Appendix C**): Standard #2 - riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for groundwater recharge. Standard #3 - upland vegetation on each ecological site consists of plant communities appropriate to the site and is resilient, diverse, and able to recover from natural and human disturbance.

The term noxious weed and invasive weed may be interchangeable, however noxious weeds are listed by the state, whereas invasive weed species are listed by the BLM. Noxious weeds common to the Snake River corridor include: spotted knapweed (*Centaurea maculosa*), Dalmatian toadflax (*Linaria dalmatica*), houndstongue (*Cynoglossum officinale*), Canada thistle (*Cirsium arvense*), and musk thistle (*Carduus nutans*).

The three types of control used by the BLM on public lands are chemical, biological, and mechanical. Chemical control is typically used in cooperation with Teton County Weed and Pest District.

Only federally approved pesticides and biological controls are used. Local restrictions within each county are also followed. The RMP states that if herbicides are proposed for use, minimum toxicity herbicides will be used with appropriate buffer zones along streams, rivers, lakes, and riparian areas, including those along ephemeral and intermittent streams. Projects that may affect threatened or endangered plants or animals will be postponed or modified to protect the presence of these species and consultation with the USFWS will be initiated.

Effects Analysis

Control of invasive weeds may benefit the wolf by improving forage for elk and other big game. Human activities associated with noxious weed control are not likely to disturb wolves. Ultimately, vegetation management practices may improve or create habitats suitable to elk, deer, and moose.

Determination

Implementation of the vegetation management actions as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Visual Resources Management

Management Actions

The Snake River and its cottonwood forest, backed by the Teton, Gros Ventre, and Snake River mountain vistas, provides some of the greatest scenic opportunities in Wyoming. This scenery is integral to the recreation and tourism-based economy of Jackson and Teton County. Several of the public land parcels provide views of the Grand Teton and other peaks in the Teton Range.

A visual resource inventory and classification process is a qualitative analysis that was performed along the riparian corridor of the Snake River, where most human activity on public lands occurs.

VRM actions are conducted in support of and prior to authorizing other resource management efforts. The intent is preservation of an esthetic value. Mitigation to protect visual resources may include structures or facilities be screened from view, painted, or designed to blend with the surrounding landscape.

Effects Analysis

Effects caused by visual resource management activities are not expected to impact wolf behavior or habitats because no field activities are actually involved with VRM management beyond the classification efforts which have been completed. Implementation of VRM management protocols could have a beneficial effect where structures or facilities are removed.

Determination

Implementation of visual resources management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Watershed Resources Management

Management Actions

Both the Snake River and the Gros Ventre River can provide sizeable amounts of water and sediment. The Snake River was traditionally a wide, sometimes braided channel with multiple overflow channels. The Jackson Lake Dam and the almost continuous levee system have altered the flow of water and sediment in the system to the point that the land form between the levees is rapidly changing. The levee system has reduced the river's access to many of its historic overflow channels. This has resulted in changes to the channel system, as well as changes in sediment and energy transport and distribution.

As a result of the high bed load and high flows, the river tends to switch channels frequently. This, in combination with the artificially confined nature of the channel, has created some concern for the remaining islands within the levee system as well as for the stability of the levee system itself. The Snake River Restoration Project has been proposed by Teton County and the U.S. Army Corps of Engineers to help address this situation.

The BLM manages a relatively small amount of land within the Wyoming portion of the Snake River corridor. This, in combination with the high percentage of private land, the levee system, and efforts to manipulate the channel within the levees suggests that the overall effect on water quality from activities taking place on BLM-lands is minor in comparison to the potential presented by the surrounding lands. Recreation related activities and unauthorized dumping are the actions that are most likely to take place on BLM managed lands that could directly affect water quality. Sanitation facilities at key recreation sites and site visits to BLM parcels by land managers help to reduce negative impacts but cannot prevent all undesirable activities.

The Snake River on the BLM parcels was assessed for Proper Functioning Condition on August 15, 1996. On all parcels, the river was determined to be in nonfunctioning condition, primarily because the river levees prevent access to its natural floodplain, prevent regeneration of the cottonwood stands along its banks, and channelize the flow.

The BLM parcels contain some lentic surface water features, such as oxbow lakes and wetlands that have water tables closely tied to the stage of the river. These features are generally located away from the main recreation corridor. Within the levee system, movements of the main channel and efforts to restrain this movement can have a marked effect on the water quality of an individual water body through both erosion and stagnation behind newly constructed features. Given the comparatively small size of these water bodies, the effect that they have on water quality in the Snake River is most likely undetectable.

Water features that exist on BLM parcels outside of the levee system appear to have water levels closely tied to the level of the Snake River. Seeps and springs that have other water sources may exist but they are not immediately evident. Conditions of the water features outside the levees tend to be less disturbed than those within. Conditions also appear to be closely tied to the level of grazing and recreational activity associated with the area.

Effects Analysis

Actions associated with watershed management will not negatively impact wolves or their prey. Watershed improvement practices are likely to improve riparian vegetation and habitat which will benefit elk and other big game.

Determination

Implementation of watershed management actions, as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Wildlife and Fisheries Resources Management

Management Actions

Improvements to ungulate habitat may improve habitats of smaller mammals. If habitat improvements increase the ungulate population, or sustain the existing population for a longer period of time, elk may transition to the feeding grounds later.

Effects Analysis

An increase in ungulate foraging in the riparian zone of the Snake River due to habitat improvements will create more prey for wolves; if animals herd up for longer periods of time, then wolves will also stay in the area for longer. Increased human activity associated with typical surveying and monitoring efforts are not expected to affect wolves. When completed, these wildlife habitat improvement projects may benefit wolves by providing for improved habitats for suitable prey species.

Determination

Implementation of wildlife habitat management actions as presented in the Snake River Draft Resource Management Plan EIS (2003), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Snake River RMP management actions.

Resource	Determination
Climate and Air Quality	Not likely to jeopardize the continue existence of the species
Cultural and Natural History	Not likely to jeopardize the continue existence of the species
Fire	Not likely to jeopardize the continue existence of the species
Hazardous Waste	Not likely to jeopardize the continue existence of the species
Lands and Realty	Not likely to jeopardize the continue existence of the species
Livestock and Grazing	Not likely to jeopardize the continue existence of the species
Minerals and Geology	Not likely to jeopardize the continue existence of the species
Off-Highway Vehicle	Not likely to jeopardize the continue existence of the species
Paleontological	Not likely to jeopardize the continue existence of the species
Recreation	Not likely to jeopardize the continue existence of the species
Soil	Not likely to jeopardize the continue existence of the species
Vegetation	Not likely to jeopardize the continue existence of the species
Visual	Not likely to jeopardize the continue existence of the species
Watershed	Not likely to jeopardize the continue existence of the species
Wildlife and Fisheries	Not likely to jeopardize the continue existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Snake River planning area. Potential effects that could affect wolves or their habitats in the Snake River RMP of the Pinedale FO include the following:

Subdivision development along the Snake River
Sand and gravel operations along the Snake River

Implementation of the Snake River RMP would not change any potential effects to the wolf that may result from current non-federal actions.

ROCK SPRINGS FIELD OFFICE

The Record of Decision and approved Resource Management Plan (RMP) for the Green River Resource Area was signed in August 1997 (BLM 1997). The Green River RMP provides management direction for approximately 3.6 million acres of public land surface and 3.5 million acres of federal mineral estate. The Rock Springs FO occurs in the southwestern portion of Wyoming and includes portions of Sweetwater, Lincoln, Sublette, Fremont, and Uinta counties.

Environmental Baseline

This section presents a summary of the known wolf activity in the Rock Springs FO and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats. Although no resident wolf packs are established in this FO, there are a number of sightings of lone wolves or small groups of wolves. Wolves have been documented around Wamsutter and have shown up east of Rock Springs (Jimenez 2004). In this part of the state, game is less abundant and domestic livestock are plentiful, which often has negative consequences. If depredation occurs on livestock, permits are issued for the control of the wolves causing the conflict.

Existing Conservation Measures

The following section presents measures included in the Rock Springs/Green River RMP that may directly or indirectly minimize impacts to the wolf.

- (a) “Timber harvesting activities will be restricted seasonally, as appropriate, to protect big game wintering and parturition activity, grouse, (sage, sharptail, etc.) strutting and nesting, and raptor nesting activity” (BLM 1997, p.8).
- (b) “Timing limitations (seasonal restrictions) will be applied when activities occur during crucial periods or would adversely affect crucial or sensitive resources. Such resources include, but are not limited to, soils during wet and muddy periods, crucial wildlife seasonal use areas, and raptor nesting areas” (BLM 1997, p.12).
- (c) “The Coal Occurrence and Development Potential area is subject to continued field investigations, studies, and evaluations to determine if certain methods of coal mining can occur without having a significant long-term impact on wildlife, cultural, and watershed resources, in general, and on threatened and endangered plant and animal species and their essential habitats. These studies include keeping resource databases current (e.g., where existing raptor nests become abandoned or where new raptor nests become established, etc.), analysis of effects to wildlife and threatened and endangered species habitats and populations, and the cumulative effects of mining operations and other activities in the area” (BLM 1997, p.13).

Analysis of Proposed Management Actions and Effects

The RMP includes descriptions of each management prescription included in the FO. The following text briefly summarizes the activities and any specific mitigation measures associated with each management prescription. The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities will be applied to all surface disturbing or disruptive activities. As described previously in this document, these guidelines include timing limitations and no surface occupancy restrictions that will minimize potential effects to wolves and their prey. Refer to the Green River RMP for a complete explanation of each management action.

Air Quality Management

Management Action

Special requirements (e.g., use authorization stipulations, mitigation measures, conditions of approval, etc.) to alleviate air quality impacts will be identified on a case-by-case basis and included in use authorizations (including mineral leases). Examples of such requirements would include: limiting emissions, spacing of source densities, requiring the collection of meteorological and/or air quality data, covering conveyors at mine sites (to lower dust emissions), and placing restrictions on flaring of natural gas (to reduce sulfur emissions).

Plant facilities could be authorized where they minimize air quality impacts over the FO, particularly the Flaming Gorge National Recreation Area. They may not be authorized where they might cause heavy fog conditions that are hazardous to public health by causing black ice on major highways, or possibly extreme and continual fog that could inhibit transportation or recreation activities.

The State of Wyoming has the authority and responsibility to regulate air quality impacts within the state, including Class I areas. The BLM will continue to cooperate and coordinate with the USDA-Forest Service, U.S. Environmental Protection Agency, and the State of Wyoming, in managing and monitoring air resources. For example, air quality data (e.g., atmospheric deposition, or acid rain, monitoring data) will be used to determine actual impacts from air pollutant emission sources, and emission levels will be inventoried and tracked to predict potential impacts, including effects on the Bridger Wilderness Area (which is a Prevention of Significant Deterioration Class I area) and to provide detailed information on proposed emission sources.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions related to air quality management will not result in negative impacts to wolf behavior or habitats. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Cultural, Natural History, and Paleontological Resource Management

Management Action

The BLM will cooperate with the National Park Service in implementing the Oregon/Mormon Pioneer National Historic Trails Management Plan. Developments such as roads, pipelines, and power lines may be allowed to cross trails in areas where previous disturbance has occurred and the trail segment has lost the characteristics that contribute to its National Register significance. Motorized vehicles, such as those used for geophysical exploration, or large heavy vehicles such as buses used in recreational tours, or similar activities, could cross and drive down the trails, provided a site specific analysis determines that no adverse effects will occur. Geophysical activities such as shotholes, blasting, and vibroseis locations could, generally, be allowed, provided they are at least 300 feet from the trail, do not occur directly on the

trail, and a site specific analysis determines that visual intrusions and adverse effects will not occur. No blading will be allowed on any historic trail unless necessary to protect life or property. Historic trails are not available for use as industrial access roads (e.g., oil and gas drilling access roads, haul roads for heavy truck traffic).

The Parting-of-the-Ways historical site will be protected by closing it to exploration and development of locatable and saleable minerals and pursuing a withdrawal from mineral location. An existing 40-acre mineral location withdrawal in the area will be retained. The site will be managed under the prescriptions for management in the Oregon/Mormon Pioneer National Historic Trails Management Plan.

Management of historic roads and trails that are eligible for the NRHP but are not congressionally designated include the Overland Trail, the Cherokee Trail, and the Point of Rocks to South Pass Road. LaCiede Stage Station and Dug Springs Stage Station on the Overland Trail will be protected as exclusion areas and will be closed to surface disturbing activities that could adversely affect the sites. These sites will be closed to exploration and development of locatable minerals and entry under the land laws, and withdrawals will be pursued. Cultural resource management plans may be written for these sites, and interpretive and visitor management efforts would be allowed as necessary.

Five significant rock art sites and their surrounding viewsheds (within ½ mile) will be managed to protect their cultural and historical values. Surface disturbing activities and visual intrusions will be prohibited within these areas if they would adversely affect these values. Management of visitor use at rock art sites may include interpretive signing, fencing, barriers, and other activities. The Cedar Canyon, LaBarge Bluffs, Sugarloaf, Tolar, and White Mountain rock art sites are exclusion areas, and are closed to surface disturbing activities that could adversely affect rock art resources.

The Tri-Territory Marker is an exclusion area and is closed to surface disturbing activities that could adversely affect it; and exploration and development of locatable minerals. A withdrawal will be pursued. The site will be open for consideration of activities such as fencing, interpretive signs, or barriers to ensure protection of the area. A cultural resource activity plan may be prepared for the site, if necessary.

Archeological data will be synthesized in the Little Colorado Desert, Greater Nitchie Gulch, and Wamsutter Arch concentrated oil and gas development areas and the areas will be managed with the objective of facilitating surface disturbing or disrupting activities without sacrificing significant archeological values. These areas may be eligible for listing on the NRHP because of their scientific information content. Playa lake areas with high cultural site density would be managed as historic districts. Management prescriptions for surface disturbing activities in playa lake areas will be developed on a case-by-case basis. A programmatic memorandum of agreement for data recovery with the SHPO and ACHP would also be pursued. Each playa may be managed as an NRHP eligible historic district (Blue Forest, Blue Point, and Adobe Town Rim).

The Pine Springs ACEC (6,030 acres) is closed to surface disturbing activities. About 2,000 acres in the area will be closed to exploration and development of locatable minerals and entry under the land laws. Withdrawal from these activities will be pursued. The existing 90-acre withdrawal will be retained. Cultural resource management plans may be written for the site, and interpretive and visitor management efforts may be allowed as necessary.

Consultation with appropriate Native American tribes concerning areas of concern to them for traditional cultural purposes will be in accordance with the American Indian Religious Freedom Act and BLM Manual 8160-1 Handbook. Native American consultation would occur within the context of specific development proposals, but will also be an ongoing process between BLM and affected Indian tribes and traditional cultural leaders.

Collecting of vertebrate fossils may be allowed with written authorization, which may be issued only to an academic, scientific, governmental, or other qualified institution or individual. Collection of common invertebrate fossils and petrified wood for hobby purposes is allowed on public lands and is regulated under 43 CFR 3600, 43 CFR 3622, and 43 CFR 8365. A site protection plan may be written and implemented for the Farson Fossil Fish Beds.

The Steamboat Mountain and Boars Tusk-Killpecker Sand Dunes areas will be managed to protect the unique geological and ecological features and to provide for public interpretation of these features. The road around Boars Tusk is closed.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Action

Ambient air quality standards will be maintained during prescribed fire operations. Heavy equipment or actions that will cause surface disturbance will be used only after a site-specific analysis has been performed and approved. Activities that cause surface disturbance will be considered on a case-by-case basis. Priority areas for wildfire suppression will be identified in fire management activity plans for the FO. A site-specific analysis will be prepared for sensitive areas such as special status plant species, cultural sites, historic trails, and ACECs to determine the appropriate suppression activity that will be acceptable. Use of chemical fire suppression agents is prohibited in rock art sites. Generally, use of chemical fire suppression agents is prohibited in special management areas, unless or until a wildland fire situation analysis is completed or an activity plan for the special management areas identifies chemical suppression agents as an allowable use. Wildfires occurring in forested areas will be appropriately suppressed in accord with resource values threatened, as determined on a case-by-case basis. Wildfires occurring in or directly threatening a developed or active timber sale will receive priority suppression control action. Non-commercial timber stands may be included in prescribed fire activities. Standard management practices such as pile and broadcast burning may be permitted in all forested areas.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Green River RMP (1997) is **not likely to jeopardize the continued existence** of the wolf.

Forests and Woodlands Management

Management Action

The FO is divided into four timber compartments for timber management: Wind River Front, Pine Mountain, Little Mountain, and Hickey Mountain-Table Mountain. Hickey Mountain-Table Mountain will be managed as described in the woodland prescriptions. The Wind River Front is a restricted forest management area where forest resources will be managed for commercial forest values, to improve the health, vigor, and diversity of forest stands, and still give full consideration to other resource values such as watershed, wildlife, minerals, recreation, and scenic values. Pine and Little Mountain areas will be managed to enhance other resources, and activities will be designed to benefit these other resource uses. Priority for timber harvesting will be given to mature, decadent, and diseased trees.

Where possible, and within RMP objectives, timber compartments (commercial and woodland forest lands) will be managed to meet the local demand for minor forest products. These are typically small scale timber sales that occur every 3rd or 4th year only, as well as annual firewood sales, including some commercial sales on the Wind Rivers; there are also cordwood sales with 3-5 cords as the limit (Dunder 2003). The major consideration for timber harvesting in the Wind River Front is to improve the condition of the forest stand with emphasis on meeting wildlife habitat needs. The major consideration for harvesting in other areas is to provide watershed stability and habitat for wildlife needs. Soil, watershed, and wildlife cover are important considerations. Timber stand conditions and management considerations will dictate harvest methods and size and shape of units.

Clearcutting is not allowed within 100 feet of drainages or standing and flowing waters. Other logging activity, such as thinning or cable logging, could occur within the 100-foot zone if other resource values will not be adversely affected. Timber harvesting activities will be restricted seasonally, as appropriate, to protect big game wintering and parturition activity, grouse (sage, sharptail, etc.) strutting and nesting, and raptor nesting activity. Approximately 1,436 acres of commercial timber within big game winter ranges are closed to logging activity, usually from November 15 to April 30. If the logging unit encompasses big game parturition habitats, the area is closed to timber harvest activities usually from May 1 through June 30. There will be no logging activity within grouse nesting sites and raptor nesting sites usually from February 1 to July 31.

Commercial conifer stands will be managed under the guidelines for suppression of wildfires. Aspen and juniper stands will be open to prescribed fire activities to enhance watershed and wildlife values. Habitat fragmentation will be prevented if it has a negative ecological effect. Special management areas (old growth, scientific research areas) will be identified and appropriate management incorporated into activity plans. Woodland Forests - Juniper, Aspen, and Limber Pine Woodland forest areas will be managed using silvicultural practices that promote stand viability. Treatments could include thinning, harvesting, chaining, and burning. The vegetative material resulting from these treatments will normally be sold through public demand sales. Woodland forest acreage will be maintained. Treatments may be implemented that influence successional stages, but such treatments will not permanently convert the areas to another vegetation type. Old aspen stands may be replaced by stands of sprouting aspen by various treatment methods (e.g., burning). Old decadent trees may be left standing or downed to provide cover or other habitat for wildlife, and juniper stands may be replaced where they are encroaching into other vegetation types. Silvicultural treatments in mature timber stands will be designed to improve wildlife habitat and watershed condition, i.e., create small openings to provide forage for wildlife and accumulate snow drifts to increase moisture.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk and other big game. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Green River RMP (1997) is **not likely to jeopardize the continued existence** of the wolf.

Hazardous Materials and Other Hazards Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Activities associated with hazardous materials management will be restricted to roadways, where wolves will likely have become accustomed to some degree of human disturbance. These activities will likely be very limited in scale and infrequent in occurrence.

Determination

Implementation of hazardous materials management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Lands and Realty Management

Management Action

Areas are designated for avoidance or exclusion to rights of way where these uses are incompatible with management of sensitive resources and/or would have unacceptable impacts. Areas designated as utility windows, rights of way concentration areas, and existing communication sites will be preferred locations for future grants.

Withdrawals that no longer serve the purpose for which they were established will be revoked. Prior to revocation, withdrawn lands will be reviewed to determine if any other resource values require withdrawal protection. The Multiple Use Management Classification as it affects public lands in the FO (200 acres) will be revoked. An additional 63 acres inundated by water under Flaming Gorge Reservoir may be withdrawn for the Bureau of Reclamation. Public Water Reserves will be terminated where no longer needed, and acquired where the need exists. No BLM-administered public lands within the FO are available for agricultural entry under Desert Land Entry (43 CFR 2520).

Access to public lands will be provided throughout the FO. Where necessary and consistent with ORV designations, access will be closed, or restricted in specific areas to protect public health and safety, and to protect significant resource values (see ORV Management discussion). Easements will be pursued where practical, to provide access to public lands for recreational, wildlife, range, cultural/historical, mineral, special management area, and other resource management needs (about 300 acres).

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Green River RMP (1997) is **not**

likely to jeopardize the continued existence of the wolf.

Livestock Grazing Management

Management Action

Authorized grazing use will not exceed the recognized permitted active AUMs (318,647 AUMs). Public lands will be made available for livestock grazing while considering the needs of other resources. Livestock grazing will be managed on 31 I category allotments, 18 M category, and 29 C category Allotments, and one allotment may not be categorized.

Interdisciplinary monitoring studies will be conducted at a level sufficient to detect changes in grazing use, trend, and range conditions and to determine if vegetation objectives will be met for all affected resource values and uses (livestock grazing, wild horses, wildlife, watershed, etc.).

The Palmer Draw area (970 acres) and special management exclosures are closed to livestock grazing. All developed and some semi-developed recreation areas are closed to livestock grazing and will be fenced to reduce conflicts between uses. Authorized grazing preference may be reduced in areas with excessive soil erosion and poor range condition, if allotment evaluation warrants such a change, or to provide forage for wildlife, wild horse, and recreational uses.

Site-specific analyses will be conducted where necessary to help determine how to alleviate conflicts between wildlife use, livestock grazing, and development activities. Unallotted forage on public lands will be appropriately allocated to wildlife, wild horses, livestock grazing, and for watershed improvement on a case-by-case basis. Salt or mineral supplements for livestock are prohibited within 500 feet of water, wetlands, or riparian areas unless analysis shows that watershed, riparian, and wildlife objectives and values would not be adversely affected. Salt or mineral supplements are prohibited on areas inhabited by special status plant species or other sensitive areas. Range improvements will be directed at resolving or reducing resource concerns, improvement of wetland/riparian areas, and overall improvement of vegetation/ground cover.

Water sources may be developed in crucial wildlife winter ranges only when consistent with wildlife habitat needs. Such sources will be designed to benefit livestock, wild horses, and wildlife. Alternative water supplies or facilities for livestock may be provided to relieve livestock grazing pressure along stream bottoms and improve livestock distribution. Construction of fences may be considered to meet management objectives. Fence construction in big game use areas and known migration routes will require site-specific analysis. Fences on public lands will be removed, modified, or reconstructed if documented wildlife or wild horse conflicts occur. Requests for conversions of kinds of livestock and changes in seasons of grazing use will be considered on a case-by-case basis through an environmental analysis. Noxious weed infestations will be controlled through livestock management or by environmentally acceptable mechanical, chemical, or biological means.

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk and other big game. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Minerals Management

Management Action

The objective of minerals management is to maintain or enhance opportunities for mineral exploration and development while protecting other resource values. Public lands within the checkerboard areas of landownership are open to mineral leasing and development with mitigation measures to be applied on a case-by-case basis.

Public lands within the checkerboard area are open to mineral leasing and development (to promote mineral resource recovery) with appropriate mitigation measures to be applied on a case-by-case basis. BLM-administered public lands not specifically closed are open to consideration for oil and gas leasing. Public lands closed to leasing include lands within the Red Creek ACEC and portions of the Wind River Front. The remainder of public lands in the FO is open to consideration for oil and gas leasing with appropriate mitigation measures. Where maximum protection of resources is necessary, a No Surface Occupancy requirement will be imposed. Timing limitations (seasonal restrictions) will be applied when activities occur during crucial periods or would adversely affect crucial or sensitive resources. Such resources include, but are not limited to, soils during wet and muddy periods, crucial wildlife seasonal use areas, and raptor nesting areas. Where controlled use or restrictions on specific activities are needed but do not necessarily exclude activities, controlled surface use or surface disturbance restrictions will be designed to protect those resources. These restrictions will be placed on areas where resources could be avoided or adverse effects could be mitigated. To the extent that laws and regulations allow, the areas closed to oil and gas leasing will remain closed to leasing of oil and gas unless drainage results in a loss of federal minerals through production on adjacent private or state lands (drainage).

Geothermal resources are open to leasing consideration in areas that are open to oil and gas leasing consideration. Areas closed to oil and gas leasing are also closed to geothermal leasing. Exploration and development of geothermal resources are subject to application of mitigation requirements for surface disturbing activities and other activities in the same manner as they are applied to oil and gas exploration and development activities.

With appropriate limitations and mitigation requirements for the protection of other resource values, all BLM-administered public lands and Federal coal lands in the Rock Springs FO, except for those lands identified as closed, are open to coal resource inventory and exploration to help identify coal resources and their development potential.

The Coal Occurrence and Development Potential area is subject to continued field investigations, studies, and evaluations to determine if certain methods of coal mining can occur without having a significant

long-term impact on wildlife, cultural, and watershed resources, in general, and on threatened and endangered plant and animal species and their essential habitats. Such investigations, studies and evaluations may be conducted on an as-needed or case-by-case basis in reviewing individual coal leasing or development proposals (e.g., mine plans) or, if opportunities or needs arise, area-wide studies may be conducted. These studies include keeping resource databases current (e.g., where existing raptor nests become abandoned or where new raptor nests become established, etc.), analysis of effects to wildlife and threatened and endangered species habitats and populations, and the cumulative effects of mining operations and other activities in the area. Consultation with other agencies (e.g., USFWS, WGFD), interested parties, and industry, will occur as needed or required.

Big game crucial winter ranges and birthing areas are open to further consideration for federal coal leasing and development with a provision for maintaining a balance between coal leasing and development, and adequate crucial winter range and birthing area habitats to prevent significant adverse impacts to important big game species. This will be accomplished through controlled timing and sequencing of federal coal leasing and development in these areas.

The greater Cooper Ridge and Elk Butte areas are open to further consideration for federal coal leasing and development, pending further study (about 25,368 acres). This study is for the purpose of defining the extent of any deer and antelope crucial winter range in the area, and for determining if certain methods of coal mining can occur in the area without having a significant long-term impact on the deer and antelope herds.

For the protection of important rock art sites, other important cultural resource values, and important geologic and ecologic features, Federal coal lands with these important values are open to consideration for further leasing and development by subsurface mining methods only.

In general, cultural sites on federal coal lands are avoidance areas for surface disturbing activities. As avoidance areas, cultural sites are open to consideration for coal leasing and development with appropriate measures to protect these resources. Surface disturbing activities associated with such actions as surface coal mining methods, exploration drilling, construction and location of ancillary facilities, roads and other types of rights of way, etc., will be avoided, if possible. In cases where it is not possible to avoid these areas, intensive mitigation of the surface disturbing activities (primarily excavation and other data recovery measures) will be emphasized.

Active grouse leks (sage and sharptail grouse) and the area within a ¼ mile radius of active leks are avoidance areas for surface disturbing activities and are open to consideration for federal coal leasing and development with the following requirements:

Surface disturbing activities associated with such actions as surface coal mining methods, exploration drilling, construction of roads and other types of rights of way, etc., will be avoided in these areas, if possible. In cases where it is not possible to avoid these areas, intensive mitigation of the surface disturbing activities will be emphasized.

Permanent and high profile structures, such as buildings, overhead powerlines, other types of ancillary facilities, etc., are prohibited in these areas.

During the grouse mating season, surface uses and activities are prohibited between the hours of 6:00 p.m. and 9:00 a.m., within a ½ mile radius of active leks (i.e., those leks occupied by mating birds).

Wetland and riparian areas on federal coal lands are avoidance areas for surface disturbing activities and are open to consideration for coal leasing and development with the following requirements: surface

disturbing activities associated with such actions as surface coal mining methods, exploration drilling, construction of ancillary facilities, roads and other types of rights of way, etc., will be avoided in these areas, if possible. In cases where it is not possible to avoid these areas, intensive mitigation of the surface disturbing activities will be required.

Most of the FO is open to consideration of mineral material sales and activity except for areas where such activity would cause unacceptable impacts. As sale areas, community pits, and localized common use areas become established to provide for sales of mineral materials, such as moss rock and sand, their use and management will be in conformance with other resource objectives.

The mineral classification withdrawals in the FO (phosphate, coal, oil shale) will be revoked. In some areas, these classification withdrawals will remain in effect until replaced with an appropriate withdrawal for other, appropriate purposes (see Special Management Area section). Other withdrawals from mineral location will be pursued to provide protection to important resource values.

Most of the FO is open to consideration of geophysical activities except where off-road vehicle use or explosive charges would cause unacceptable impacts. Geophysical activities will generally be required to conform to the ORV designations and ORV management prescriptions for the FO. However, geophysical exploration has been and will continue to be routinely granted site-specific authorization for off-road vehicle use subject to appropriate limitations to protect various resources identified during analysis of proposed actions.

Generally, shotholes and vibroseis activity will be restricted or disallowed within 300 feet of historic and recreational trails; however, exceptions may be allowed if supported by a site-specific analysis. Geophysical travel through developed and semi-developed recreation sites is restricted to existing roads and trails. Geophysical exploration on sections of the Sweetwater River, identified as having potential for wild classification under the Wild and Scenic Rivers Act requirements, is limited to foot access and placement of surface cables. No motorized vehicle use is allowed in these areas. Surface charges may be allowed if a site specific analysis determines no adverse impacts would occur to river values.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicle Management

Management Action

Areas for ORV rallies, cross-country races, and outings may be provided on a permit basis. Approximately 170,000 acres are closed to off-road vehicle use to protect naturalness and outstanding opportunities for solitude, or primitive and unconfined recreation. In areas designated as either “limited” to designated roads and trails or “limited” to existing roads and trails for off-road vehicle use, motorized vehicles must stay on designated or existing roads and trails, unless allowed an exception by the authorized officer. This limitation applies to all activities involving motorized vehicles. Vehicular travel in crucial and important wildlife habitats and during crucial and important periods will be restricted seasonally, as necessary (strutting grounds, spawning beds, big game ranges, calving/fawning periods, etc.).

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Much of the Rock Springs FO is not subject to open ORV use. ORV use in the FO is best characterized as limited in frequency and intensity. No major new recreational programs or activities are anticipated in the FO. ORV management and use in the Rock Springs FO is not expected to result in detrimental effects to wolf behavior or denning, travel, or foraging habitats.

Determination

Implementation of ORV management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Resource Management

Management Action

Most public lands in the FO are open to consideration of all individual, commercial, and competitive outdoor recreation uses. Camping in other riparian areas is allowed within 200 feet of water. Areas will be closed to camping if resource damage occurs. Special recreation permits will be considered on a case-by-case basis.

The Continental Divide National Scenic Trail, Continental Divide Snowmobile Trail, the Green River, and the Wind River Front are designated special recreation management areas (SRMAs) to place management emphasis on enhancing recreation opportunities and to focus management on areas with high recreation values or areas where there are conflicts between recreation and other uses. The remainder of the FO will be managed as an extensive recreation management area (ERMA).

The Wind River Front is a designated SRMA. The Wind River Front SRMA is all of the BLM-administered public lands that lie north of Township 27, east of Highway 191, northwest of Highway 28, and south of the Bridger-Teton and Shoshone National Forests. To facilitate management, the area is divided into two units. The boundary between the two units is the Continental Divide, and the eastern unit includes the Prospect Mountains.

The management objective emphasis for the Eastern Unit of the SRMA is for scenic, watershed, and wildlife values; recreation use; riparian and vegetation resources; and to provide protection to the Class I airshed in the Bridger Wilderness. Major facilities (including linear facilities) are generally prohibited in this unit. Some facilities could be allowed if analysis indicates that the management objectives for the unit could be met. The Eastern Unit of the SRMA is closed to mineral leasing. Surface disturbing activities must conform to unit management objectives. The 500 acres associated with the Arabis pusilla portion of the Special Status Plants ACEC is closed to ORV use. In the remainder of the unit, ORV use is limited to designated roads and trails. Seven BLM-administered public land parcels along the Sweetwater River (involving about 9.7 miles of the river) will be managed under the Wild and Scenic Rivers Act interim management guidelines. The suitable public land parcels along the river are closed to mineral location and withdrawal from the public land laws, including the mining laws, will be pursued.

The management objective emphasis for the Western Unit of the SRMA is for dispersed recreation uses such as camping, hunting, and fishing, with full consideration given to wildlife, cultural, vegetation, watershed values, and mineral development activity. This unit of the SRMA is open to mineral leasing. Transportation planning will be completed prior to allowing development in the unit. Linear facilities will be required to conform with the transportation plan and follow existing routes and previously disturbed areas. Surface disturbing activities are prohibited in the Dry Sandy Swales and the area within 1 mile of Dry Sandy Swales.

No new recreational programs or activities are anticipated or foreseen in this FO.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects on wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Special Status Species Management

Management Action

The objectives of special status species management are to:

- Maintain or enhance essential and important habitat and prevent destruction or loss of species' communities and important habitat;
- Provide opportunities for enhancing or expanding the habitat; and
- Prevent the need for listing these species as threatened or endangered.

Special Status species are those plant and animal species which are proposed for listing, officially listed (threatened and endangered), or candidates for listing as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act; those listed or proposed for listing by a state in a category implying potential endangerment or extinction; and those designated by each BLM State Director as sensitive. The management actions for special status species apply only to BLM-administered public lands. Emphasizing management of these species on public lands and preventing these species from being listed as threatened or endangered would benefit all parties within the Rock Springs FO. When species are listed as threatened and endangered, by law they become more universally protected on private, and state-owned lands, in addition to federal lands.

Any management actions on potential habitat of special status plant species communities on federal land or on split estate lands (i.e., non-federal land surface ownership with BLM-administered federal minerals ownership) will require searches for the plant species prior to project or activity implementation to determine the locations of special status plant species and essential and/or important habitats. Special status plant populations are closed to activities that could adversely affect these species and their habitat. Management requirements in habitat areas may include prohibiting or limiting motorized vehicle use, surface uses, and explosive charges or any other surface disturbing or disruptive activity that may cause adverse effects to the plants.

Locations of special status plant species are open to consideration for mineral leasing with a no surface occupancy requirement. Should new special status plant species be identified, they will be managed under the same prescriptions described above for the known species. Management prescriptions for threatened and endangered species and proposed threatened and endangered species will be developed on a case-by-case basis in consultation with the U.S. Fish and Wildlife Service. Known locations of special status species will be evaluated on a case-by-case basis to determine if they meet the relevance and importance criteria to be considered for ACEC designation.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with special status species will not result in detrimental impacts to wolf behavior or their habitats. These actions will result in positive effects to wolves by limiting harassment and disturbance to denning, travel, and foraging areas.

Determination

Implementation of the special status species management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Vegetation Management

Management Action

Riparian habitat will be maintained, improved, or restored to provide wildlife and fish habitat, improve water quality, and enhance forage conditions. Where possible, acquisition of additional riparian area acreage will be pursued to enhance riparian area management. The minimum management goal for riparian areas is to achieve proper functioning condition. This is considered the first priority for vegetation management. Desired plant communities must meet the criteria for proper functioning condition.

Desired plant community objectives for upland and riparian areas will be established for the FO through individual site-specific activity and implementation planning and as updated ecological site inventory data become available. All activity and implementation plans will incorporate desired plant community objectives.

Prescribed fire will generally be the preferred method of vegetation manipulation to convert stands of brush to grasslands and to promote regeneration of aspen stands and/or shrub species.

Vegetation manipulation projects will be conducted to reach multiple use objectives and will involve site-specific environmental analysis and coordination. All vegetation manipulation projects will involve site-specific environmental analysis; coordination with affected livestock operators and the WGFD; and will include multiple use objectives for resource uses including livestock grazing, wildlife, recreation, and watershed. Vegetation treatments will be designed to be compatible with special status plant species. For example, spraying, burning, mechanical disturbances, etc. will not be allowed to adversely affect these plant species.

Riparian habitat in proper functioning condition is the minimum acceptable status or level within the Rock Springs FO. Under this RMP, 75 percent of the riparian areas should, within 10 years, have activity and implementation plans in various states of implementation that will allow riparian areas to achieve or maintain proper functioning condition. Site-specific activity and implementation plans will be used to identify methods to achieve or maintain proper functioning condition in riparian areas.

The next step beyond basic proper functioning condition of riparian areas is the achievement of desired plant communities. Desired plant community objectives will be developed on riparian areas based on any of several different methods, including Ecological Site Inventory, comparison areas (comparison areas would have similar soils, aspect, vegetation, and precipitation), and estimating the structural component that can be achieved in the short term. Desired plant community objectives can be short and long term.

While the desired plant community establishes objectives for the riparian area or upland plant community, the Desired Future Condition establishes goals for entire watersheds (or larger blocks of land) involving all activities and resources. No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with vegetation management including increased human presence and use of machinery or fire to implement management actions are not likely to affect wolves. Riparian habitats are most likely to experience vegetation management actions. These habitats will benefit from such actions which will benefit ungulate prey. The use of prescribed fire as vegetation manipulation to convert stands of brush to intermixed grassland/shrub steplands, and the promotion of aspen stands and/or shrub species regeneration will benefit wolves by increasing the amount and quality of habitat for elk and other ungulate prey. Implementation of vegetation management actions are likely to result in positive effects to wolf habitats, such as the creation or expansion of habitats suitable to potential prey species.

Determination

Implementation of the vegetation management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Visual Resource Management

Management Action

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Watershed/Soils Management

Management Action

Management in the FO will emphasize:

Reduction of sediment, phosphate, and salinity load in drainages where possible;
Maintaining and improving drainage channel stability; and
Restoring damaged wetland areas.

Surface disturbing and construction activities (e.g., mineral exploration and development activities, pipelines, powerlines, roads, recreation sites, fences, wells, etc.) that could adversely affect water quality, and wetland and riparian habitat, will avoid the area within 500 feet of or on 100-year floodplains, wetlands, or perennial streams and within 100 feet of the edge of the inner gorge of intermittent and large ephemeral drainages. Proposals for linear crossings in these areas will be considered on a case-by-case basis.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of watershed/soil resources is not expected to detrimentally impact wolf behavior or suitable denning, travel, or foraging areas. Actions associated with soil resource management are not likely to disturb wolves. Implementation of soil resource management actions may maintain or improve the condition of some habitats and therefore may result in beneficial effects to suitable habitats for wolf prey.

Determination

Implementation of watershed/soil management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Wild Horse Management

Management Action

Wild horses will be managed within five Wild Horse Herd Management Areas. These are the White Mountain, Divide Basin, Adobe Town, Salt Wells, and Little Colorado Wild Horse Herd Management Areas. An appropriate management level of 1,105 to 1,600 wild horses will be maintained among the five herd management areas.

The site specific activity plans for the five wild horse herd management areas in the FO will be maintained to conform with RMP objectives for vegetation management and implemented. Specific habitat objectives for herd management areas will be developed. Water developments will be provided if necessary, to improve herd distribution and manage forage utilization. Water developments on crucial winter ranges could be allowed if they conform with wildlife objectives and do not result in adverse impacts to the crucial winter range. Wild horse herd management will be directed to ensure that adequate forage (about 17,400 AUMs) will be available to support appropriate management levels in the herd units and that herds maintain appropriate age, sex, and color ratios. Selective gathering programs will be implemented in each of the wild horse herd management areas. Gathering plans will be prepared for removal of excess horses from inside and outside the wild horse herd management areas. Other resource uses will be maintained and protected consistent with those resource management objectives while maintaining viable, healthy wild horse herds and appropriate herd management levels.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with wild horse management in the White Mountain, Divide Basin, Adobe Town, Salt Wells, and Little Colorado Wild Horse WHHMAs are expected to be limited to occasional herding, corralling, and transporting of horses. These actions are not expected to detrimentally impact the behavior or denning sites of wolves.

Determination

Implementation of wild horse management, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Wilderness Management

Management Action

The objective of wilderness management is to retain the wilderness quality and manage the Wilderness Study Areas (WSAs) in the FO in accordance with the Interim Management Policy and Guidelines for Lands Under Wilderness Review, until Congress acts on designation.

Discretionary uses within or adjacent to WSAs will be reviewed to ensure they do not create conflicts with management and preservation of wilderness values. Should Congress designate the WSAs in the FO (partially or wholly) as wilderness, the management of the designated areas will be for wilderness values, either as described in the appropriate wilderness EIS or as directed by Congress. Should Congress not designate areas (partially or wholly) as wilderness, the management of the nondesignated areas will be in

accordance with the approved Green River RMP or as otherwise directed by Congress.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with wilderness management are not likely to disturb wolves or have negative impacts on their habitats. These actions will result in positive effects to wolves by limiting harassment and disturbance to denning, travel, and foraging areas.

Determination

Implementation of the wilderness management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Wildlife Management

Management Action

To the extent possible, suitable wildlife habitat and forage will be provided to support the Wyoming Game and Fish Department (WGFD) 1989 Strategic Plan objectives. Changes within WGFD planning objective levels will be considered based on habitat capability and availability and site specific analysis. High value wildlife habitats will be maintained or improved by reducing habitat loss or alteration and by applying appropriate distance and seasonal restrictions and rehabilitation standards to all appropriate activities.

Needed special management and riparian management exclosures will be developed and/or maintained, and exclosure plans will be implemented for enhancement of wildlife habitat. Exclosures are closed to livestock grazing use and no AUMs in these areas will be available for livestock use. Aquatic, wetland, and riparian habitat are not suitable for disposal unless opportunities exist for land exchange for lands of equal or better value.

Habitat management plans will be developed, where needed, particularly for highly developed and disturbed areas to mitigate wildlife habitat losses. Plans could include habitat expansion efforts, T&E species reintroduction, and population goals and objectives. Such actions as preparing transportation plans and reclaiming roads, seeding, and vegetation enhancement (vegetation treatments, fencing), water developments, and reclamation actions to reduce the amount of disturbance, will be considered. Areas identified for consideration of such plans include, but are not limited to, the Little Colorado Desert (including the Fontenelle II and Blue Forest units), Nitchie Gulch, Wamsutter Arch, Patrick Draw, and Cedar Canyon areas.

Effects Analysis

The implementation of management actions associated with wildlife habitat management will likely have positive effects by maintaining or improving existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Green River RMP (1997), is

not likely to jeopardize the continued existence of the wolf.

Special Designation Management Areas

Management Action

Several Areas of Critical Environmental Concern (ACEC) are identified in the Rock Springs FO. These ACECs are each managed to achieve specific goals and objectives unique to the resource values identified within each ACEC. A detailed description of specific management goals and objectives for each ACEC is available in the Green River RMP (BLM 1997). No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with most ACECs will not result in detrimental impacts to wolf behavior or their habitats. These actions will result in positive effects to wolves by limiting harassment and disturbance to potentially suitable denning, travel, and foraging areas. The exceptions are: The eastern portion of the Greater Sand Dunes ACEC, as it is a recreational areas for OHVs; South Pass Historic Landscape ACEC, which is managed to protect and interpret historic trails, but has hundreds to thousands of visitors annually; the Red Desert Watershed Management Area, which has had several confirmed and unconfirmed wolf sightings, and is quickly being developed with coal bed methane projects with extremely close spacing and a lot of infrastructure, an allowed use, but not a management goal of this ACEC. All of these areas would have negative impacts to wolves and their prey base, but would not result in jeopardy to the continued persistence of wolves.

Determination

Implementation of the special designation management actions, as presented in the Green River RMP (1997), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Green River RMP management actions.

TABLE 8: SUMMARY OF THE DETERMINATIONS FOR GREEN RIVER RMP

Resource	Determination
Air Quality	Not likely to jeopardize the continues existence of the species
Cultural, Natural History, and Paleontological Resources	Not likely to jeopardize the continues existence of the species
Fire	Not likely to jeopardize the continues existence of the species
Forest and Woodlands	Not likely to jeopardize the continues existence of the species
Hazardous Materials	Not likely to jeopardize the continues existence of the species
Lands and Realty	Not likely to jeopardize the continues existence of the species
Livestock Grazing	Not likely to jeopardize the continues existence of the species
Minerals	Not likely to jeopardize the continues existence of the species
Off-Road Vehicles	Not likely to jeopardize the continues existence of the species
Recreation	Not likely to jeopardize the continues existence of the species
Special Status Species	Not likely to jeopardize the continues existence of the species

TABLE 8: SUMMARY OF THE DETERMINATIONS FOR GREEN RIVER RMP

Resource	Determination
Vegetation	Not likely to jeopardize the continues existence of the species
Visual Resources	Not likely to jeopardize the continues existence of the species
Watershed/Soils	Not likely to jeopardize the continues existence of the species
Wild Horses	Not likely to jeopardize the continues existence of the species
Wilderness	Not likely to jeopardize the continues existence of the species
Wildlife	Not likely to jeopardize the continues existence of the species
Special Designation Management Areas	Not likely to jeopardize the continues existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Rock Springs FO and that might affect the wolf and its habitat. Existing and proposed activities on non-federal lands that could affect wolves or their habitats include:

- Coal mine operations
- Coalbed methane
- Transmission lines
- Seismic exploration
- Trona (soda ash) mining
- A proposed power plant
- Proposed wind farms
- Livestock grazing on private lands
- Municipal dump expansions
- Housing developments

Most of these activities are situated away from important wolf habitats. However, certain components of these projects, if completed, could directly or indirectly affect wolves or their prey. Implementation of the Green River RMP would not change any potential effects to the wolf that may result from current non-federal actions.

WORLAND FIELD OFFICE: GRASS CREEK RMP

The Record of Decision and Approved Resource Management Plant (RMP) for the Grass Creek Resource Area of the Worland BLM Office was signed in September 1998 (BLM 1998). The RMP provides the management direction for approximately 968,000 acres of public land surface and 1,171,000 acres of federal mineral estate. The Worland Field Office occurs in the north-central portion of Wyoming, occupying portions of Big Horn, Hot Springs, Park, and Washakie counties.

Environmental Baseline

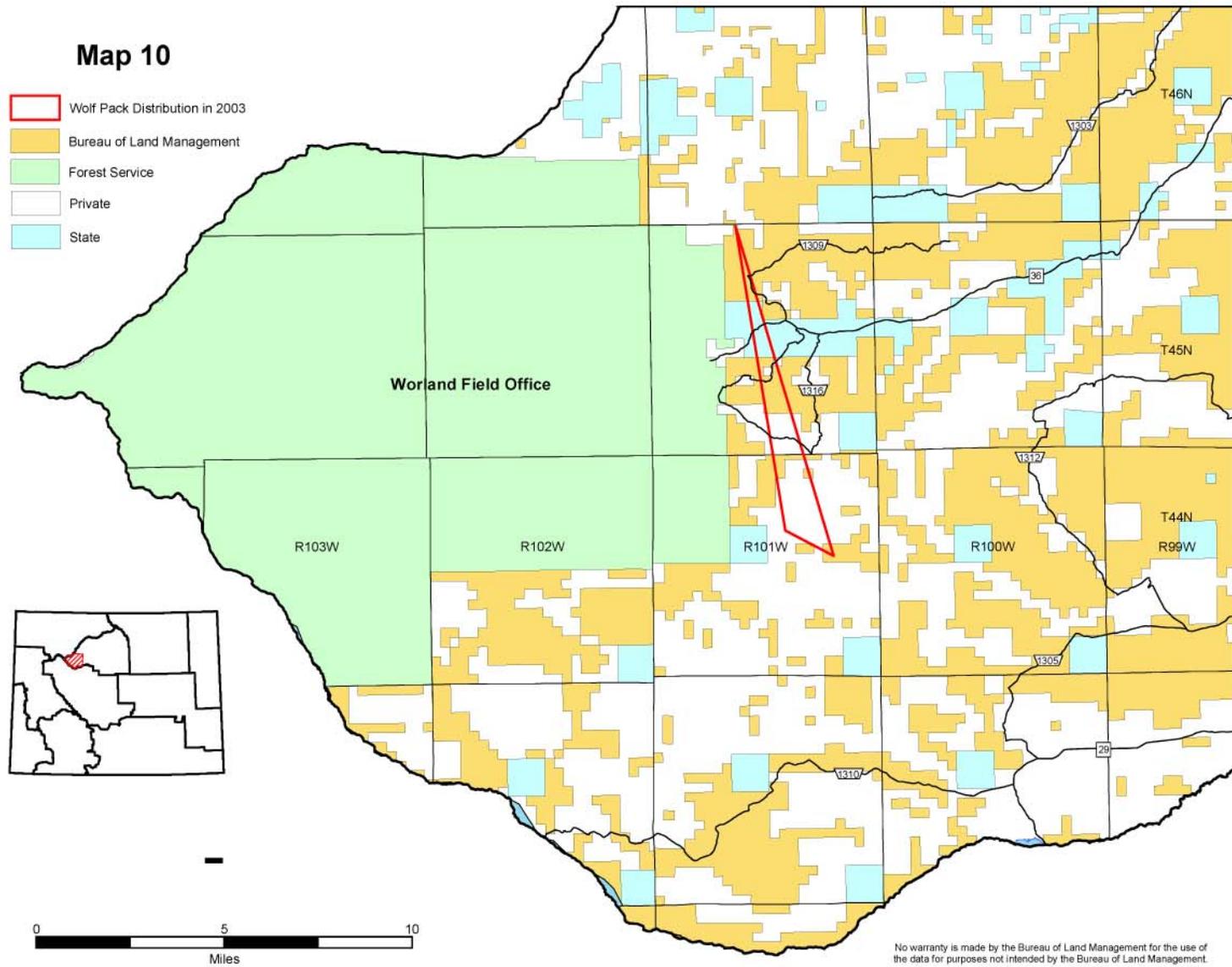
This section presents a summary of the known wolf distribution, and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats in the Grass Creek RMP. Wolves have been sighted southwest of Meteteetsee, east to Ten Sleep and up into the Bighorn Mountains close to the top of Powder River Pass, and in the basin around Worland (Stephens 2004). Wolf packs first appeared in the FO in 2003 (**Maps 2-5**) (USFWS et al. 2004). A very small home range is delineated at the base of the Absarokas, by Sugarloaf Mountain, and a partial circle is mapped in the Big Horns that overlaps into the Buffalo FO (**Map 10**). The circle indicates the center of known activity when telemetry data are not available. Subsequent to the mapping effort, a third pack, the Washakie pack from the Shoshone National Forest in the Dubois area, expanded their range into the Worland FO for about a month (Stephens 2004). The surface area of the mapped wolf packs on BLM land is 868 acres; it is compromised in accuracy by not including the area of the sojourn of the Washakie pack into the FO, and by the estimate provided by the circle.

Existing Conservation Measures

The following section presents measures included in the Grass Creek RMP that may directly or indirectly minimize impacts to wolves or their prey:

- (a) "The BLM will participate with the FWS in the evaluation and designation of critical habitat for threatened or endangered species on BLM-administered lands. If proposed surface-disturbing or disruptive activities could affect these species, the BLM will consult with the FWS as required by the Endangered Species Act." (BLM 1998, p. 22).
- (b) "No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat" (BLM 1998, Appendix 3, p. 60).
- (c) "Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications)" (BLM 1998, Appendix 3, p. 60).
- (d) "The following conditions would be evaluated during the review process. The degree to which any of these conditions apply to a proposed ownership adjustment may or may not make the lands suitable for sale, exchange, transfer, or acquisition - Tracts identified as potential recovery habitat for federally listed endangered, threatened, candidate, or emphasis species" (BLM 1998, Appendix 4, p. 75).

Map 10. Worland FO and Buffalo FO Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



Analysis of Proposed Management Actions and Effects

The RMP includes descriptions of each management prescription applied within the FO. The following text briefly summarizes the activities and any specific mitigation measures associated with each management prescription. The Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities will be applied to all surface-disturbing or disruptive activities. As described previously in this document, these guidelines include timing limitations and "no surface occupancy" restrictions that will minimize potential effects to wolves and their habitats. Refer to the Grass Creek RMP for a complete explanation of each prescription.

Air Quality Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions related to air quality management will not result in negative impacts to wolf behavior or habitats. Implementation of these management actions will likely result in maintaining or improving environmental conditions throughout the FO, which may have secondary benefits to wolves and their prey.

Determination

Implementation of air quality management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Cultural, Paleontological, and Natural History Resources Management

Management Action

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Action

The objectives of fire management are to cost-effectively protect life, property, and resource values from undesired wildland fire, and use prescribed and wildland fire to achieve multiple-use management goals. The Worland District Fire Management Plan will be maintained and revised, as necessary, and implemented. The plan will address fire management on a watershed or landscape scale, in order to meet desired plant community and other resource management objectives identified in this RMP and in future activity plans. The use of minimal impact suppression techniques will restrict fire vehicles to existing roads and trails on public lands near the Legend Rock Petroglyph Site and within 0.25 mile of the high-water mark at Wardel Reservoir, to protect riparian habitat and a great blue heron rookery. Other travel restrictions will be considered in future activity planning. The construction of fire lines will be avoided if natural fire breaks can be used.

The use of bulldozers generally is prohibited in riparian and wetland areas, in areas of significant cultural resources or historic trails, and in important wildlife birthing areas. Fire retardant drops by air tankers are prohibited within 200 feet of water. The use of heavy equipment to construct fire lines and the use of chemical and dye retardants will be restricted or prohibited near rock art. Prescribed and wildland fire will be used to accomplish resource management objectives. When prescribed fires are planned, and when wildland fires are managed, the potential for habitat fragmentation will be evaluated. Actions that would disrupt or divide habitat blocks, other than temporarily, will be avoided. When fire and mechanical or biological treatments can be used effectively to manage vegetation, they will be preferred over chemical treatments. Surface-disturbing and disruptive activities associated with all types of fire management will be subject to appropriate mitigation developed through use of the mitigation guidelines.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Grass Creek RMP (1998) is **not likely to jeopardize the continued existence** of the wolf.

Forestland Management

Management Action

The objective of forestland management is to maintain and enhance the health, productivity, and biological diversity of forest and woodland ecosystems. Road construction for harvesting timber or for conducting forest management practices is prohibited on slopes greater than 25 percent, unless site-specific environmental analyses demonstrate that adverse effects can be mitigated or avoided. Skidder-type yarding is prohibited on slopes greater than 45 percent. Other logging operations on slopes steeper than 45 percent are limited to technically, environmentally, and economically acceptable methods such as cable yarding. Emphasis for silvicultural practices and timber harvesting will be placed on areas where forest health is the primary concern (including forests that are infested by mistletoe or mountain pine beetles). A variety of forest silvicultural and cutting methods will be used such as clearcutting, shelterwood, individual tree selection, and various regeneration treatments.

In important seasonal wildlife habitat areas, clearcuts generally will not exceed 300 yards (approximately 15 acres) in any direction. Wildlife escape cover will be maintained by keeping a corridor of trees around, or on one or more sides of, roads, clearcuts, parks, wetlands, and wallows. Trees and snags will not be cut if they provide important habitat for cavity or snag-nesting wildlife. When harvests are planned, the potential for habitat fragmentation will be evaluated. Actions that would disrupt or divide habitat blocks, other than temporarily, will be avoided. Slash disposal will be tailored to promote reforestation, minimize erosion, and allow ease of movement for wildlife. Forest products will be sold from limber pine and juniper woodland areas to meet public demand for posts, poles, firewood, and specialty wood consistent with wildlife habitat requirements. Harvesting firewood on public lands along desert waterways and the Bighorn and Greybull rivers is prohibited. Prescribed and wildland fire will be used to improve aspen stands, regenerate old age forest stands, manage for desired successional stages and forest species composition, and rehabilitate harvest areas. Surface-disturbing and disruptive activities associated with all types of forest management will be subject to appropriate mitigation developed through use of the mitigation guidelines.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk and other big game. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Grass Creek RMP is **not likely to jeopardize the continued existence** of the wolf.

Hazardous Materials and Wastes Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Activities associated with hazardous materials management will be restricted to roadways, where wolves will likely have become accustomed to some degree of human disturbance. These activities will likely be very limited in scale and infrequent in occurrence.

Determination

Implementation of hazardous materials management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Lands and Realty Management

Management Action

The BLM will pursue public access on important roads and trails identified in the BLM transportation plan. The transportation plan will be updated as necessary and implemented to provide access to large blocks of public land or to smaller parcels of land having high public values. The BLM will maintain or improve existing opportunities for public access in the upper Grass Creek area. Emphasis will be placed on acquisition of access to public lands on the Bighorn and Greybull rivers to enhance recreational opportunities and wildlife management. The BLM will pursue a combination of motorized and nonmotorized vehicle access in the Enos Creek, the upper Cottonwood Creek, and the upper South Fork of Owl Creek areas of the Absaroka Mountain foothills. Goals are to provide vehicle access to the South Fork of Owl Creek to improve fishing and other recreational opportunities and to acquire foot and horseback access to the Shoshone National Forest. All access will be limited seasonally and to specific routes as appropriate. The BLM will pursue limited motorized vehicle access on roads in the Red Canyon Creek area consistent with an overall objective to emphasize primitive recreation.

Access to specific areas may be closed or restricted to protect public health and safety. Before access is upgraded in the vicinity of important cultural, paleontological, natural history, wildlife habitat, or other sensitive resources, the security and protection of these resources will be carefully considered.

Before any public lands are exchanged or sold, or before the BLM would attempt to acquire any other lands in the planning area, the BLM will consult with county commissioners and other representatives of local government in the affected areas. Other affected and interested citizens will also be given opportunities to comment. About 1,220 acres will be considered for suburban expansion, community landfills, industrial and commercial development, and other public needs near the communities of Worland, Thermopolis, Meeteetse, and Basin. Agricultural trespass on public land generally will be resolved by prohibiting the unauthorized use; however, land sales, exchanges, or leases could resolve agricultural trespass in some cases. Leases might be used to develop the lands as wildlife food and cover areas. Proposals for sale, exchange, or transfer of public land will be subject to appropriate criteria. Priority will be given to landownership adjustments that meet community needs. The preferred method of adjusting landownership is exchange. Approximately 33,700 acres of public lands that are difficult or

uneconomic to manage will have priority consideration for public sale, Recreation and Public Purposes Act lease or patent, exchange, or transfer of jurisdiction to another agency. Proposals for the sale, exchange, or transfer of other public lands in the planning area will be considered on a case-by-case basis. Exchanges will be pursued to improve management of important seasonal wildlife habitat areas in the upper portions of Owl, Cottonwood, Gooseberry, and Grass creeks. Exchanges will be pursued along Gooseberry Creek, the upper portions of Cottonwood and Grass creeks, the Bighorn and Greybull rivers, and on lands where other riparian areas occur. The purposes for these exchanges will be to consolidate public land, enhance public access, and improve public land manageability. A cooperative management agreement will be pursued with private landowners to enhance and conserve the Legend Rock Petroglyph Site. Cooperative agreements or land exchanges to improve wild horse management will be pursued on about 12,000 acres of privately-owned land.

All coal and phosphate withdrawals and classifications on approximately 180,780 acres will be terminated and the lands will be returned to operation of the 1872 Mining Law. A locatable mineral withdrawal will be pursued on about 1,200 acres of public land to protect recreation and wildlife values on public river tracts along the Bighorn River. Locatable mineral withdrawals will be pursued within 0.5 mile of the Legend Rock Petroglyph Site and in the immediate vicinity of rock art in the Meeteetse Draw area near Thermopolis. A locatable mineral withdrawal will be pursued in the Upper Owl Creek ACEC on about 16,300 acres of public land to protect scenic values, wildlife habitat, soil, and water.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of existing access and acquisition of new access to lands administered by BLM will not alter wolf behavior. Improved or new access to lands under new administration may result in positive effects to wolf habitats by securing these lands and managing them under BLM provisions.

Lands not under BLM jurisdiction that are suitable or occupied wolf habitats may be targeted for acquisition and subsequent management by BLM. Such acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Grass Creek RMP (1998) is **not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing Management

Management Action

Important riparian habitat areas on public lands will be fenced to control the duration and timing of livestock use, if the condition of these areas is declining and other types of grazing management do not produce a favorable response. Access to water for use by livestock and wildlife will be provided. Surface-disturbing and disruptive activities associated with all types of range project construction and maintenance will be subject to appropriate mitigation developed through use of the mitigation guidelines.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk and other big game. Cattle grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Minerals Management

Management Action

The coal screening process (as identified in 43 CFR 3420.1-4) has not been conducted in the planning area. Interest in the exploration for, or the leasing of, federal coal will be handled case by case.

The entire planning area (about 1,171,000 acres of BLM-administered mineral estate) is open to oil and gas leasing consideration. About 20,200 acres of BLM-administered mineral estate are open to leasing consideration with a "no surface occupancy" stipulation.

All coal and phosphate withdrawals and classifications will be terminated and the lands involved will be returned to operation of the 1872 Mining Law. Except for specific areas identified as closed, the planning area is open to the staking of mining claims and operation of the mining laws for locatable minerals. A locatable mineral withdrawal will be pursued on about 1,200 acres of public land to protect recreation and wildlife values on tracts of public land along the Bighorn River. A locatable mineral withdrawal will be pursued on public lands within 0.5 mile of the Legend Rock Petroglyph Site and on public lands in the immediate vicinity of the rock art in the Meeteetse Draw area near Thermopolis. A locatable mineral withdrawal will be pursued in the Upper Owl Creek ACEC on about 16,300 acres of public land to protect scenic values, wildlife habitat, soil, and water.

Except for specific areas identified as closed, the planning area is open to consideration for sale of mineral materials (for example, sand and gravel) and related exploration and development activities. No topsoil will be sold. The Legend Rock Petroglyph Site and public lands within 0.5 mile are closed to the sale of sand and gravel and other mineral materials. Public lands in the Meeteetse Draw Rock Art Area are closed to the sale of sand and gravel and other mineral materials. The sale of sand and gravel will be avoided on public lands adjoining the Greybull and Bighorn rivers.

All parts of the planning area that are open to consideration for oil and gas leasing, exploration, and development are open to consideration for geophysical exploration subject to appropriate mitigation. On lands where surface-disturbing activities are prohibited or on lands closed to off-road vehicle (ORV) use, casual use geophysical exploration will be allowed.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km² best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicle Management

Management Action

The objective for ORV management is to maintain or enhance opportunities for ORV use while avoiding adverse effects of vehicle travel on other resource values. Unless otherwise specified, ORV use on BLM-administered public land is limited to existing roads and trails. Motorized vehicle use is prohibited on wet soils and on slopes greater than 25 percent, when and where unnecessary damage to vegetation, soils, or water quality would result. Over-the-snow vehicles are subject to the same requirements and limitations as all other ORVs until activity planning specifically addresses their use. An open area for ORV "play" will be established west of Worland on about 900 acres. On areas designated as closed or limited to designated roads and trails, the off-road use of a motorized vehicle on public lands will be prohibited unless the use is otherwise authorized by a permit or license. Signs will be posted and maps or brochures will be published to explain this requirement.

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

In areas designated as "closed" or "restricted," suitable foraging and denning habitats will likely receive little or no impacts from ORV use. In other areas, where ORV use is limited to existing trails, these definitions are sometimes loosely interpreted by the user group and new roads may be created as well as deepening of unofficial roads. Sometimes these roads become very abundant in some areas, fragmenting vegetation and reducing cover for elk and other prey. Increased access for humans may be a source of increased mortality for wolves by shooting, snaring, and trapping.

Determination

Implementation of ORV management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Action

The objective of recreation management is to enhance opportunities for primitive recreation in some areas while increasing visitor services in other areas to meet needs for more developed forms of recreation. Special Recreation Management areas are designated on BLM-administered public lands in the Absaroka Mountain foothills, Badlands, and Bighorn River areas. All other public lands will be managed as an Extensive Recreation Management Area. Recreational uses of public lands along the Bighorn River for fishing, hunting, and float boating are managed under the Bighorn River Habitat and Recreation Area Management Plan. Emphasis will be placed on acquisition of access to public lands on the Bighorn and Greybull rivers to enhance recreational opportunities and wildlife management. Surface-disturbing and disruptive activities associated with the construction, maintenance, and use of roads, campgrounds, interpretive sites, and other recreational facilities will be subject to appropriate mitigation developed through use of the mitigation guidelines.

No specific requirements or guidelines applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Vegetation Management

Management Action

As appropriate, buffer zones for treatment of weeds will be provided along streams, rivers, lakes, and riparian areas, including riparian areas along ephemeral and intermittent streams. Treatments will avoid raptor and upland game bird nesting seasons and other times when loss of cover or disturbance by equipment could be detrimental. Projects that may affect threatened or endangered plants or animals will be postponed or modified to protect the presence of these species. In such cases, the BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by the Endangered Species Act. Certified noxious weed-seed free vegetative products will be used on all BLM-administered public lands in the Grass Creek planning area.

The following objectives for desired plant communities (DPC) will be applied on an individual basis in consultation with land-use proponents and other affected or interested citizens. Actions required to achieve these objectives will normally be implemented through allotment management and other site-specific activity plans, and through reclamation plans for activities like pipeline construction, oil and gas exploration, and bentonite mining.

Desired plant communities are described according to the percentages of trees, shrubs, grasses, and forbs within each community. Descriptions are by weight estimate unless canopy cover percent is specified. Barren, alpine, and high gradient/rocky riparian communities are not discussed.

On at least 600,000 acres of public lands in the planning area (not containing important wildlife habitat) the following DPC objectives will emphasize watershed protection, forestland health, and livestock grazing:

- Salt Desert Shrub Communities: shrubs 30 to 60 percent, grasses 30 to 60 percent, forbs 5 to 15 percent, with shrubs increasing on high saline sites.
- Salt Bottom Communities: shrubs 20 to 40 percent, grasses 50 to 70 percent, forbs 5 to 15 percent.
- Basin Grassland/Shrub Communities: shrubs 10 to 20 percent, grasses 60 to 80 percent, forbs 10 to 20 percent.
- Foothills-Mountain Grassland/Shrub Communities: shrubs 10 to 30 percent, grasses 60 to 80 percent, forbs 10 to 20 percent.
- Low Gradient/Alluvial Riparian Communities, Canopy Composition: shrubs 0 to 15 percent, grasses and grasslikes 70 to 90 percent, forbs 5 to 15 percent.
- Intermediate Riparian Communities, Canopy Composition: trees and shrubs 10 to 30 percent, grasses and grasslikes 50 to 70 percent, forbs 10 to 30 percent.
- Desert Cottonwood Riparian Communities, Canopy Composition: trees and shrubs 10 to 30 percent, grasses and grasslikes 50 to 70 percent, forbs 10 to 30 percent.
- Woodland Communities: Same as Foothills-Mountain Grassland/Shrub Communities on areas where establishment of limber pine and juniper has occurred on deeper soils. There is no specific objective where woodlands occur on very shallow soils.
- Mixed Conifer/Deciduous Forest Communities: Promote overall species and structural diversity. Promote aspen growth in some areas, consistent with site-specific objectives for resource management, including commercial forest production. Manage 80 percent of forestlands for hiding and thermal cover (50 percent of these stands will have thermal cover characteristics). Ten percent of the forestlands will be managed for old growth.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with vegetation management, including increased human presence and use of machinery or fire to implement management actions, are not likely to disturb wolves. Wolves are generalists and will make use of any habitat type that contains prey (elk, moose, and deer). Vegetation management actions will improve forage for these prey species.

Determination

Implementation of the vegetation management actions, as presented in the Grass Creek RMP (1998), is

not likely to jeopardize the continued existence of the wolf.

Visual Resource Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with visual resource management will not directly impact wolves or their prey. The exclusion of some activities and structures from designated view sheds may have a secondary positive effect of limiting disturbance of habitats that may be used by wolves or their prey.

Determination

Implementation of visual management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Watershed/Soils Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with watershed and soil management will not negatively impact wolves or their prey. The watershed and soil improvement practices are likely to improve riparian vegetation and habitat which will benefit elk and other big game.

Determination

Implementation of watershed management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Wild Horse Management

Management Action

The objective of wild horse management is to maintain free-roaming wild horses in an ecological balance within the Fifteen Mile Wild Horse Herd Management Area (WHHMA). The herd area will be managed for an initial herd size of at least 70 and no greater than 160 mature animals. To the extent possible, horses will be managed at the lower end of this range during periods of drought. Long-term wild horse numbers will be established through monitoring, multiple-use allocations, and revision of the herd area activity plan. The Fifteen Mile Wild Horse Herd Gathering Plan will be kept up-to-date and implemented for roundups. Emphasis will be placed on gathering horses that wander outside the herd area or onto privately owned lands. Cooperative agreements or land exchanges to improve wild horse management will be pursued on about 12,000 acres of privately owned land. Livestock grazing in the herd area is limited to domestic sheep use during November through March, unless an environmental analysis indicates that another kind or time of use is appropriate. The watershed protection, forestland management, and livestock grazing DPC objective will be used in the herd management area. In the herd management area, grazing strategies will be designed to allow a combined forage utilization of 30 percent of the current year's growth in other plant communities that are grazed during the growing season. In the herd management area, combined forage utilization up to 40 percent of the current year's growth will be allowed in all plant communities that are grazed when plants are dormant. Wild horses will be allocated 2,300 AUMs of forage annually. The maximum allowable forage use by domestic livestock in the herd area will be 3,370 AUMs per year. Development of additional water sources in the herd area will be considered to improve horse distribution and manage forage utilization. Surface-disturbing and disruptive activities associated with wild horse management will be subject to appropriate mitigation developed through use of the mitigation guidelines.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with wild horse management are expected to be limited to occasional herding, corralling, and transporting of horses. These actions are not likely to disturb wolves unless they occurred at a den or rendezvous site during the denning period; this event is unlikely.

Determination

Implementation of wild horse management, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Wildlife and Fish Habitat Management

Management Action

The objective of wildlife and fish habitat management is to maintain or enhance riparian and upland habitat, promote species diversity, and allow the expansion of wildlife and fish, where appropriate. The BLM will continue to work with the USFS, USFWS, WGFD, and the Wind River Indian Reservation in developing a healthy bighorn sheep herd in the Absaroka and Owl Creek mountains. Nest sites, roosts, cottonwood trees, and other potential critical habitats related to hunting and concentration areas for bald

eagles will be protected, especially along the Bighorn and Greybull rivers. As one measure to protect these habitats, firewood harvesting is prohibited on public lands in these areas.

The BLM will cooperate with the WGFD and local irrigators in negotiations directed at establishing minimum pool elevations for reservoirs with fisheries potential. Reservoirs and riparian areas will be maintained to improve or enhance potential fisheries. The BLM will encourage the design of reservoirs to enhance fisheries where potential exists. Consistent with the overall management objective to maintain or enhance fisheries habitat, existing game and nongame fish habitat will be protected and the BLM will consider the introduction of fish where habitat potential exists. Approximately 28 miles of stream habitat will be managed for game fish; 60 additional miles will be managed for nongame fish.

Effects Analysis

The implementation of management actions associated with wildlife habitat management will likely have positive effects by maintaining or improving existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Area of Critical Environmental Concern Management

Management Action

The objective of managing the Upper Owl Creek Area as an ACEC is to protect overlapping and important big game habitats and migration corridors, fisheries habitat, shallow soils, alpine vegetation and rare plants, diverse cultural resources and Native American traditional values, primitive recreational opportunities, and high scenic quality. Management will include limiting or prohibiting surface-disturbing activities and closing the area to, and pursuing withdrawal from, the staking and development of mining claims to protect fragile soils, alpine tundra, important wildlife habitat, and scenic values. A detailed activity plan will be prepared for the Upper Owl Creek ACEC before the BLM approves any proposal for major surface-disturbing activity in the area. This activity plan will include assistance from the development proponent and other affected and interested citizens to determine whether some surface occupancy could be allowed in the area. Mitigation measures considered in the analysis will include access corridors and cluster development. For any mining claims with prior existing rights, a plan of operations will be required for all mining claim-related activities, other than casual use, in the Upper Owl Creek ACEC.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with ACECs will not result in detrimental impacts to wolves or their habitats. These actions will result in positive effect to wolves by preventing harassment and disturbance to potentially suitable denning, travel, and foraging areas.

Determination

Implementation of the ACEC management actions, as presented in the Grass Creek RMP (1998), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Grass Creek RMP management actions.

TABLE 9: SUMMARY OF DETERMINATIONS FOR THE GRASS CREEK RMP

Resource	Determination
Air Quality	Not likely to jeopardize the continued existence of the species
Cultural, Paleontological, and Natural History Resources	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species
Forestland	Not likely to jeopardize the continued existence of the species
Hazardous Materials and Wastes	Not likely to jeopardize the continued existence of the species
Lands and Realty	Not likely to jeopardize the continued existence of the species
Livestock Grazing	Not likely to jeopardize the continued existence of the species
Minerals	Not likely to jeopardize the continued existence of the species
Off-road Vehicles	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Vegetation	Not likely to jeopardize the continued existence of the species
Visual Resources	Not likely to jeopardize the continued existence of the species
Watershed/Soils	Not likely to jeopardize the continued existence of the species
Wild Horse	Not likely to jeopardize the continued existence of the species
Wildlife and Fish Habitat	Not likely to jeopardize the continued existence of the species
ACECs	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Grass Creek planning area. Existing and proposed activities on non-federal lands in the Worland planning area that could affect wolves or their habitats include:

- Stockyard operations for cattle and sheep that provide carrion
- Oil and gas development on private lands
- Beet farming near and within riparian corridors.

Implementation of the Grass Creek RMP would not change any potential effects to the wolf that may result from current non-federal actions.

4.0 CONSERVATION STRATEGIES

Because of the wolf's status in Wyoming as an experimental nonessential species under 10(j) of the Endangered Species Act, conservation measures are not inherent in the recovery plan. Nor are there any in the 2003 (unapproved by USFWS) Wyoming State Management Plan for wolves (WGF 2003). Wolves are very adaptable and have done very well in Wyoming since their release in 1995-1996. Two main factors affecting the continued existence of wolves in an area are the maintenance of a good ungulate prey base and the containment of roads and human activity. Habitat improvement projects for elk and other big game foraging areas are already part of the RMPs and one of the main activities carried out by the individual FOs. The other significant factor is to reduce human-caused mortality. Road density (highly correlated with human causes of death), public outreach and education, and cattle-ranching practices as they relate to wolf depredations, are overarching elements in the maintenance of successful wolf populations.

The maintenance of a good data base on the location of wolf packs is the first step in protection of the animals. It is important to develop and maintain contact with appropriate staff with the USFWS and WGF in order to stay informed of wolf packs in the FO and/or on BLM land. Following delisting and as wolf populations expand, it may be necessary to develop monitoring protocols for wolves on BLM lands. These would be most effective if coordinated with other agencies.

These conservation measures are meant to be a tool to clarify what activities have impacted the species in the past, what conservation measures have been or could be used to minimize impacts, and to assist the agencies in the development of BAs and BOs. Implementation of the following conservation strategies is intended to minimize adverse impacts that are likely to result from implementation of the management actions provided in the RMPs. The BLM has committed to implement conservation measures 1 through 5. The BLM will also consider implementing best management practices (BMPs), items 1 through 6, at every opportunity to further protect the gray wolf. All conservation measures and BMPs apply to the known populations of the gray wolf. In the event that wolf packs are formed in new areas, these measures would apply to these areas as well.

CONSERVATION MEASURES

1. No project actions to be located within 100 m (330 ft) of den sites between April 1 and June 30. Areas within 0.8 km (0.5 miles) of a den site are recommended for protection from disturbance.
2. Take action to help reduce human-caused mortality wherever possible. For example, provide educational material, as appropriate, to avoid the inadvertent killing of a wolf mistaken for a coyote; provide information on compatible grazing practices (see # 3 below); avoid situations that lead to the adoption of human foods and garbage by wolves, which could lead to a bite and subsequent elimination of the wolf.
3. Disseminate information useful to livestock producers on wolf/livestock interactions, alternate livestock practices that minimize conflicts between wolves and livestock (e.g., dispersed grazing rather than concentrated grazing), and compatible lambing and calving methods that reduce or eliminate wolf depredation in occupied habitat.
4. Designate a state representative to attend the annual interagency coordination meeting.

5. Continue to attend the annual coordination meetings with Wyoming Game and Fish.

BEST MANAGEMENT PRACTICES

1. Avoid an increase in miles of road in elk crucial winter range.
2. Avoid situations that allow for wolves to habituate to humans, or become exposed to and use human refuse as a food resource.
3. Foster public outreach/education programs to provide information on wolves in schools, campgrounds, and other places. Topics can include but are not limited to: How to be safe around wolves, wolf ecology, wolf mortality factors, and livestock grazing practices harmful to wolves.
4. Continue to support the research and documentation of wolf/livestock interactions and livestock grazing practices in order to improve these practices so that they are more compatible with wolves.
5. Continue to provide and improve wolf habitat by monitoring elk populations and improving habitat for elk.
6. Encourage reporting of wolf observations by BLM staff and the public to Wyoming Game and Fish.

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