FINAL

STATEWIDE PROGRAMMATIC WHITE-TAILED PRAIRIE DOG (*Cynomys leucurus*) BIOLOGICAL EVALUATION

Submitted to:

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February 2007
(Final Edits 23 May 2007)

Utah BLM

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ACRONYMS AND ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
BA	Biological Assessment
BAER	Burned Area Emergency Rehabilitation
BE	Biological Evaluation
BLM	Bureau of Land Management
BTPD	Black-Tailed Prairie Dog
BUP	Biological Use Proposal
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FO	Field Office
IMP	Interim Management Policy
MLA	Mineral Leasing Act
MLAAL	Mineral Leasing Act for Acquired Lands
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO2	Nitrogen Dioxide
NPS	National Park Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
PM10	Particulate Matter
PSD	Prevention of Significant Deterioration
PUP	Pesticide Use Proposal
R&PP	Recreation and Public Purpose
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
SDA	Surface-Disturbing Activity
SO2	Sulfur Dioxide
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WAAQS	Wyoming Ambient Air Quality Standards
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 River
WGFD	Wyoming Game and Fish Department
WTPD	White-Tailed Prairie Dog
WyGISC	Wyoming Geographic Information Science Center
WYNDD	Wyoming Natural Diversity Database

1.0 INTRODUCTION

PURPOSE

The purpose of this programmatic biological evaluation (BE) is to assess the potential effects to the white-tailed prairie dog (*Cynomys leucurus*) (WTPD) from management actions included in nine Resource Management Plans (RMPs) approved by the Wyoming Bureau of Land Management (BLM). Specific objectives of this BE include the following:

- Summarize the biology of the WTPD, including its known and potential distribution in Wyoming;
- Review pertinent RMPs, RMP amendments, and RMP maintenance actions and identify management actions with the potential to affect the WTPD or its habitat;
- Assess the potential effects of management actions proposed in the RMPS on the WTPD and its habitat; and
- Prepare an effects determination for the WTPD for each management program identified in the RMPs; and
- Recommend conservation strategies to reduce or eliminate adverse effects on the species.

The analysis area for each management action is based on the activities specified in the individual RMPs. These activities are described in the analysis section for each RMP. The determination is based on the nature of each management action as described in the RMPs, and on the available data for the WTPD in the area that is affected by the management action.

REPORT ORGANIZATION

This report is organized into five sections, as follows:

1.0 Introduction – describes the purpose of the analysis, the scope of the BE, the action area, and the methods.

2.0 Species Information – summarizes the current listing status, species ecology, abundance and distribution, and threats to the WTPD in Wyoming.

3.0 Analysis of Resource Management Plans – presents a summary of all the management actions for all FOs at the front of the chapter, existing impact minimization measures, a description of WTPD 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 – provides conservation measures that BLM can adhere to and that may further reduce potential effects to the WTPD, as well as proactive steps for the protection and enhancement of the habitat of the species. These measures were prepared in coordination with the U.S. Fish and Wildlife Service (USFWS) office and the Wyoming Game and Fish Department (WGFD).

5.0 References – provides a list of documents reviewed for the preparation of this report.

METHODS

Literature was reviewed to gather information on the ecology, occurrence, listing status, and habitat of the WTPD. Biologists from various Field Offices (FOs) of the BLM and USFWS personnel in the Cheyenne, Wyoming field office were contacted as part of this review. Listing status documents such as Endangered and Threatened Wildlife and Plants and Finding for the Resubmitted Petition to List the WTPD as Threatened were also reviewed (USFWS 2004).

The WTPD is known to occur in eight of the ten BLM FOs in Wyoming. Nine RMPs were identified as having the potential to affect the WTPD (**Table 1**). Historical records document WTPD occurrence in the extreme southwestern portion of Johnson County, Wyoming, which would include the Buffalo FO. However, WTPDs are not known to exist there at this time, therefore, potential effects to the WTPD from BLM authorized activities will not be addressed for the Buffalo RMP in this BE.

Table 1 RMPs Analyzed in WTPD Biological Evaluation

Field Office	Resource Management Plan (Year Implemented)
Casper	Platte River Resource Management Plan (1985)
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)
Rawlins	Great Divide Resource Management Plan (1990)
Rock Springs	Green River RMP (1997)
Worland	Washakie Resource Management Plan (1988), Grass Creek Resource Management Plan (1998)

WTPD information was evaluated and potential effects from the management actions were analyzed. Management actions were evaluated for their potential to directly and indirectly affect the WTPD. State, private, local, and tribal activities were also evaluated to assess their potential to cumulatively affect the WTPD.

The results of the effects analysis were used to establish an effects determination for each general program description. Each determination was based on the management prescription described in the RMPs and any measures intended to minimize the effects to the WTPD. Potential effects of proposed activities, as well as the Conservation Measures presented in the Conservation Strategies section of this BE, were included in the determination analyses.

Determination categories considered as part of this analysis, and consistent with BLM policy language (BLM Manual 6840: Special Status Species Management) included the following:

- **No impact (NI)**
- **May impact, but the overall impacts are beneficial (BI)**
- **May detrimentally impact, but is not likely to contribute to the need for Federal listing (MI-NLC)**
- **May detrimentally impact and is likely to contribute to the need for Federal listing (MI-L)**

2.0 SPECIES INFORMATION

LISTING STATUS

Federal

Petitions to list the WTPD as a threatened species under the Endangered Species Act (ESA) of 1973 were filed by the Center for Native Ecosystems, Biodiversity Conservation Alliance, Southern Utah Wilderness Alliance, America Lands Alliance, Forest Guardians, Terry Tempest Williams, Ecology Center, and Sinapu on July 11, 2002 (Seglund et al. 2004). On November 9, 2004, the USFWS released a 90-day finding in which they determined that the petition did not provide substantial scientific or commercial information to indicate that listing this species was warranted (USFWS 2004). This conclusion was based on: 1) new information regarding the biological and ecological relationships between prairie dogs and sylvatic plague; and, 2) lack of credible information on impacts (Keinath 2004). The WTPD is a BLM Wyoming Sensitive Species and is a U.S. Forest Service (USFS) Region 2 Sensitive Species meaning that it is sensitive in the Bighorn, Medicine Bow, and Shoshone National Forests (WYNDD 2003).

State

The Wyoming Natural Diversity Database (WYNDD) lists the WTPD as a Wyoming Species of Concern. It has a Heritage Rank of G4/S3, indicating that it is apparently secure rangewide, although it may be quite rare in parts of its range, and that it is rare or local throughout its range at the state level or found locally in a restricted range in Wyoming (WYNDD 2003). It has a Wyoming Contribution Rank of Very High because the Wyoming populations are thought to contribute greatly to the taxon's rangewide persistence, as 62 percent of the WTPD's range occurs within Wyoming (WYNDD 2003). Also, based on the species' numbers and habitat, the WTPD has a Wyoming Game and Fish Department (WGFD) Native Species Status rank of NSS3, meaning that the population is declining or restricted in numbers or distribution, but extirpation is not imminent; habitat is restricted or vulnerable, but with no recent or ongoing significant loss; and the species is likely sensitive to human disturbance.

The WTPD is classified as a nongame wildlife species by the WGFD and as a pest by the Wyoming Department of Agriculture (WDOA). Thus, under Section 6 of the Nongame Wildlife regulations and under Statute W.S. 11-5-101 through 11-5-119 of the Wyoming Weed and Pest Control Act (1973), the species may be taken at any time during the calendar year without securing a permit (Seglund et al. 2004).

DESCRIPTION OF SPECIES

The WTPD is in the squirrel family, Sciuridae, and is one of the least colonial prairie dogs of the five *Cynomys* spp. Endemic to North America (Seglund et al. 2004). WTPDs weigh 23-60 oz and are slightly smaller than BTPDs. They are 12.4-16.7 inches in length with a tail that is 1.6-2.6 inches long. The characteristic tail has a grayish-white tip for the entire terminal half. WTPDs also have a distinctive cheek patch extending above the eye that is dark brown to black. Males are typically larger than females (Fitzgerald et al.1994). WTPDs are most closely related to Utah prairie dogs, but the two species are geographically isolated by Fish Lake and the Wasatch Plateau in Utah (Seglund et al. 2004).

WTPDs are associated with a large variety of other mammals, birds, reptiles, and amphibians. Prairie

dogs are keystone species in North American grassland ecosystems (Miller et al. 1994), having large effects on community structure and function (Power et al. 1996). Prairie dog burrows also provide structural habitat for burrowing owls (*Athene cunicularia*), prairie rattlesnakes (*Crotalus viridis*), a variety of small mammals and herpetofauna (Miller et al. 1994), and ground dwelling bird species such as the mountain plovers (*Charadrius montanus*) (Kotliar et al. 1999). Through herbivory, prairie dogs alter vegetation and cycle nutrients (Holland and Detling 1990). Additionally, because of their strict coloniality, prairie dogs host a diverse assemblage of ecto- and endoparasites. In the envirogram below **(**Figure 1) the relationships of white-tailed prairie dogs with predators, competitors, parasites, and disease is portrayed through a web of ecological relationships for white-tailed prairie dogs following Andrewartha and Birch (1984). The web illustrates the proximal (centrum) and distal factors (web) thought to affect white-tailed prairie dog distribution and abundance. Some of these animals prey on WTPDs and many use their burrows for shelter. Management and restoration of white-tailed prairie dog colonies on BLM lands will not only benefit the species, but will also be advantageous to the many species that preferentially use and depend on WTPD colonies, including the obligate prairie dog predator, the critically endangered black-footed ferret (*Mustela nigripes*) (Anderson et al. 1986) and other predators, including badgers, coyotes, foxes, ferruginous hawks, prairie falcons, eagles and owls.

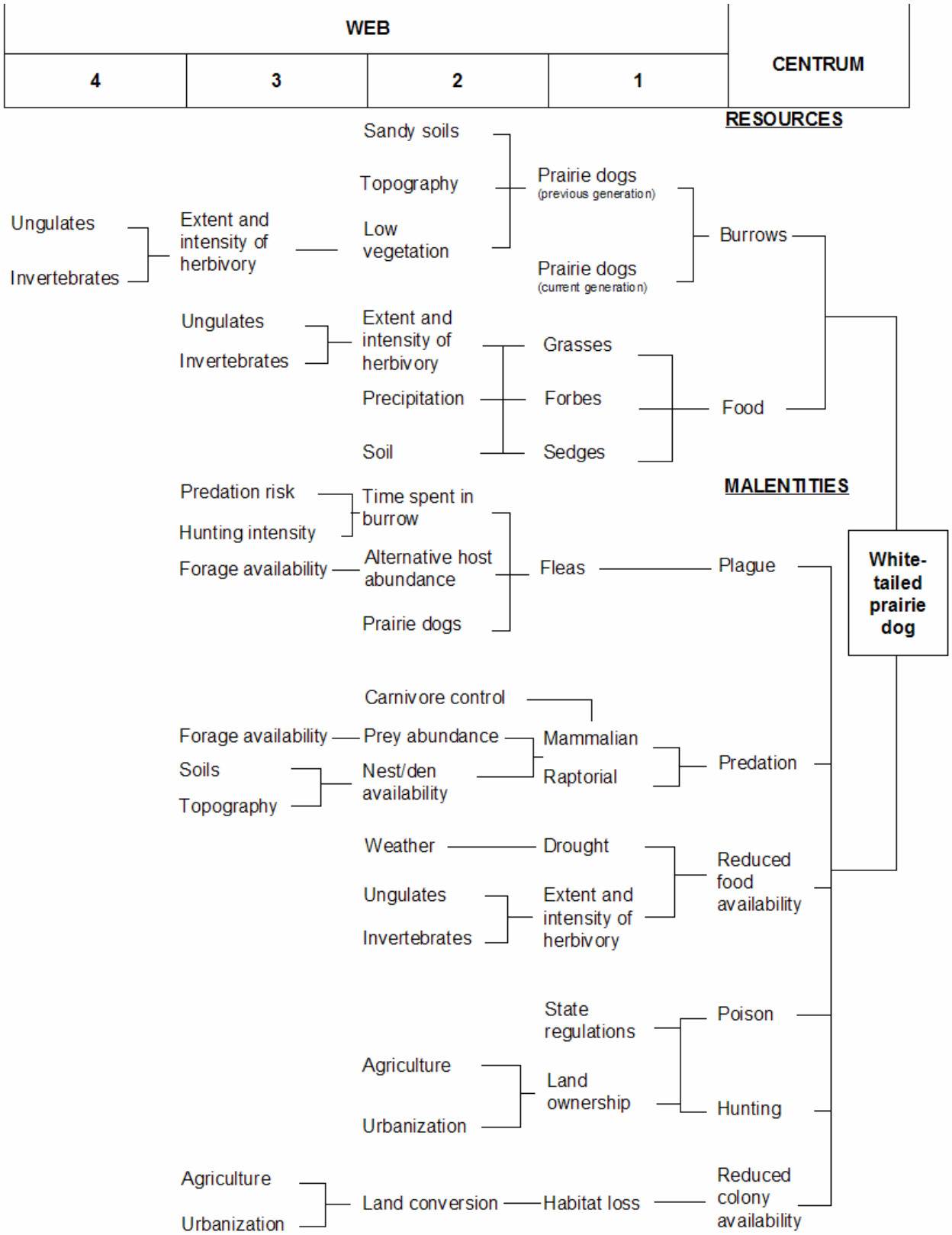


Figure 1 – Enviogram representing the web of linkages between white-tailed prairie dogs and the ecosystem in which they occur (from Pauli et al. 2006).

HABITAT USE

In Wyoming, WTPD habitat is composed of arid to semi-arid short- or mid-grass steppes, open shrublands, intermountain basins and agricultural lands that range between 4,265 ft.-7,546 ft. (Clark and Stromberg 1987, Seglund et al. 2004). WTPD burrows may be found in a sporadic pattern on flat to gently rolling substrate composed of deep, well draining soils that originated from sandstone or shale parent (Forrest et al. 1985). The soils are typically described as sandy loam, clay-loam, or silty clay (Seglund et al. 2004).

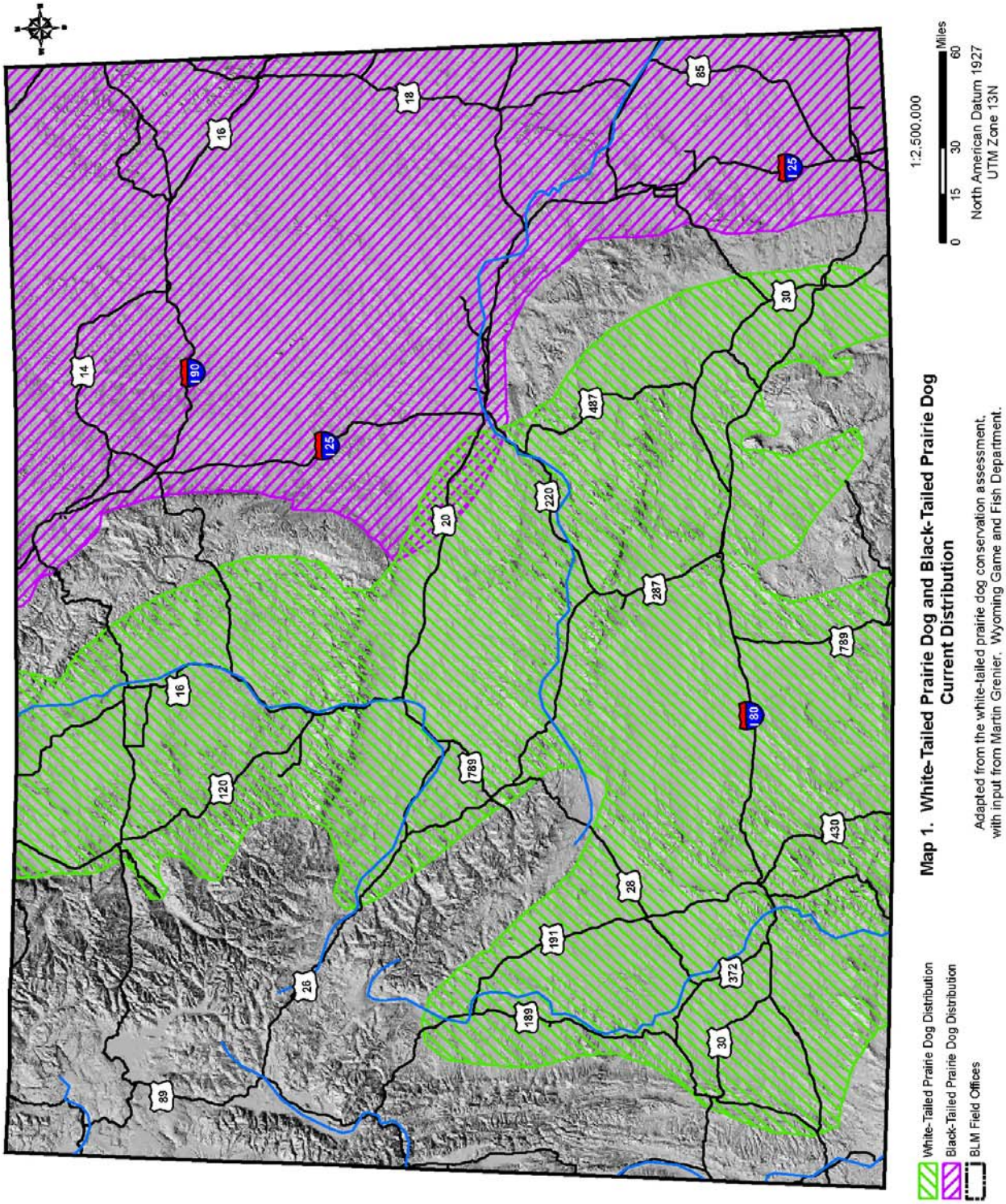
WTPDs rely on open plant communities with relatively short vegetation. Distribution is determined by plant height rather than plant type. Shrub heights among WTPD colonies near Meeteetse, Wyoming were less than 26 inches and shrub densities were in the range of 1.1-27 stems per square foot. Shrub cover on occupied habitat near Laramie and Meeteetse was rarely greater than 5 percent of a sample grid and median shrub heights ranged from 9.4-13.8 inches. Vegetative cover on occupied WTPD sites in Wyoming mainly comprised grasses and varied from an average of 38 percent cover at Shirley Basin to a range of 45-83 percent cover at Meeteetse and Laramie (Seglund et al. 2004).

Some plants associated with WTPD colonies in Wyoming include needle-and-thread (*Stipa comata*), Indian ricegrass (*Achnatherum hymenoides*), junegrass (*Koeleria cristata*), blue grama (*Bouteloua gracilis*), western wheatgrass (*Agropyron smithii*), big sagebrush (*Artemesia tridentata* var. *wyomingensis*), greasewood (*Sarcobatus* spp.), rabbitbrush (*Chrysothamnus* sp.), broom snakeweed (*Gutierrezia sarothrae*), and plains prickly pear (*Opuntia polycantha*) (Seglund et al. 2004).

Characterizing WTPD colonies can be difficult because the animals colonize in a sporadic pattern and do not have well defined boundaries (Seglund et al. 2004). Populations are highly dynamic and fluctuations in abundance and occupied acres are common and can be affected by many factors including quality and quantity of forage, resource extraction, fire suppression, disease, and predation (Keinath 2004). Also impeding characterization is the fact that WTPDs do not alter the above ground vegetation structure as do BTPDs. There is no visual difference in vegetation between occupied and unoccupied WTPD sites. WTPD colony boundaries are more difficult to discern than BTPD boundaries because of their loose colonial structure, mosaic pattern of distribution, relatively low densities, and lack of habitat modification (Seglund et al. 2004).

DISTRIBUTION

The current and historical range-wide distribution and abundance of the WTPD is not accurately documented (Seglund et al. 2004). However, the current range of the WTPD is likely generally consistent with the historical range, but the abundance is probably lower now than it once was (Knowles 2002). The counties in Wyoming where the WTPD can be found include Albany, Big Horn, Carbon, Freemont, Hot Springs, Lincoln, Park, Natrona, Sublette, Sweetwater, Uinta, and Washakie Counties (**Map 1**). The estimated occupancy of the WTPD in Wyoming prior to 1995 was 459,576 acres. The current predicted range within Wyoming, developed from a GIS model, is 9,791,694 acres and makes up 75% of the total predicted range (Seglund et al. 2004). Statewide population estimates for the WTPD are not available due to inconsistent survey methods, habitat structure, and the mosaic pattern of distribution (Seglund et al. 2004, USFWS 2004).



Map 1. White-Tailed Prairie Dog and Black-Tailed Prairie Dog Current Distribution

Adapted from the white-tailed prairie dog conservation assessment, with input from Martin Grenier, Wyoming Game and Fish Department.

Evaluation of the WTPD before the mid-1980s is difficult due to a lack of historical data and inconsistencies in the data collection. There is a method for estimating the density of WTPD populations when evaluating habitat for black-footed ferret reintroduction. This method could be useful for indexing populations on a landscape scale, but may not provide precise WTPD densities for occupied habitat (Seglund et al. 2004). Significant WTPD colonies in Wyoming have been outlined and are shown in Map 2. These include those complexes not block-cleared in the WTPD block clearance and additional complexes evaluated by Grenier (Grenier 2004).

Densities of 2.3-6.5 WTPDs per acre were found on WTPD colonies surveyed for black-footed ferret recovery (USFWS 2004). However, WTPD colonies have been found to exhibit dramatic variations in population size by more than 50 percent between consecutive years with the highest variation in density occurring among juveniles (124-348 percent) (Seglund et al. 2004).

Immigration among WTPDs is thought to contribute to fluctuations among populations and occurs in the spring when the reproductive cycle begins, and in the fall when juveniles disperse. The percentage of immigrants ranged from 0-50 percent and averaged 24 percent of populations on six different study colonies near Laramie and Meeteetse. The home range for the WTPD in Wyoming is thought to be 1.2-4.7 acres (Seglund et al. 2004).

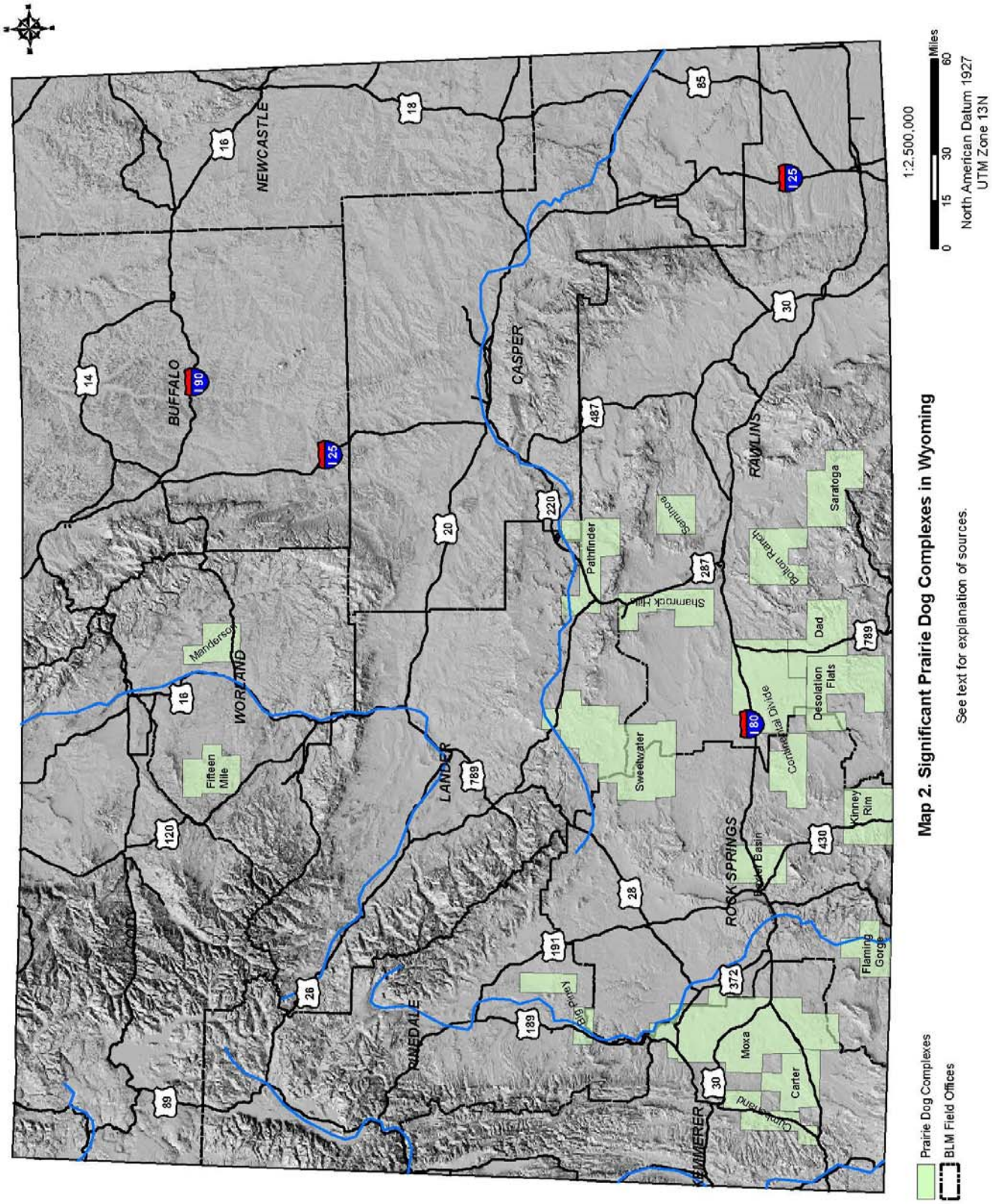
THREATS

The following threats to the WTPD were thoroughly addressed in three different documents that include the Petition for a Rule to List the White-Tailed Prairie Dog as Threatened or Endangered under the Endangered Species Act (Center for Native Ecosystems et al. 2002), the White-Tailed Prairie Dog Conservation Assessment (Seglund et al. 2004), and the 90-Day Finding on a Petition To List the White-Tailed Prairie Dog as Threatened or Endangered (USFWS 2004).

Habitat Loss

Oil and gas exploration and development in Wyoming pose a concern to the future of the WTPDs: 77 percent of WTPD gross range in Wyoming has the potential to be used for oil and gas development (Seglund et al. 2004). WTPD habitat is fragmented and removed from use by WTPDs in the exploration and extraction of oil and gas along with the addition of roads, pipelines and structures that facilitates non-native vegetation and increases the shooting and predation of the WTPD (Center for Native Ecosystems et al. 2002). However, the threats identified by the petition in relation to oil and gas exploration and development do not provide sufficient scientific evidence to warrant a federal listing for the WTPD (USFWS 2004).

Plant communities have been destabilized by livestock grazing which can lead to an increase in exotic plant species habitation (Seglund et al. 2004). Such alterations in the composition of plant species in areas where WTPDs exist can decrease the availability of critical forage during the active season. Thus, livestock grazing has been implicated in declines in Utah prairie dogs (*Cynomys parvidens)* and could also be suspected for declines in WTPDs (Seglund et al. 2004). However, the USFWS (2004) reports there is not enough substantial scientific information to attribute livestock grazing as a present source of habitat loss to WTPDs. This is due to lack of scientific studies focusing on impacts to prairie dogs. Studies to date have centered on the impacts to livestock from prairie dogs.



Map 2. Significant Prairie Dog Complexes in Wyoming

See text for explanation of sources.

Over-Utilization

Over-utilization of WTPDs occurs in the form of recreational shooting. Shooting occurs for many reasons (sport, target practice, damage control) and has the potential to reduce populations and slow down recovery rates of WTPD populations that may have been adversely affected by the plague or other factors (Reeve and Vosburgh 2006). This effect is exacerbated in April, May, and June when pregnant and lactating females and the young of the year are most vulnerable (USFWS 2004). The BLM does not directly regulate the shooting of WTPDs in Wyoming. However, indirect effects to WTPDs through the addition of BLM authorized roads in the development of oil and gas may facilitate recreational shooting (Center for Native Ecosystems et al. 2002). Shooting regulations have been implemented in Colorado, Utah, and Montana, and the WGFD has voluntary restrictions for the Shirley Basin conservation easement in Wyoming (USFWS 2004). Elsewhere in Wyoming, the take of WTPDs is unregulated, but not recommended by the BLM. However, the USFWS (2004) maintains that there is not enough long-term or substantial scientific information available in regard to shooting as a threat to the WTPD to warrant listing the species.

Disease

The most significant factor that adversely affects the WTPD's persistence is sylvatic plague (*Yersinia pestis*), an exotic disease that is transmitted by some fleas (Center for Native Ecosystems et al. 2002). There are no populations of WTPDs that are known to exist without sylvatic plague. A laboratory study found that most WTPDs could potentially contract the plague upon a single bite from an infected flea and would die within seven days of inoculation (Cully 2001). In the same study, one WTPD developed serum antibodies to the disease (Cully 2001), but there is no information that suggests plague antibodies can be passed on from one generation to another (USFWS 2004). Because of the diversity of fleas that carry plague and inhabit WTPD burrows, it is thought that this disease is spread by intraspecific and interspecific interactions (Cully 2001). Thus, the USFWS suggests that "many, if not all, colonies of WTPDs are vulnerable to plague regardless of size, degree of isolation, and density." Plague has the ability to affect populations on a geographically restricted and an epidemic level, which can result in the loss of large numbers of animals, can alter the dispersal and the dynamics of a population, and can have secondary impacts to the habitat (USFWS 2004).

Tularemia, a bacteria, and West Nile virus are other diseases that cause mortality within WTPD populations. However, more research is needed to determine the effects of these infections (Center for Native Ecosystems et al. 2002).

Inadequate Regulatory Mechanisms

The WTPD is classified as a Species of Special Concern by the WGFD and considered a Wyoming BLM sensitive species (USFWS 2004). A large percentage of WTPD habitat in Wyoming is located on BLM lands. Although WTPD habitat is not specifically protected by the BLM unless it is located in a black-footed ferret reintroduction area, WTPD colonies are generally avoided whenever possible in the placement of BLM authorized activities. Yearlong shooting of WTPDs is unregulated on public lands in Wyoming, with the exception of voluntary WTPD shooting restrictions on the conservation easement at Shirley Basin (USFWS 2004). However, BLM staff avoid directing shooters to WTPD colony locations. The USFWS (2004) addressed the regulatory concerns as they apply to WTPDs and determined that inadequate regulatory mechanisms are not sufficient to warrant listing of the WTPD. However, the conservation assessment states that state and federal agencies should improve the current regulatory mechanisms for the conservation of the WTPD (Seglund et al. 2004).

Other Natural or Man-made Factors

Other factors that may threaten the WTPD include invasive weeds, drought, and poisoning. Invasive weeds, such as cheat grass (*Bromus tectorum*), out-compete native plants and may reduce forage for prairie dogs. If forage is reduced by drought and invasive weeds, WTPD body condition may be reduced and over-winter survival rates could be affected. Drought may also reduce recovery rates from sylvatic plague (USFWS 2004). Poisoning is used very rarely and sparingly on BLM lands (Seglund et al. 2004), but is still used on private and state lands (USFWS 2004).

ENVIRONMENTAL BASELINE

The environmental baseline describes past and current factors in the area that may have contributed to the current status of the species and protective measures that are currently in place.

The majority (75 percent of the predicted range and 62 percent of the gross range) of the range for the WTPD is in Wyoming, with additional occupied range in eastern Utah and western Colorado, and a small area in southern Montana (Clark and Stromberg 1987, Seglund et al. 2004). Habitat for WTPDs primarily occurs east of Yellowstone National Park south to the Utah border, bounded on the east by the Bighorn and Laramie Mountains and on the west by the Bear River drainage (Clark et al. 1971) (**Map 1**). The majority of this habitat occurs in the Casper, Cody, Kemmerer, Lander, Pinedale, Rawlins, Rock Springs, and Worland FOs. Within this range, only a portion is actually suitable for WTPD habitation, and an even smaller area of this land is actually occupied by WTPDs. All of these FOs have active WTPD colonies in varying degrees of size and health (WyGISC 2004). It is thought that the Wyoming WTPD population has decreased since historic times, but the magnitude of this decrease is difficult to quantify because of the lack of accurate estimates of occupied habitat before plague epizootics, alteration of landscapes, and effects of poisoning and shooting (Seglund et al. 2004).

Casper Field Office

Historically and currently, both species of prairie dog occurred in the Casper FO with an area of overlap in the central part of the FO. Black-tailed prairie dogs (BTPDs) occur from Highway I-25 eastward with WTPDs occupying a very small area (approximately 1,000 acres) in the western portion of the FO (Soehn 2006) (**Maps 1 and 3)**.

Cody Field Office

Although the Cody FO historically had both BTPDs and small populations of WTPDs, only three small remnant populations of BTPDs are present now and are believed to have been introduced by the Buffalo Bill Wild West Show in the 1880s (Saville 2004) (**Maps 1 and 6**). Currently, WTPDs are still found throughout this FO up to the eastern border of the Shoshone National Forest. Although their occupied acreage shifts annually, there are an estimated 70 WTPD towns on 5,162 acres (Harrell 2006). In 1981, a black-footed ferret population was found in a WTPD colony near Meeteetse, but it no longer exists (BLM 2005).

Kemmerer Field Office

Historically and currently, only WTPDs occur in the Kemmerer FO. Fairly stable populations of WTPDs are found in the Moxa and Carter prairie dog complexes and in various other towns throughout. Suitable

WTPD habitat occurs from Evanston eastward (**Maps 1 and 5**). South of Highway I-80, few WTPDs are found due to changes in elevation and vegetation. Additionally, no WTPD colonies are found in the northern part of the Kemmerer FO, as the Bridger-Teton National Forest does not offer suitable habitat (Crews 2006).

Lander Field Office

Historically, both WTPDs and BTPDs occurred in the Lander FO. But currently, there is only one BTPD population in this FO area. WTPDs are found in a majority of the FO, with the exception of the Wind River mountain range (**Maps 1 and 6**).

Pinedale Field Office

WTPDs occur in the southern half of the Pinedale FO, bounded to the east by the Wind River Range and to the west by the Teton Range. An estimated 39,762 acres are occupied by WTPDs in this FO (Solberg 2006) (**Maps 1 and 5**).

Rawlins Field Office

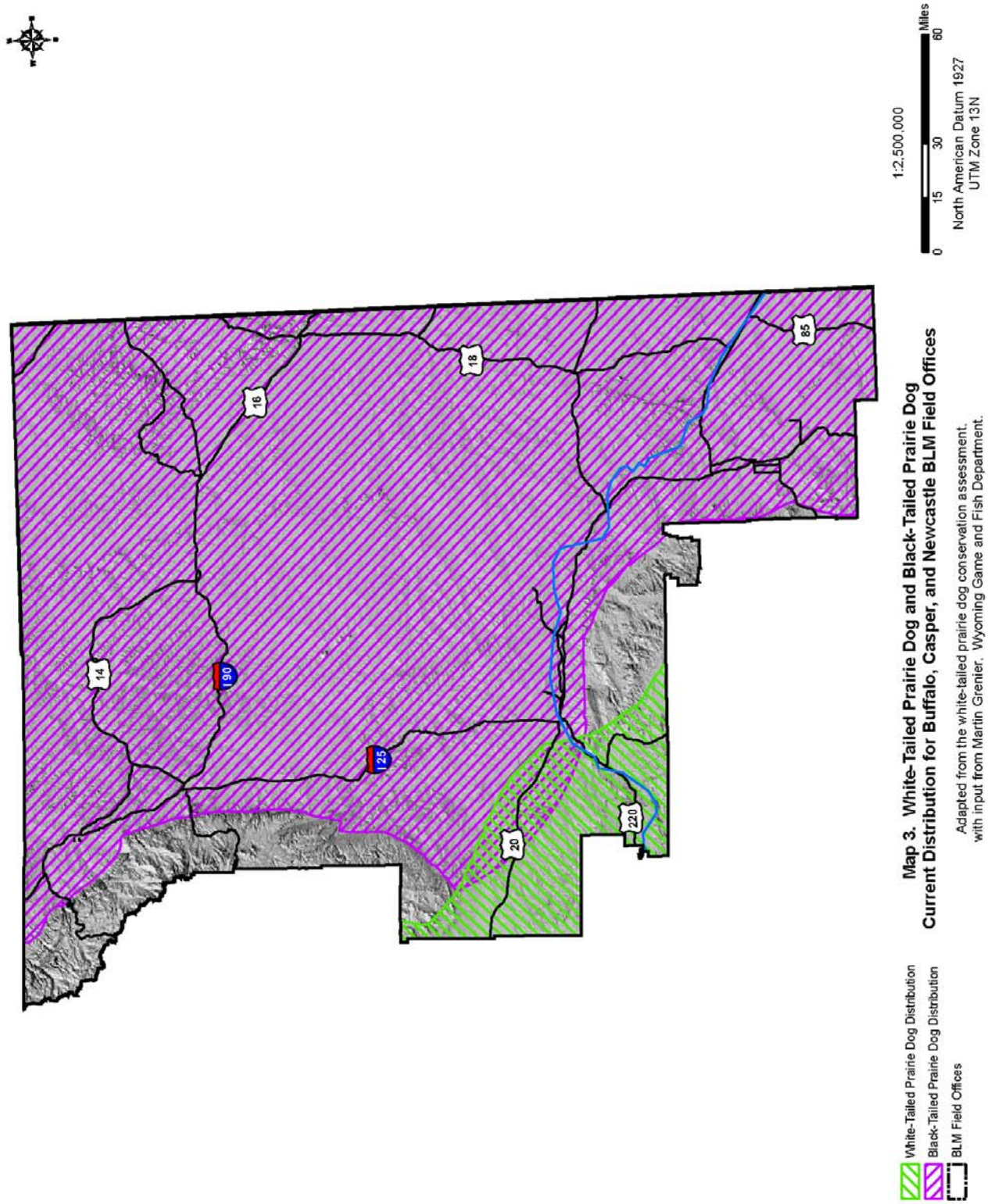
Historically, both WTPDs and BTPDs occurred in the Rawlins FO. Currently, only BTPDs occur in Laramie County. WTPDs occur in Carbon and Albany Counties bounded on the east by the Laramie Mountain Range (**Maps 1 and 4**). The Shirley Basin WTPD complex occurs in this FO and currently supports a reintroduced black-footed ferret population.

Rock Springs Field Office

Only WTPDs occur in the Rock Springs FO. Several major prairie dog complexes occur within this FO and thousands of smaller WTPD colonies are found on an estimated 800,000 acres throughout the FO (Dunder 2006) (**Maps 1 and 5**).

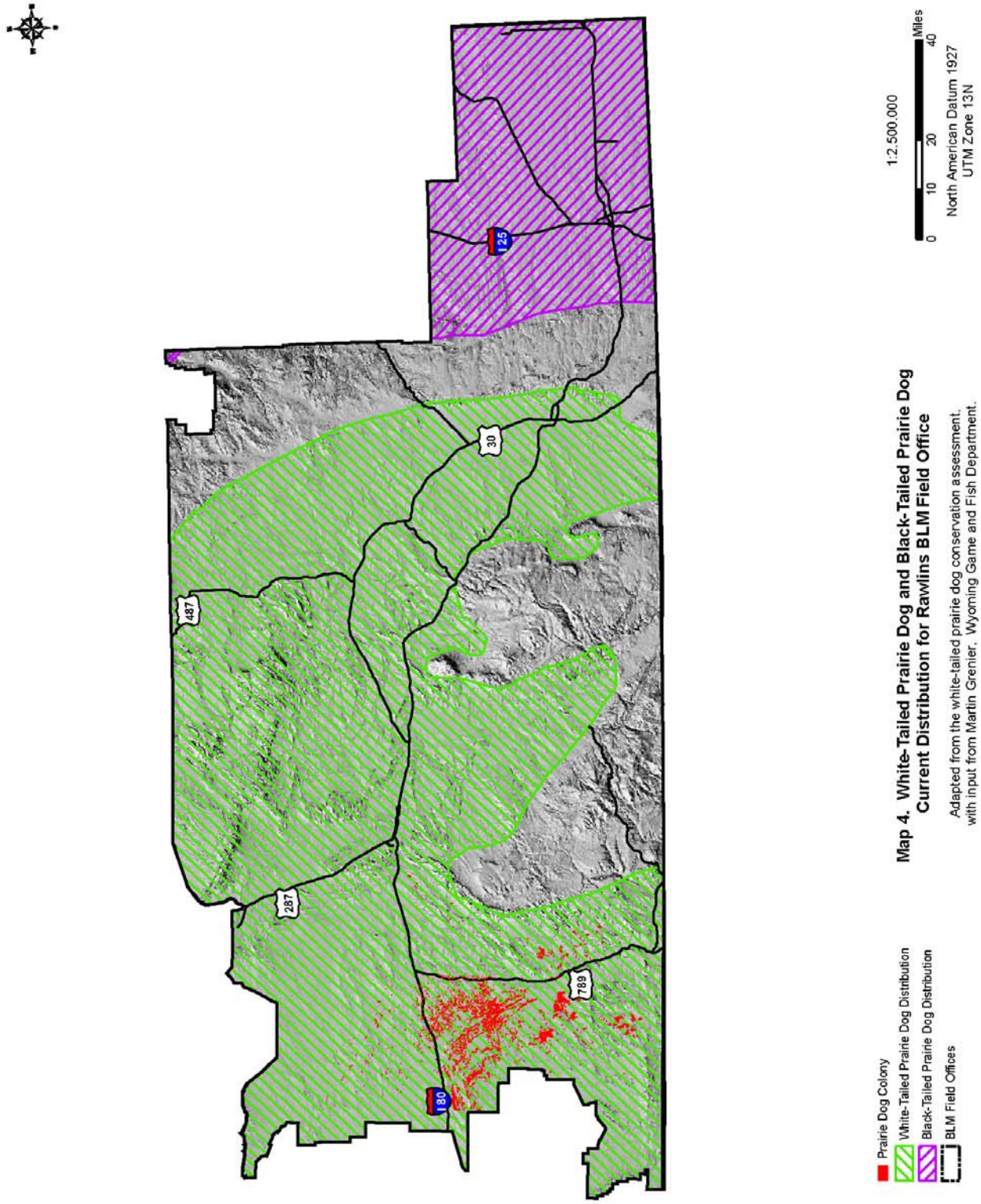
Worland Field Office

Historically and currently, the Worland FO contains only WTPDs. Colonies are evenly distributed throughout the FO (**Maps 1 and 6**). Some 267 colonies and two major prairie dog complexes have been identified on approximately 41,000 acres (Stephens 2006).



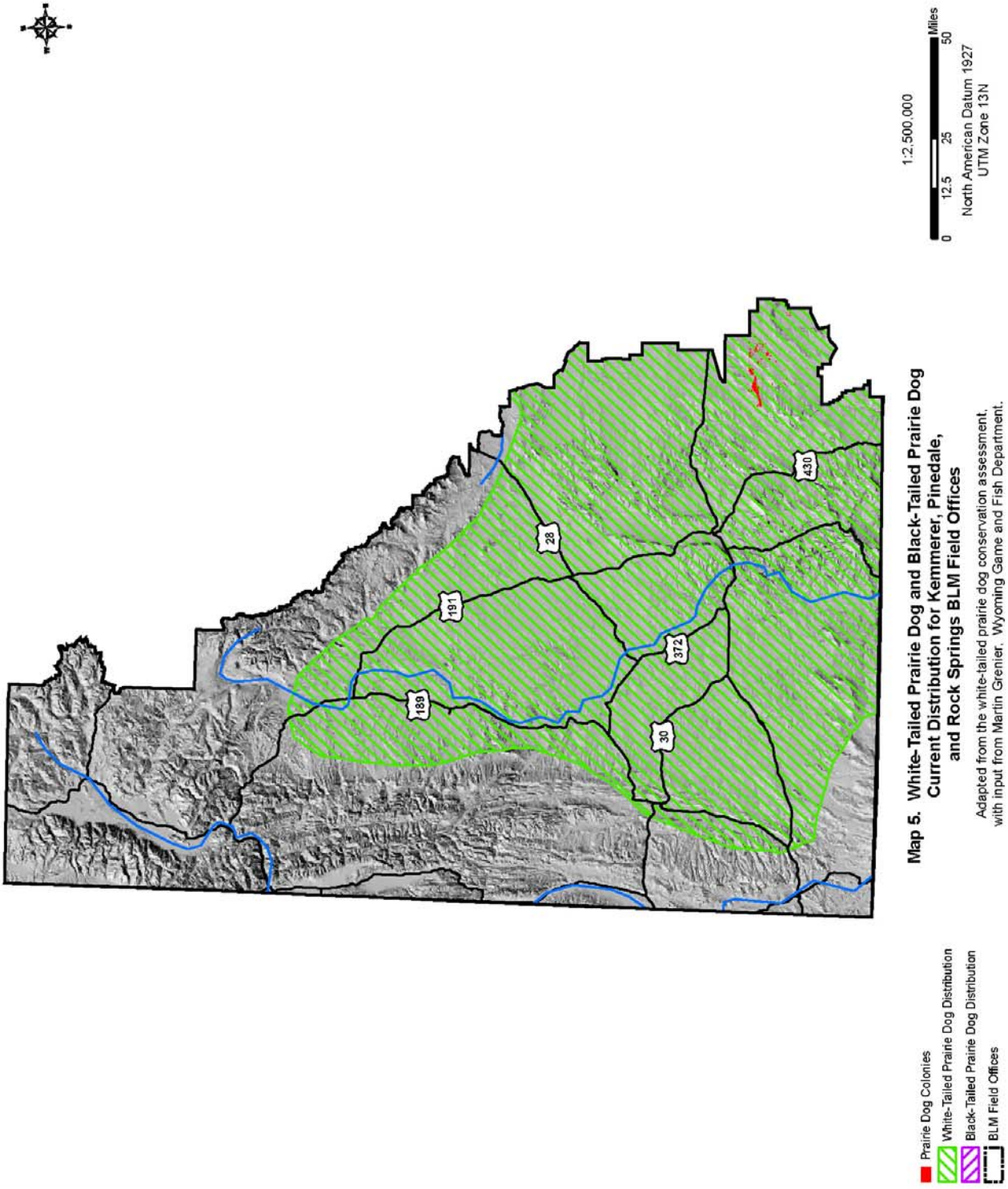
Map 3. White-Tailed Prairie Dog and Black-Tailed Prairie Dog Current Distribution for Buffalo, Casper, and Newcastle BLM Field Offices

Adapted from the white-tailed prairie dog conservation assessment. with input from Martin Grenier, Wyoming Game and Fish Department.



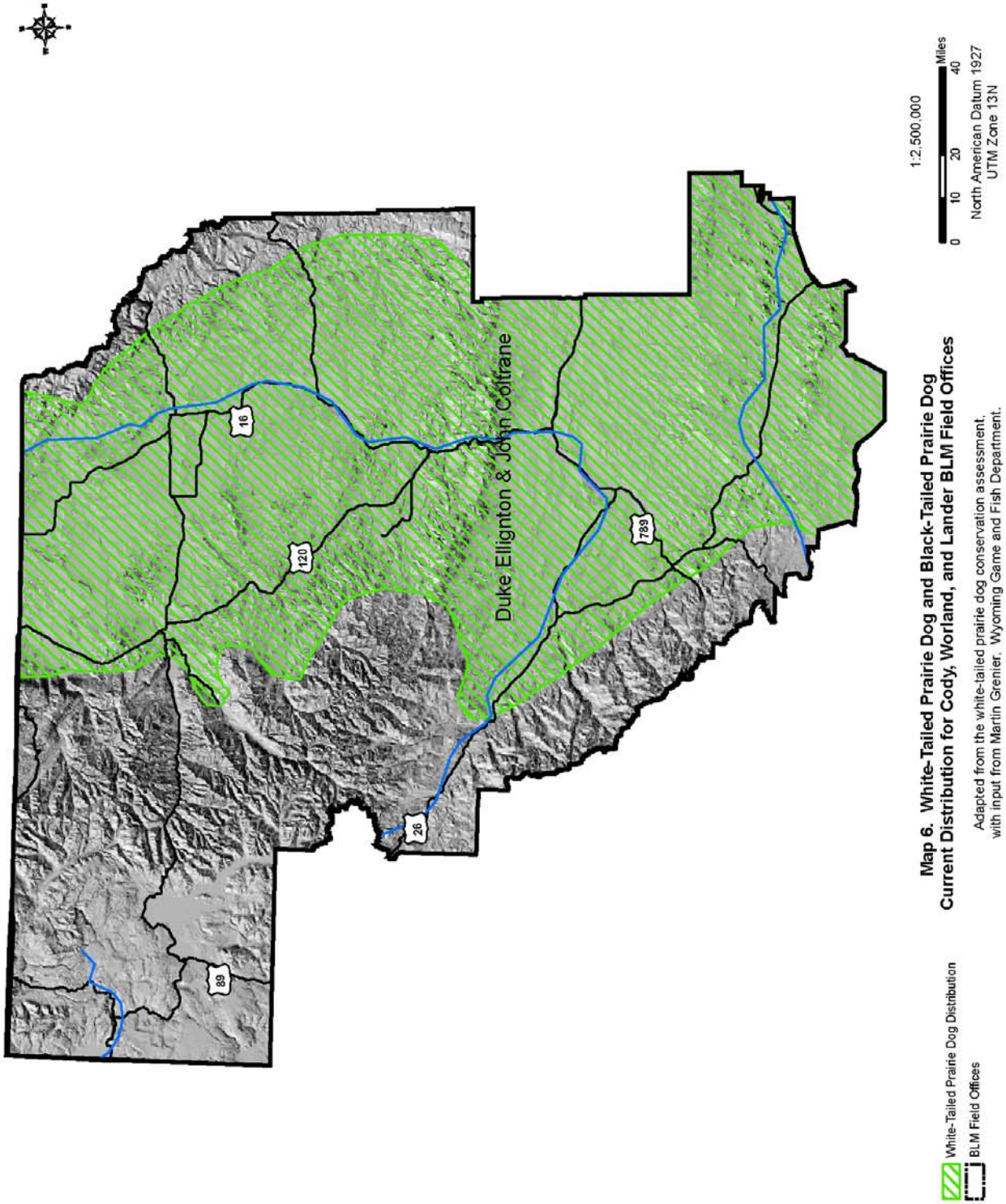
Map 4. White-Tailed Prairie Dog and Black-Tailed Prairie Dog Current Distribution for Rawlins BLM Field Office

Adapted from the white-tailed prairie dog conservation assessment, with input from Martin Grenier, Wyoming Game and Fish Department.



Map 5. White-Tailed Prairie Dog and Black-Tailed Prairie Dog Current Distribution for Kemmerer, Pinedale, and Rock Springs BLM Field Offices

Adapted from the white-tailed prairie dog conservation assessment, with input from Martin Grenier. Wyoming Game and Fish Department.



Map 6. White-Tailed Prairie Dog and Black-Tailed Prairie Dog Current Distribution for Cody, Worland, and Lander BLM Field Offices

Adapted from the white-tailed prairie dog conservation assessment, with input from Martin Grenier, Wyoming Game and Fish Department.

3.0 ANALYSIS OF GENERAL PROGRAM DESCRIPTIONS

The proposed actions for the nine RMPs, covering eight FOs, are summarized below. The management actions have been combined across FOs in this section to more efficiently discuss the general types of activities and management actions that occur programmatically throughout the Wyoming BLM FOs. For specific management program information, please refer to each RMP. These RMPs can be reviewed online by accessing the BLM Resource Management Plans website (http://www.wy.blm.gov/planning/rmplinks.htm). Following the descriptions and determinations is a table (**Table 4**) which separately summarizes the determinations for all programs under each FO.

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 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 or easements, land exchange, reciprocal rights-of-way, and other statutory authorities. Specific route pursued as needed through a variety of methods including, but not limited to, purchase of rights-of-way s and acquisition procedures for securing access are determined through route analyses and environmental analyses as part of specific project and activity planning. Access acquisition needs (typically for roads) are most commonly identified for public access for recreational use, timber harvests, grazing, etc. This may be for hunting, sightseeing, rockhounding or general exploring. Acquisition of access to public lands has been identified in locations that would provide the public with an opportunity to utilize resources that have previously been unavailable because the public lands had no public access. An increase in access could result in an increase in human activity in an area that previously had little activity, development of roads, trails, parking areas and other facilities to enhance the public's use of the area. The construction of access roads, trails, parking areas, and other associated facilities would require the use of heavy equipment and machinery, as well as surface disturbance at the site. Where appropriate, land exchanges or cooperative agreements are considered to provide access needs.

Areas with high road densities may be evaluated 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 projects 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.

Effects Analysis

The construction of new access roads that intersect WTPD colonies or complexes will create a surface disturbance. Any new access roads through WTPD colonies may destroy habitat, increase mortality by vehicles, and could provide access for recreational shooters. However, applying the conservation strategies (section 4.0), will minimize or eliminate effects to WTPD colonies.

Determination

Implementation of access management actions **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the low potential for access management to alter WTPD suitable habitats through the implementation of conservation measures (section 4.0). Any direct or indirect effects to the WTPD will be minimized for access management activities like road construction by moving these activities outside of WTPD habitat whenever possible.

Field Offices

Of the nine RMPs analyzed, only the Lander and Pinedale RMPs addressed access issues, however, the potential for impact is possible in all FOs.

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 includes dust control, weather monitoring, and air quality data monitoring. The air quality management program may evaluate or restrict surface development. The BLM requires 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 coordination with the Wyoming Department of Environmental Quality (WDEQ) and the U.S. Environmental Protection Agency (EPA). Laws controlling air pollutants in the United States include 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 (PM_{10}), nitrogen dioxide (NO_2), ozone, sulfur dioxide (SO_2), and carbon monoxide (CO). Air quality stations used to monitor particulates, if located in WTPD habitat, could cause disturbances through the building/construction of the station and associated access roads, maintenance and upkeep, and equipment reading and repair. No known monitoring stations are currently in WTPD habitat on BLM lands in Wyoming, although additional Federal and state funded stations are being placed in Wyoming annually.

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 PM_{10}, SO_2, and NO_2. 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.

Effects Analysis

Air quality management actions are typically associated with limitation, reduction, and monitoring of pollutants and dust during other BLM management actions. It is possible that activities associated with dust abatement (water trucks, etc.) could occur on WTPD colonies and result in WTPD mortality by vehicles. These effects would be only in localized areas, and the effects to the colony would be minimal. Most air quality management actions would result in secondary beneficial effects due to decreased particulates in the air in and around WTPD colonies. Any direct or indirect negative effects to the WTPD will be minimized through implementation of conservation strategies (section 4.0).

Determination

Implementation of air quality resource management actions **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the limited potential for WTPD colonies to be included in dust abatement activities, and the limited effects the activities could have on this species because of the localized nature of these activities, no known monitoring stations within WTPD colonies, and the implementation of the WTPD conservation strategies (section 4.0).

Field Offices

Seven of the nine RMPs include Air Quality Management programs, either as a stand-alone activity or in conjunction with soil and water resource management.

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. They offer opportunities for high-quality outdoor recreation. Other objectives include improving visitor services related to safety, information, and interpretation as well as developing and maintaining facilities. The designation of ACECs in an RMP is simply a designation, and does not automatically convey specific management or protections, although with designation, some resource management protections are spelled out and implemented. If access roads or other types of facilities are specifically required, then these will be described within the appropriate activity section in this document. Generally, ACEC status is a beneficial impact on wildlife and plant species.

Under the Special Areas Management program, which includes ACECs, the BLM closes areas where accelerated erosion is occurring, applies restrictions on ground-disturbing activities, and implements restrictions on the use of heavy equipment. Recreational trails and improvements could be built as well as pursuing land exchanges. ACECs also ensure protection of petroglyphs, artifacts, and cultural deposits from weathering and vandalism. The BLM evaluates noxious weed and grasshopper control measures. Significant sites and segments along Natural Historic Trails are generally designated as ACECs.

Effects Analysis

In the Great Divide (Rawlins FO) RMP, the Dad WTPD complex falls within the Sand Hills ACEC and the Bolton Ranch complex falls in the Jep Canyon ACEC. Other than these, no WTPD complexes are known to occur within the designated or proposed ACECs. Smaller towns may occur on ACECs. Furthermore, BLM management restricts ground disturbance and generally protects ACEC sites by maintaining them in a natural condition. Activities in each of the ACECs will be similar to those contemplated under the various other management actions in this RMP, except that additional restrictions on ground-disturbing activities will be applied. Special restrictions will be applied to management actions in ACECs that include cultural and paleontological resources, minerals, fire, off-road vehicles (ORV), vegetation and soils, and wildlife habitat. None of these additional restrictions are specifically directed toward protecting habitat for the WTPD, but they may indirectly benefit potential habitat by preventing some disturbances and by minimizing impacts to WTPD habitat.

Determination

Implementation of ACEC resource management **may impact, but overall impacts are beneficial** to the WTPD. This determination is based on the absence of any extensive WTPD prairie dog complexes within ACECs in Wyoming, minimization of direct or indirect negative effects to the WTPD through implementation of restrictions placed within ACECs by limiting or restricting other ground disturbing activities, and implementation of the WTPD conservation strategies (section 4.0). ACEC designation would likely provide beneficial effects to WTPDs and their habitat by limiting or restricting other ground disturbing activities.

Field Offices

The Kemmerer RMP does not have a specific ACEC Management program. For this FO, the determination stated here will apply to their ACEC management actions under any program in which they are managed.

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 disturbance or if BLM-administered lands were proposed for transfer out of Federal ownership.

The BLM performs inventories as well as land management. 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 is used for documentation and development of mitigation plans before other resource program surface disturbance. Inventory activities commonly entail the use of hand tools, power tools, or heavy machinery. These inventories are divided into Class I, Class II, and Class III. The BLM normally completes cultural resource inventories in response to surface-disturbing projects. Survey intensity varies among inventories, which may involve two to seven individuals and trucks, and may last from one day to several weeks.

Cultural resource land management involves managing sites for scientific, public, and sociocultural use by developing interpretive sites and preparing interpretive materials. Use limiting activities include restricting certain land uses, closing certain areas to exploration and prohibiting some surface-disturbing activities. This program also allows the collection of certain invertebrate fossils. Archeological collections are authorized through a permit system. The cultural resource program may authorize installation of fencing to protect 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 by avoiding surface disturbance in culturally-rich areas, as well as by managing sites and structures for their cultural importance. Surface disturbance is 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 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.

Effects Analysis

Most activities associated with cultural resource inventories, including surface surveys, record searches, and artifact characterization would have little effect on WTPDs or their habitat. More intensive excavation efforts and development of interpretive sites have the potential to disturb WTPD colonies if such activities occurred in occupied habitats. As with any surface disturbing activity, a pre-construction assessment of WTPD presence would be conducted in potentially suitable habitats prior to excavation. Direct and indirect effects to WTPD habitats would be avoided as a much as possible. Development of interpretive sites will, of necessity, occur where the cultural objects and sites themselves are located. If such a site were discovered or occurred in a WTPD colony, it could create a conflict. However, the likelihood of finding cultural resources within WTPD habitat is low and the resulting development of an interpretive site would be extremely low as these type of sites to not lend themselves to formal interpretation. And most importantly, through the application of the WTPD conservation strategies (section 4.0), effects to WTPD colonies will be minimized.

Determination

Implementation of cultural resource management actions **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the avoidance of occupied habitats for surface disturbing cultural resource activities when possible, the measures BLM currently has in place regarding implementation of cultural resource inventories, the low likelihood that an interpretive site would occur or be developed in a WTPD complex, and implementation of the WTPD conservation strategies (see section 4.0).

Field Offices

All nine RMPs analyzed in this BE contain Cultural Resource Management programs.

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 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 valuable resources, including commercial timber areas, developed recreation sites, and areas of wildland/urban interface, or fires with the potential to spread to private, state, or other

Federal lands, are actively suppressed. Fire suppression methods 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 suppressed area to its previous vegetative cover.

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

Fire and suppression impacts are evaluated through the Burned Area Emergency Rehabilitation (BAER) program on all burned areas. This process evaluates the potential for impacts on the ecosystems involved and proposes stabilization and rehabilitation actions.

Effects Analysis

Wildland fires are not expected to directly affect the WTPD because such fires typically do not occur on towns where vegetation and fuels to support a fire are limited. For these reasons, prescribed burns are also not common in these types of habitats.

Heavy machinery associated with fire suppression and prescribed fires could potentially destroy habitat and burrows and rarely could crush a WTPD. However, because wildland fires and prescribed burns are considered rare events in these habitats, this type of impact is unlikely to occur. Fire may also provide beneficial effects to the WTPD by creating bare areas for colonization and increased vigor and nutrition of reestablishing plants. Also, implementation of the WTPD conservation strategies (section 4.0), would help to minimize effects of fire management actions on WTPD colonies.

Determination

Implementation of fire management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the low potential for fires (both wildland and prescribed) to occur in habitat for the species and the low probability that fire equipment would be used in WTPD habitat. Implementation of the WTPD conservation strategies (section 4.0) would help to minimize effects of fire management actions on WTPD colonies, and the secondary impacts would be beneficial to WTPDs and their habitat.

Field Offices

All nine RMPs analyzed in this BE contain Fire Management programs.

Forest Resources

Management Actions

The objectives of forest management are 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. The BLM manages forests for multiple uses, such as recreation, livestock grazing, and wildlife habitat.

The program allows the treatment of diseased trees by spraying, cutting, and removal; 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 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 fenced 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, enhance habitat for wildlife, and protect the soil and watershed values.

Effects Analysis

Activities associated with forest resources generally occur on forested lands. The WTPD occurs in lower-elevation short- or mid- grass prairie and semi-desert shrublands, and therefore would not be disturbed by activities associated with forest resource management. If access roads are developed in or near WTPD complexes in order to gain access to adjacent forestland, there could be impacts on prairie dogs from mortality from vehicles, habitat fragmentation, and access for recreational shooting of WTPDs. However, it is very unlikely that any new access roads would be constructed for timber management activities to gain access to forested lands, especially through WTPD towns or complexes, as existing roads are currently in place to access forested areas. WTPD conservation strategies mandate that no new access roads will be allowed in an active WTPD town (section 4.0) when possible.

Determination

Implementation of forest resource management actions will have **no impact** on the WTPD or its habitat. This determination is based on the absence of the species in forested areas and conservation strategies advocating the avoidance of new roads through active WTPD towns that would provide access to timber management activities (section 4.0).

Field Offices

All of the RMPs analyzed in this BE contain Forest Resource Management programs.

Hazardous Materials

Management Actions

The primary objective of hazardous materials management is to protect public and environmental health and safety on lands administered by BLM. Hazardous materials management also seeks to comply with Federal and state laws to prevent waste contamination caused by 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.

Effects Analysis

In the event that hazardous material contamination or disposal were required, it is extremely unlikely that such activity would occur within or near a WTPD town.

Activities associated with hazardous material handling and management would typically occur in developed administrative settings that do not include suitable WTPD habitat or during an unplanned release. If an unplanned release occurred in suitable WTPD habitat and required a major emergency response, there would be the potential to harm WTPDs and to destroy suitable WTPD habitat. Although an accidental spill could be detrimental if it occurred, such an event is very unlikely to occur within WTPD habitat.

Determination

Implementation of hazardous material management actions **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the low potential for an accidental spill and those response actions necessitated by such an unplanned release directly impacting WTPDs and their habitat and on the minimization of any direct effects to WTPDs through implementation of the conservation strategies (section 4.0) in an area that contains a WTPD town.

Field Offices

The Platte River (Casper FO), Kemmerer, Lander, Pinedale, and Great Divide (Rawlins FO) RMPs did not address Hazardous Material Management programs, although they would respond to an unplanned hazardous materials release or spill. For all nine RMPs analyzed in this BE, the determination stated here will apply to all hazardous material management actions.

Lands and Realty

Management Actions

The objectives of the lands and realty management program are 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 that are 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.

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 generally supports other resource management programs and is authorized under the Realty Management Program. The BLM rehabilitates access roads that are no longer needed, proposes easement negotiations, pursues access across private lands, approves 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.

All BLM-administered public lands will be open to consideration for utility and transportation systems, but these systems will be located next to existing facilities whenever possible. Areas with important resource values will be avoided where possible when planning for placement and routes of new facilities. Effects will be intensively mitigated if it becomes necessary to place facilities within avoidance areas.

Effects Analysis

WTPDs that occur in areas subject to development for utility and transportation projects may be harassed, injured, or killed by these activities, and suitable WTPD habitat may be degraded, destroyed, or fragmented. Roads issued through rights-of way may provide travel corridors for WTPD predators and powerlines would provide perches for avian WTPD predators. Avoidance of important WTPD habitat and implementation of the conservation strategies (section 4.0) would minimize potential impacts to WTPDs from utility and transportation projects.

Land exchanges and other disposal methods may negatively impact WTPDs and their habitat. If lands supporting prairie dogs are exchanged away from the BLM to private landowners, management of these areas for prairie dogs would no longer be possible. However, the BLM rarely conveys properties with high resource value, in particular, those that support special status species. Conversely, if areas occupied by WTPDs are received by the BLM in exchange for unoccupied lands, the increased focus on prairie dog management could benefit the species.

Increased access to BLM lands may increase the potential for harassment, injury, and mortality from activities that occur on the newly accessible lands. The potential for negative impacts to WTPDs may increase where recreational activity occurs in suitable prairie dog habitat (primarily recreational prairie dog shooting). Land withdrawal will slightly reduce the number of activities that impact WTPDs on any withdrawn lands that supports suitable habitat.

Determination

Implementation of actions associated with lands and realty **may impact, but is not likely to contribute to the need for the species to become listed**. This determination is based on the very low potential for the disposal of lands containing WTPD habitat (section 4.0), the recommendations in the conservation strategies (section 4.0) for protection and avoidance of prairie dog towns, and the BLM's overall commitment to protect WTPDs and ensure that adequate numbers of WTPDs are present on the public lands to assure the species' long-term viability.

Field Offices

All nine RMPs analyzed in this BE contain Lands and Realty Management programs.

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, re-harvesting timber sale areas, 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, controlling noxious weeds, using mechanical or biological vegetative treatments to improve forage production, using heavy equipment, and 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 exclosures 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, enhancing and improving 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 to help manage livestock.

Effects Analysis

The use of vehicles or ORVs in livestock management could result in prairie dog mortality as a result of being run over. Fences used in livestock grazing could provide additional perches for raptors, which could prey on WTPDs. The development of new stock ponds, corrals, stock tanks, etc., if they occur on a prairie dog town, could reduce prairie dog habitat. However, disturbance to WTPD habitat from these circumstances would be localized. In addition, the conservation strategies (see section 4.0) mandate precluding prairie dog towns from these activities. Livestock grazing can benefit WTPD habitat if managed correctly (Luce 2002). Grazing reduces vegetation height, thereby improving habitat for the WTPD.

Determination

Implementation of livestock grazing management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the small number of prairie dogs that would be susceptible to direct or indirect effects from livestock grazing management actions. In addition, the conservation strategies (section 4.0) would help to minimize any direct or indirect effects from livestock grazing management actions on the WTPD and its habitat. Livestock grazing may also benefit WTPD

habitat by reducing vegetation height.

Field Offices

All nine RMPs analyzed in this BE contain Livestock Grazing Management programs.

Geology and Minerals Resources

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 sand, gravel, sandstone, shale, limestone, dolomite, and granite rock. These materials were historically used for building, road surfacing, and tools. Today, salable minerals are mainly used for maintaining roads and activities associated with the oil and gas industry.

BLM provides sand, gravel, and stone from Federal mineral deposits as necessary to meet the need for 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 resource 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 resource 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 the BLM.

Salable minerals are disposed of under the Materials Act of 1947, as amended, and as such 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, with 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 and 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, and stock piling of these materials. Once an area is mined out, reclamation begins and includes recontouring as closely to the original landscape as possible, reconstruction of drainages, and 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 mechanized 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 bimonthly competitive oil and gas sales. These nominations are gathered together into a parcel list and sent to the respective FOs for the attachment of protective stipulations. These stipulations are derived from the RMPs. The parcel list is returned to the BLM Wyoming 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 sound waves 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 is an average of 3 acres for each drill pad, 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 the standard vertical configuration, with multiple wells per pad requiring additional acreage. 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 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. There are currently no geothermal leases authorized within Wyoming.

Locatable Minerals

Locatable metallic minerals include 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.

Effects Analysis

There is a large amount of present and future minerals development throughout the state. Although an individual well may not take up a large footprint, the combined surface area of thousands of wells adds substantially to the potential loss of WTPD habitat. BLM wildlife biologist are involved in project design to control the location of roads, pipelines, and other sundries that would be needed for exploration or development to help avoid these impacts.

The WTPD Conservation Assessment (Seglund et al. 2004) has indicated concern that the BLM has not addressed the impact of oil and gas road development with its potential for increased shooting of WTPDs. Although oil and gas fields typically do not offer the most desirable environment for WTPDs, recreational prairie dog shooters may still access prairie dog towns from roads built to access oil and gas wells or fields.

The following actions are likely to increase human activity, which may result in displacement and mortality of prairie dogs, loss of WTPD habitat in the footprint of the disturbance, fragmentation of prairie dog towns and complexes, and potential increased recreational shooting of prairie dogs through mineral development access roads: development, construction, and initial reclamation of oil and gas wells, well pads, access roads, and reserve pits; compressor stations, product enhancement and disposal facilities; power lines and pipelines; and development and construction of coalbed methane sites.

Increased traffic could cause mortality of prairie dogs by vehicles. Well pads are most frequently located or moved so as to avoid prairie dog towns; sometimes their sheer numbers or size of the prairie dog complex make this impossible. Although attempts are made to locate the pipelines outside of prairie dog colonies, the length of the pipelines and the size of prairie dog complexes may make this impractical. Undeveloped roads may be created by unauthorized users in powerline and pipeline right-of-ways (ROWs) without concern for prairie dog colonies. This may result in vehicle mortality. Energy development infrastructure may also create perches for raptors and thus increase prairie dog predation. Increased human disturbance is often associated with increased use by WTPD predators such as coyotes, red foxes, raccoons, ravens, etc.

Geophysical exploration may affect prairie dogs by destroying habitat, collapsing tunnel systems, causing auditory impairment, and disrupting social systems (Seglund et al. 2004). Three-dimensional geophysical exploration is a large-scale activity that does not provide the opportunity for avoidance of large prairie dog complexes. It may cause significant damage to vegetation and provide access to recreational prairie dog shooters who could use these linear corridors for unauthorized access.

As with other BLM sensitive species, the WTPD is actively avoided by projects. However, recent work has shown that prairie dogs must be managed on a landscape scale (Seglund et al. 2004), meaning that complexes can die off at one end and expand at another end and that large areas (greater than 5,000 acres) may be involved. Avoidance of existing colonies cannot protect against this landscape factor, because a project could be approved for an area presently absent of prairie dogs, but that would otherwise have been colonized at some future time.

Conservation strategies (section 4.0) would help to minimize effects to the WTPD and its habitat from geology and mineral resource management actions.

Determination

Implementation of energy and mineral management actions **may impact, but is not likely to contribute to the need for Federal listing** of the WTPD for the Platte River (Casper FO), Cody, Lander, Grass Creek (Worland FO), and Washakie (Worland FO) RMPs. This determination is based on the potential for new or existing BLM-approved energy and mineral development to impact WTPD colonies and the likelihood for damage or destruction of suitable occupied and unoccupied WTPD habitat on private land surface ownership with Federal mineral split estates. These effects would be minimized through implementation of WTPD conservation strategies (section 4.0).

Implementation of energy and mineral resource management actions **may impact and is likely to contribute to the need for Federal listing** of the WTPD for the Great Divide (Rawlins FO), Green River (Rock Springs FO), Kemmerer, and Pinedale RMPs. This determination is based on the limited ability for the BLM to provide minimization of direct effects of oil and gas development to the WTPD through implementation of the conservation strategies (section 4.0) and the potential to damage or destroy suitable occupied and unoccupied WTPD habitat on split estates. In addition, each of these FOs have WTPD complexes located in areas of potential mineral development.

Field Offices

All nine RMPs analyzed in this BE contain Geology and Mineral Resources Management programs.

Off-Highway Vehicles

Management Actions

The objective of off-highway vehicle (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 OHVs requires no Federal fees or permits (state use permits are required), and use is restricted depending on whether an area has been designated as closed, limited, or open. OHV management designates closed, limited, or open areas for OHV use; posts signs, maps, and develops brochures; permits OHV rallies, cross-country races, and outings; monitors OHV use, and performs necessary tasks requiring OHV use. OHV use (including over-the-snow vehicles) on BLM-administered lands is limited to existing roads and trails. Some areas are closed to OHV use. Use of OHVs off of designated routes up to 300 feet is allowed for activities like firewood gathering, campsites, or retrieval of harvested game animals.

Until signing is implemented, OHV use in "limited" areas will only be permitted on existing roads and vehicle routes. OHV travel is 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.

Effects Analysis

If OHV use were to occur in a WTPD colony, there is the possibility of direct vehicle mortality or crushing of burrows or burrow entrances, however, this activity would be a very rare occurrence. OHV users gain access to remote areas including prairie dog complexes. This access may result in recreational shooting of prairie dogs, which can have an additive effect with plague, and slow post-plague recovery of prairie dog complexes. OHV use (including over-the-snow vehicles) on BLM-administered lands is limited to existing roads and trails. This would limit disturbance to the WTPD and its habitat. Additionally, given the conservation strategies (section 4.0), effects to WTPD colonies will be minimized.

Determination

Implementation of OHV resource management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the limited potential for OHV use to impact suitable WTPD habitats. While some of these actions may impact individuals, the implementation of the conservation strategies (section 4.0) will serve to protect the species sufficiently to ensure that no actions authorized, funded, or carried out by the BLM will contribute to the need for this species to become listed.

Field Offices

All nine RMPs analyzed in this BE contain OHV Resource Management programs.

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. Fossils are part of the surface estate, such that whoever owns the surface consequently owns the fossils. Hobby collection of invertebrate fossils, plants, and petrified wood are allowed except in specified areas, however, for larger scale paleontological collecting, a permit is required before collecting any fossil vertebrates, significant fossil invertebrates, and plants on BLM-administered public lands.

Potential effects on paleontological resources found on BLM-administered public lands will be considered in site-specific environmental analyses before authorizing surface disturbance. Site-specific inventories will be required where significant fossil resources are known or are anticipated to occur. The closing of BLM-administered public lands or restricting uses to protect paleontological resources are evaluated on a case-by-case basis.

Effects Analysis

Paleontological resource management is unlikely to affect the WTPD or its habitat where management actions are implemented. Potential impacts depend on several factors, including the type of each field effort, the time of year, the duration of field activities, use of heavy machinery versus hand tools, and the type of habitat affected. Surface disturbance associated with paleontological investigations may result in disturbance to WTPD or its habitat if large-scale excavations take place in areas of known occurrence or potential habitat. Potential loss of habitat is difficult to quantify, but it is expected to be extremely minimal and is not expected to limit the range-wide availability of these habitats. Inventories will be completed in accordance with conservation strategies (section 4.0) to verify the presence or absence of WTPDs before any ground disturbance. In the event that an occurrence of the WTPD is identified, surface disturbance would be modified to ensure that this species and its habitat are protected.

Determination

Implementation of paleontological resources management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the unlikely chance that paleontological resources management actions would occur within prairie dog complexes and inventories will be completed in accordance with conservation strategies (section 4.0) identifying the presence or absence of WTPDs if surface disturbance is planned in suitable habitat.

Field Offices

The Platte River (Casper FO), Lander, Grass Creek (Worland FO), and Washakie (Worland FO) RMPs analyzed in this BE do not contain Paleontological Resource Management programs. For all nine RMPs analyzed in this BE, the determination stated here will apply to all paleontological management actions.

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.

Recreation management includes 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 or permitting. Large recreational events may include organized group hikes, motocross competitions, or horse endurance rides. The BLM develops recreational and camping sites. This 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 impose specific restrictions to protect other important resources. Development and enforcement of stipulations and protective measures include designating OHV use, enforcing recreation-oriented regulations, patrolling high-use areas, and contacting users in the field.

Effects Analysis

Recreational sites and activities do not typically occur in prairie dog complexes. OHV use and recreation may compact or erode soil; however, these activities are generally dispersed over large areas. BLM staff regularly field questions from the public about locations for shooting prairie dogs. BLM staff no longer provides locations of prairie dog towns for prospective shooters, and BLM philosophy is that prairie dog shooting is not encouraged (Roberts 2002). Recreational shooters use roads to access prairie dog complexes, and their shooting activity can have an additive effect in slowing recovery of prairie dog populations that have been impacted by plague and other disturbances (Seglund et al. 2004). However, implementing the WTPD conservation strategies (section 4.0) would moderate effects to the WTPD and its habitat from recreation resource management actions.

Determination

Implementation of recreation resource management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the potential for recreation activities to impact suitable WTPD habitats. While some of these actions may impact individuals, the implementation of the conservation strategies (section 4.0) will serve to protect the species sufficiently to ensure that no actions authorized, funded, or carried out by the BLM will contribute to the need for this species to become listed.

Field Offices

All nine RMPs analyzed in this BE contain Recreation Resource Management programs.

Riparian Areas

Management Actions

The objective for riparian areas management is 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. Laws and guidelines followed during riparian management include Executive Orders 11990 (wetland) and 11988 (floodplain), and section 404 of the Clean Water Act.

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 account for 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, lands and realty activities, watershed and soils resources, recreation uses, fire management, and access.

Effects Analysis

Riparian areas management will not have detrimental effects on the WTPD or its habitat. Though the WTPD may occasionally use areas adjacent to river valleys, it does not use riparian areas.

Determination

Implementation of riparian areas management will have **no impact** on the WTPD. This determination is based on the WTPD's avoidance of riparian areas.

Field Offices

Only the Kemmerer, Pinedale, and Green River (Rock Springs FO) RMPs have stand-alone Riparian Management programs. This determination will apply to any management actions that address riparian management issues in the other RMPs.

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, protective measures will be developed in consultation with the USFWS.

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 disturbance in adjacent areas that could affect the populations. Any proposed surface disturbance will be examined on a case-by-case basis 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.

Effects Analysis

Sensitive plant species management actions would not affect the WTPD. Prairie dogs are not noted for foraging on rare or sensitive plant foods. Rather, they forage on typical plants of short- or mid-grass prairie and semi-desert shrublands. If a population of rare plants were discovered within a WTPD colony, protection of the plants, such as fencing and other protective measures, would have very limited negative

impact on prairie dogs, with impacts primarily due to avian WTPD predators using fence posts as perches for hunting.

Determination

Implementation of sensitive plants management will have **no impact** on the species. This determination is based on the fact that prairie dogs occur over large areas that are unlikely to harbor rare plants, protective measures for sensitive plants would have no impact on prairie dogs, and the extremely unlikely occurrence that WTPDs would be subject to impacts from avian predators through sensitive plant management.

Field Offices

The Great Divide (Rawlins FO) and Green River (Rock Springs FO) RMPs are the only RMPs that separately list Sensitive Plant Management programs. This determination will apply to any management actions that address sensitive plant management issues in the other FOs.

Soils

Management Actions

The objectives for soil resources management are to maintain soil cover and productivity and improve areas where soil productivity may be below potential on surface lands administered by BLM.

Activities associated with soil mapping/sampling may include surveying, core drilling, use of pick-up truck mounted soil augers and core samplers (1 ½" to 2" in diameter) and back-hoes (usually around 12-24" in width and pits may be up to 6' deep) for digging soil characterization pits and trenches, using hand held shovels to dig holes or pits, and associated human and vehicle disturbances. These trenches are backfilled and revegetated/reseeded when surveys are complete. Disturbances are usually very small and of short duration in nature. Native terrain/vegetation can be reclaimed quickly. Surface soil erosion studies may also be conducted. These soil resource related activities in the planning area are mainly in support of other programs. Soil mapping and identification may require the digging of trenches to identify and measure soil horizons below the surface. Formal soil surveys are generally conducted under an agreement with the Natural Resource Conservation Service (NRCS).

Other activities associated with soil resources may include reclamation of abandoned mine lands (AML) and open shafts, removal of waste rock in floodplains or streams, or cleanup of tailings. These reclamation programs are covered under the hazardous materials section of this document.

Timber harvest will be limited to slopes of 45 percent or less to protect 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. Unless waived, no surface disturbance or occupancy is allowed in areas of severe erosion between March 1 and June 15.

Effects Analysis

Soil resources management would have minimal impact on WTPDs and their habitat and the secondary benefits from improving habitats through revegetation, reseeding, or other rehabilitation would be

beneficial. This program prohibits soil-damaging activities when soils are moist. Protective measures for soils, should they occur in or near prairie dog complexes, would have a beneficial impact on WTPDs and could be positive by preventing compaction and rutting from surface-disturbing activities. Most soils inventories are short-term in duration and surface-disturbing activities are very minimal and reclaimed quickly. Protective measures for soils, should they occur in or near WTPD complexes, are not likely to impact the WTPD with implementation of conservation strategies (section 4.0).

Determination

Implementation of soil management actions **may impact, but is not likely to contribute to the need for Federal listing** for the WTPD. This determination is based on the fact that the actions associated with soils management are of short duration, will be subject to surface disturbance conservation measures and will provide an overall secondary benefit to the soils and vegetation on which WTPDs occur. Implementation of the conservation strategies (section 4.0) would minimize potential impacts to WTPDs from soil management.

Field Offices

The Kemmerer RMP manages soils independently and the Casper, Lander, and Great Divide (Rawlins FO) RMPS manage soils jointly with the air and watershed (soil/water/air) management programs. The determination for Soils Management stated here will apply to that activity under any management program that manages soils.

Surface Disturbance Restriction Decisions

Management Actions

Surface disturbance restrictions are necessary to protect certain sensitive resources and areas from adverse effects of surface disturbance and human presence, and include 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 guide development in all programs where surface disturbance occurs 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 actual requirements applicable to specific circumstances, and examples of requirements that will be considered and applied, if necessary. Surface-disturbing activities may be further restricted as necessary.

The mitigations identified in a particular RMP serve to protect 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 of less stringent application of the SDA Guidelines would be timber harvesting within 500 feet of streams or riparian areas and on slopes greater than 25 percent. This would apply to those timber harvest activities, such as tree cutting, skidding, and slash disposal, which 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 non-Federal 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 considers issuing a mineral lease, the agency has a statutory responsibility under the National Environmental Policy Act (NEPA) 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 (ESA), 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 require the BLM to regulate surface disturbance and reclamation on all leases.

Effects Analysis

Implementation of the surface disturbance restriction management would minimize direct effects to prairie dogs and their occupied habitats by restricting surface disturbing activities. Potential benefits would include conservation of potentially suitable habitats and minimization of actions that would damage suitable habitats.

Determination

Implementation of surface disturbance restriction management **may impact, but the overall impact is beneficial** for the WTPD. This determination is based on the minimization of direct or indirect negative effects to the WTPD through implementation of restrictions limiting or restricting other ground disturbing activities, and implementation of the WTPD conservation strategies (section 4.0). Implementation of surface disturbance restriction management would likely provide beneficial affects to WTPDs and their habitat by limiting or restricting other ground disturbing activities.

Field Offices

Only the Pinedale RMP addresses surface disturbance restriction management issues, but the potential for the reduction of impacts from other ground disturbing activities utilizing surface disturbance restriction management would have a beneficial effect on WTPDs.

Threatened, Endangered, and Candidate Species Protection

Management Actions

The management objectives of threatened, endangered and candidate species protection are to maintain biological diversity of plant and animal species and conserve these special status species (SSS) through the use of all methods and procedures necessary to improve the condition of SSS and their habitats to a point where their special status recognition is no longer warranted to the extent practical and consistent with BLM multiple-use management requirements (BLM 2001). It maintains and improves forage production and quality of rangelands, fisheries, and wildlife habitat and provides habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the ESA, approved recovery plans, conservation measures and best management practices.

Although only USFWS can list a species as endangered, threatened, or a candidate for listing, the ESA requires BLM to protect known populations of threatened or endangered species. 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.

Effects Analysis

Habitat improvement projects may result in temporary damage or destruction of non-occupied WTPD habitat. However, it is likely that these same projects would be limited in scope and result in lasting improvements to conditions that would benefit the WTPD. Threatened, endangered, and candidate species protection management actions would likely benefit the WTPD because of the protections afforded to other species that use WTPD habitat, such as the black-footed ferret. Prior to the implementation of any improvement projects from management actions associated with threatened, endangered, and candidate species protection that involve disturbing WTPD habitat, the conservation strategies (section 4.0) would be implemented in order to minimize direct effects to WTPDs and their occupied habitats. Improvement projects may result in temporary damage or destruction of WTPD habitat. However, it is likely that these same projects would be limited is size and result in lasting improvements to conditions that would benefit the WTPD.

Determination

Implementation of threatened, endangered, and candidate species protection actions **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the possibility of short-term damage or destruction of WTPD habitat. However, it is likely that these same projects would result in long-term improvements that would benefit the WTPD and the conservation strategies (section 4.0) would be implemented in order to minimize direct effects to WTPDs and their occupied habitats. Additionally, threatened, endangered, and candidate species protection management actions would likely benefit the WTPD because of the protections afforded to other species that use WTPD habitat, such as the black-footed ferret.

Field Offices

The Kemmerer, Green River (Rock Springs FO), and Washakie (Worland FO) RMPs are the only RMPs analyzed in this BE addressing Threatened and Endangered Species Management programs. However, the other six RMPs do implement Threatened and Endangered Species Management projects and the above practices will apply to this action under any RMP management program where it is administered.

Vegetation Resources

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. It also enhances essential and important habitats for special-status plants species on BLM-administered public land surface and prevents special-status plant species from the need to be listed as threatened and endangered; and to reduce the spread of noxious weeds.

Vegetation treatments, including timber harvesting and sagebrush spraying or burning, will be designed to meet overall resource management objectives. Cooperative integrated weed control programs implement 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 insects such as weevils, beetles, or herbivores such as 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 to improve range forage production, wildlife habitat, timber stands, 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. 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 cooperatively with the County Weed and Pest Districts and the BLM. All PUPs and BUPs are reviewed by the BLM's Wyoming State Office Noxious Weed Coordinator and approved by the Wyoming BLM Deputy State Director for Resource Policy and Management.

Effects Analysis

Vegetation improvement projects may result in temporary damage or destruction of non-occupied WTPD habitat. However, it is likely that these same projects would result in lasting improvements to conditions that would benefit the WTPD. Vegetation management on BLM lands would likely improve forage for prairie dogs. Prior to the implementation of any vegetation improvement project that involved disturbing WTPD habitats, the conservation strategies (section 4.0) would be applied. However, the majority of vegetation management actions, including timber harvesting, tree planting, and sagebrush removal, are

not likely to occur in WTPD habitat, because of the WTPDs preference for areas of short grazed grasses, where these actions will not occur. However, while WTPDs do utilize sagebrush and other shrub dominated communities, vegetative treatments would not be expected to occur within WTPD habitat, unless it is determined that such activities would be beneficial to WTPDs. Areas becoming unsuitable because of noxious weeds would be treated with environmentally acceptable herbicides according to the WTPD conservation strategies (see section 4.0). Biological control would also be utilized according to the WTPD conservation strategies (see section 4.0).

Determination

Implementation of vegetation management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the potential for improvement projects to have a temporary impact on potentially suitable WTPD habitats, although the majority of vegetation management actions, including timber harvesting and tree planting, are not likely to occur in WTPD habitat. However, most vegetation improvement/treatment projects would likely be beneficial to the WTPD over the long-term by providing additional forage. Implementation of the conservation strategies (section 4.0) will minimize any impacts to the WTPD from vegetation management projects.

Field Offices

The Lander, Great Divide (Rawlins FO), Green River (Rock Springs FO), and Grass Creek (Worland FO) RMPs specifically manage vegetation. For all other RMPs, this determination will apply to this action under any management program as it is administered.

Visual Resources

Management Actions

The objectives of visual resources management are 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 Wyoming.

No activity or occupancy is allowed within 200 feet of the edge of state and Federal highways. To improve visual resources, the BLM requires the design of 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. 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.

Effects Analysis

Implementation of visual resources management involves no actual ground disturbing activities, resulting in no anticipated disturbance to WTPD habitat and no increased human presence; therefore visual resources management would not have any direct effect on the WTPD or its habitat. Activities would attempt to return sites to their natural condition and likely may benefit the species by preserving and minimizing impacts to landscapes and habitat. It is unlikely that activities associated with visual resource management would occur in WTPD habitat, because much of the suitable WTPD habitat across the state

falls into VRM Class IV, which is the least restrictive class restriction and the conservation strategies (section 4.0) in place to minimize impacts to prairie dog colonies. The exclusion of some activities and structures from designated view sheds may also have a secondary positive effect of limiting disturbance of habitats that may be suitable for WTPDs.

Determination

Implementation of visual resources management will have **no impact** on the WTPD. This determination is based on the fact that visual resource management activities involves no actual ground disturbing activities, activities associated with visual resource management would not likely occur in WTPD habitat, because much of the suitable WTPD habitat across the state falls into VRM Class IV, which is the least restrictive class restriction, and the conservation strategies (section 4.0) in place minimize impacts to prairie dog colonies. VRM activities would attempt to return sites to their natural condition and may benefit the species by preserving and minimizing impacts to landscapes and WTPD habitat.

Field Offices

The Platte River, Kemmerer, and Lander RMPs do not specifically manage for VRM. For these RMPs, the determination stated here will apply to any management program containing Visual Resources Management actions.

Watershed and Water Resources

Management Actions

The objectives of watershed and water resources management are to maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and Federal water quality standards and to provide for availability of water to facilitate authorized uses. This program also aims 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, 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 BLM's 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.

Effects Analysis

Watershed and water resources management actions are not expected to directly affect the WTPD or its habitat, because these actions are not planned in any of the respective RMPs within WTPD habitat, nor are they likely to occur in the future in suitable WTPD habitat. WTPDs inhabit short- and mid-grass prairie and semi-desert shrublands without much slope, and are not typically found in riparian areas where watershed and water resources management actions would occur. Watershed and water management

actions are designed prevent or reduce erosion, improve water filtration, and reduce salinization. In rare exceptions, water management projects might disturb potentially suitable WTPD habitat when activities occur in upland WTPD habitat adjacent to water management projects. Rivers with floodplains, particularly rivers such as the Big Sandy, Sweetwater, Nowood, or Hams Fork Rivers, may provide suitable WTPD habitat, however, no watershed or water resources projects are planned for these areas. These impacts are not expected to impact WTPDs, because of their localized nature and their relatively small size compared to the availability of otherwise suitable habitats.

Determination

Implementation of watershed and water resources management will have **no impact** on the WTPD. This determination is based on the fact that watershed and water resources management does not occur in WTPD habitat. In addition, a 500-foot buffer preventing surface disturbance on perennial streams could benefit those individuals that use grasslands adjacent to riparian areas.

Field Offices

Water and Watershed Resource Management programs are addressed in the Cody, Kemmerer, Green River (Rock Springs FO), and Grass Creek (Worland FO) RMPS and are listed separately or managed jointly with air quality and soils management in the other five RMPs.

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. BLM wild and scenic rivers management includes 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.

The only designated wild and scenic river in the state is Clarks Fork of the Yellowstone River, on National Park Service land. None of the FOs analyzed contain a designated WSR. The Cody, Kemmerer, Lander, Pinedale, Great Divide (Rawlins FO), Green River (Rock Springs FO), and Washakie (Worland FO) RMPs manage eligible and suitable WSR stream or river segments, however, no WTPD habitat occurs within these segments.

Effects Analysis

Actions associated with wild and scenic rivers on lands administered by the BLM would not impact the WTPD because these actions would be localized around rivers and not in potentially suitable WTPD habitat. Prairie dogs do not utilize habitat around streams or rivers due to the fact that high water tables and flooding around these areas would fill burrows with water and make them unsuitable habitat.

Determination

Implementation of WSR management will have **no impact** on the WTPD. This determination is based on the fact that WTPD habitat is not associated with rivers or streams and that no BLM designated eligible or

suitable WSR stream or river segment on BLM lands in Wyoming contains WTPD habitat.

Field Offices

The Platte River, (Casper FO) and Grass Creek (Worland FO) RMPs do not have any eligible and suitable WSR stream or river segments, however, no WTPD habitat occurs within these segments.

Wild Horses

Management Actions

The objectives of wild horse management are 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 populations have more than tripled since passage of the Wild and Free Roaming Horse and Burro Act in 1971. Wild horse and burro numbers on BLM lands in Wyoming were estimated at 37,000 in 2004; this compares with horse numbers on BLM lands in the west that are estimated at more than 60,000 compared to 17,000 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. The construction of corrals and capture facilities could cause impacts through ground disturbance and concentrated human presence. Horse round-up generally causes concentrated compaction by horse hooves in corral and load-out areas. Placement of capture corrals and capture facilities outside of prairie dog habitat is important as the concentrated disturbance could potentially be an adverse effect to this species and its habitat.

RMPs are used to plan wild horse management. The BLM decides how many horses to allow in a certain area. This is termed the approximate management level and the BLM can adjust horse numbers as needed. Issues such as carrying capacity, trends in utilization, and public input are considered. 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.

Effects Analysis

Wild horse herd management areas (WHHMAs) occur within the Cody, Lander, Rawlins (Great Divide RMP), Rock Springs (Green River RMP), and Worland (Grass Creek RMP) FOs. The Casper (Platte River RMP), Kemmerer, Pinedale, and Worland (Washakie RMP) FOs have no WHHMAs within their boundaries. There is some overlap between WHHMAs and designated WTPD complexes (**Table 2**). However, WTPD habitat areas occur within all of the WHHMAs, but because of their roaming habit, wild horse disturbance to prairie dog complexes is minimal. There is the possibility that if wild horse gatherings were to take place and wing fences and corrals were set up in a WTPD town, there could be some temporary impacts such as collapse of burrow openings and trampling of vegetation. The prairie dogs could easily escape harm in their burrows, and the impacts would be short-term. In addition, actions such as trampling of vegetation and creation of bare areas may benefit WTPD habitat. Additionally, with the conservation strategies in place (section 4.0), effects to WTPD colonies would be expected to be minimal.

Table 2 Overlap of WTPD Complexes and WHHMAs			
Field Office/(RMP)	**WTPD Complexes**	**BLM WHHMAs**	**Comments**
Casper (Platte River)	Pathfinder		No WHHMAs
Cody		McCullough Peaks	
Kemmerer	Moxa		No WHHMAs
Kemmerer	Carter		No WHHMAs
Kemmerer	Cumberland		No WHHMAs
Lander	Shamrock Hills		
Lander	Pathfinder	Green Mountain	minimal acreage
Lander	Sweetwater	Antelope Hills	
Lander	Sweetwater	Crooks Mountain	
Lander	Sweetwater	Dishpan Butte	minimal acreage
Lander		Conant Creek	
Lander		Muskrat Basin	
Lander		Rock Creek	
Pinedale	Big Piney		No WHHMAs
Rawlins (Great Divide)	Desolation Flats	Adobe Town	
Rawlins (Great Divide)	Dad		
Rawlins (Great Divide)	Continental Divide		
Rawlins (Great Divide)	Bolton Ranch		
Rawlins (Great Divide)	Saratoga		
Rawlins (Great Divide)	Sweetwater	Lost Creek	
Rawlins (Great Divide)	Sweetwater	Antelope Hills	
Rawlins (Great Divide)	Shamrock Hills	Stewart Creek	
Rawlins (Great Divide)	Seminoe		
Rawlins (Great Divide)	Pathfinder		
Rock Springs (Green River)	Big Piney	Little Colorado	minimal acreage
Rock Springs (Green River)	Moxa	Little Colorado	minimal acreage
Rock Springs (Green River)	Flaming Gorge		
Rock Springs (Green River)	Continental Divide	Salt Wells Creek	
Rock Springs (Green River)	Continental Divide	Adobe Town	
Rock Springs (Green River)	Kinney Rim	Salt Wells Creek	
Rock Springs (Green River)	Baxter Basin	Salt Wells Creek	
Rock Springs (Green River)	Desolation Flats	Adobe Town	
Rock Springs (Green River)	Baxter Basin	Salt Wells Creek	
Rock Springs (Green River)	Sweetwater	Divide Basin	
Worland (Grass Creek)	Fifteen Mile	Fifteen Mile	
Worland (Washakie)	Manderson		No WHHMAs

Determinations

In the Cody, Lander, Great Divide (Rawlins FO), Green River (Rock Springs FO), and Grass Creek (Worland FO) RMPs, implementation of wild horse management **may impact, but is not likely to contribute to the need for Federal listing** of the WTPD. This determination is based on the fact that WTPDs occur within WHHMAs on these BLM lands, but disturbance to WTPDs is expected to be minimal due to the wide ranging habits of wild horses.

For the Kemmerer, Pinedale, Platte River (Casper FO) and Washakie (Worland FO) RMPs,

implementation of wild horse management will have **no impact** on the WTPD. This determination is based on the fact that there are no WHHMAs within these planning areas.

Field Offices

The Kemmerer, Pinedale, Platte River (Casper FO) and Washakie (Worland FO) RMPs do not have WHHMAs within their boundaries, therefore, these determinations do not affect these RMPs.

Wilderness Resources

Management Actions

All Wilderness Study Areas (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 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. The BLM ensures that proposed actions are consistent with land use plans in effect for WSAs. Absence of roads, total area 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.

A mining claim may be staked at any time in an existing WSA. 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. Categorical exclusions to eliminate this analytical process for uses and facilities on lands under wilderness review are not allowed. Discovery work for mining within a WSA under Section 603, must be done to non-impairment standards. Operators prepare a Plan of Operation before beginning any mining exploration. The plan identifies the mining strategy and attempts to minimize environmental impacts. Only “unnecessary and undue degradation” requirements apply to Section 202 WSAs.

The designation of WSA status is simply a designation, and tempers or stipulates from a WSA viewpoint, specific protections or management of other BLM authorized actions. WSA classifications, in and of themselves, do not place on-the-ground projects or ground disturbing activities. Generally, WSA status is a beneficial impact on wildlife and plant species. Overlap of WTPD complexes and WSAs is shown in **Table 3**.

Table 3 Overlap of WTPD Complexes and WSAs			
Field Office/(RMP)	**BLM WSAs**	**WTPD Complexes**	**Comments**
Casper (Platte River)	No WSAs		
Cody	McCullough Peaks	No WTPD Complexes	Contains WTPD Habitat
Cody	Big Horn Tack-on	No WTPD Complexes	No WTPD Habitat
Cody	Pryor Mountain	No WTPD Complexes	No WTPD Habitat
Kemmerer	Raymond Mountain	No WTPD Complexes	No WTPD Habitat
Lander	Copper Mountain	No WTPD Complexes	No WTPD Habitat
Lander	Sweetwater Rocks	Very close to or within Pathfinder WTPD Complex	Little WTPD habitat, but possibly a small portion on southern edge of WSA
Lander	Sweetwater Canyon	Very close to or within Sweetwater WTPD Complex	Little WTPD habitat, but possibly a small portion on edge of WSA
Lander	Dubois Badlands	No WTPD Complexes	No WTPD Habitat
Lander	Whiskey Mountain	No WTPD Complexes	No WTPD Habitat
Pinedale	Lake Mountain	No WTPD Complexes	No WTPD Habitat
Pinedale	Scab Creek	No WTPD Complexes	No WTPD Habitat
Rawlins (Great Divide)	Adobe Town	Desolation Flats	Contains WTPD Habitat
Rawlins (Great Divide)	Encampment River Canyon	No WTPD Complexes	No WTPD Habitat
Rawlins (Great Divide)	Prospect Mountain	No WTPD Complexes	No WTPD Habitat
Rawlins (Great Divide)	Bennett Mountain	No WTPD Complexes	No WTPD Habitat
Rawlins (Great Divide)	Ferris Mountains	No WTPD Complexes	No known WTPD Habitat, but possibly a small portion on northern edges of WSA
Rock Springs (Green River)	Devil's Playground/Twin Buttes	Flaming Gorge	Contains WTPD Habitat
Rock Springs (Green River)	Buffalo Hump	No WTPD Complexes	Contains WTPD Habitat
Rock Springs (Green River)	Sand Dunes	No WTPD Complexes	Contains WTPD Habitat
Rock Springs (Green River)	Honeycomb Buttes	Sweetwater	Contains WTPD Habitat
Rock Springs (Green River)	Oregon Buttes	No WTPD Complexes	Contains WTPD Habitat
Rock Springs (Green River)	Alkali Draw	Sweetwater	Contains WTPD Habitat
Rock Springs (Green River)	South Pinnacles	Sweetwater	Contains WTPD Habitat
Rock Springs (Green River)	Red Lake	Sweetwater	Contains WTPD Habitat
Rock Springs (Green River)	Alkali Basin/East Sand Dunes	Sweetwater	Contains WTPD Habitat
Rock Springs (Green River)	Whitehorse Creek	No WTPD Complexes	Contains WTPD Habitat
Worland (Grass Creek)	Red Butte	No WTPD Complexes	Contains WTPD Habitat
Worland (Grass Creek)	Sheep Mountain	Fifteen Mile (a small portion of)	Contains WTPD Habitat
Worland (Grass Creek)	Bobcat Draw Badlands	Fifteen Mile	Contains WTPD Habitat
Worland (Grass Creek)	Owl Creek	No WTPD Complexes	No WTPD Habitat
Worland (Washakie)	Alkali Creek	No WTPD Complexes	No known WTPD Habitat, but possibly a small portion on southwestern edge of WSA
Worland (Washakie)	Cedar Mountain	No WTPD Complexes	No known WTPD Habitat, but possibly a small portion on southern edge of WSA
Worland (Washakie)	Honeycombs	No WTPD Complexes	Contains WTPD Habitat
Worland (Washakie)	Medicine Lodge	No WTPD Complexes	No WTPD Habitat
Worland (Washakie)	Trapper Creek	No WTPD Complexes	No WTPD Habitat

Effects Analysis

WSAs in the Cody, Great Divide (Rawlins FO), Green River (Rock Springs FO), Grass Creek (Worland FO), and Washakie (Worland FO) RMP planning areas contain known WTPD habitat, although it is uncertain the number and density of WTPDs occurring there. Projects allowed with WSAs would be intended to improve natural features and values. The designation and management of WSAs would be beneficial in that they would protect WTPD habitat from most surface disturbing activities. Surface disturbing activities would be restricted in WSAs. Most wilderness areas likely have very limited potential for WTPDs, because wilderness surveys are typically located in more rugged terrain.

Determination

Implementation of wilderness resources management in the Cody, Great Divide (Rawlins FO), Green River (Rock Springs FO), Grass Creek (Worland FO), and Washakie (Worland FO) RMP planning areas containing known WTPD habitat, **may impact, but the overall impacts are beneficial** to the WTPD. This determination is based on the minimization of direct effects to the WTPD within WSAs through implementation of the Interim Management Policy (IMP) protections until Congress makes a determination to either drop or add a WSA to the Wilderness System. The restriction of surface disturbing activities within WSAs would likely provide beneficial affects to WTPDs and their habitat by limiting or restricting other ground disturbing activities.

Implementation of wilderness resources management in the Platte River (Casper FO), Kemmerer, Lander and Pinedale RMP planning areas will have **no impact** on the WTPD. This determination is based on the fact that no WTPD habitat, or very little in the case of the Lander RMP, is associated with any WSAs in these planning areas or WSAs do not occur in the planning area.

Field Offices

The Cody, Kemmerer, Lander, Pinedale, Grass Creek (Worland FO), Great Divide (Rawlins FO), Green River (Rock Springs FO), and Washakie (Worland FO) RMPs implement Wilderness Management programs. The Platte River RMP (Casper FO) does not contain any WSAs within its planning area.

Wildlife Habitat

Management Actions

BLM has identified four primary objectives for the management of wildlife habitats. First, BLM will maintain the biological diversity of plant and animal species. Second, it will support the population objective levels of the WGFD's strategic plan, to the extent practical and consistent with BLM multiple-use management requirements. Third, BLM will maintain and, where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitats. Finally, to the extent possible, BLM will provide habitats for threatened and endangered and special-status plant and animal species on all public lands in compliance with the ESA and approved recovery plans.

Approximately 90 percent of wildlife program activities support other resource programs. These programs include fuels reduction, density of timber stands in deer and elk winter habitats, oil and gas exploration, timber harvest, and prescribed fires. Specific management goals and actions apply to several wildlife groups and habitats including big game ranges, wetland and riparian areas, elk habitat, raptor and grouse breeding areas, and animal and insect damage control. Wildlife management maintains and, where possible, improves forage production and quality of rangelands, fisheries, and wildlife habitat. It

also provides habitats 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 to introduce or reintroduce 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 USFWS and the WGFD to evaluate and designate critical habitat for threatened and endangered species on BLM-administered public lands.

BLM's wildlife program is actively involved in projects and management activities that benefit wildlife and habitats for wildlife. Wildlife program projects include surveying; monitoring; improving habitats such as through the development of habitat management plans; and creating cooperative management areas. Management activities include developing stipulations and protective measures, acquiring land, conducting inventories, performing livestock- or forestry-related activities, and improving wildlife and fisheries habitats.

The BLM develops stipulations and protective measures to protect wildlife and fisheries habitats. These stipulations and measures include limiting surface development; use of timing restrictions; authorizing withdrawals of some areas from mineral entry; limiting access to specific areas by four-wheel-drive vehicles, snowmobiles, equestrians, and pedestrians; prohibiting surface development; and imposing road closures. The BLM may acquire riverfront land or easements and conduct inventories of potential habitats for occurrences of threatened, endangered, and sensitive species.

BLM conducts livestock- and forestry-related activities that benefit wildlife. Livestock-related wildlife management activities include developing water sources, constructing and maintaining fences, managing other resource activities to conserve forage and protect habitats, improving the production of forage and the quality of rangelands, and improving range with mechanical treatment. Forestry-related wildlife management activities include managing timber and promoting cutting, thinning, planting, seeding, and pitting.

BLM also conducts wildlife management activities specifically to benefit terrestrial and aquatic wildlife. Activities for terrestrial species include, but are not limited to, introducing species, monitoring habitats, modifying fences for antelope passage, implementing public use closures for wintering elk, developing water areas for waterfowl and waterbirds, recommending habitat improvement projects, conducting treatments to control exotic plants, conducting prescribed burns, restoring meadows, cabling or burning juniper forestlands, changing types of grazing and season of grazing, developing islands, allowing farming, managing accesses, authorizing agricultural entry and disposal, and using surface protection mitigations. Activities for aquatic species include establishing a baseline fisheries inventory, improving fish habitat, stabilizing banks, developing watering sources, modifying barrier fences, removing exotic fish, constructing instream barriers to protect species from non-native invaders, installing revetments and fish passage structures, installing log overpours, sampling and analyzing macroinvertebrates, installing gabion baskets, and placing large boulders for instream fish habitat. Specific management for WTPDs might be the use of deltamethrin to control fleas that transmit sylvatic plague in prairie dogs. Active prairie dog burrows are treated with deltamethrin with the intent of protecting prairie dogs from plague. However, deltamethrin is a long-lasting (up to eight months) insecticide and will kill various insects (e.g., beetles, ants, etc.).

Effects Analysis

Wildlife habitat management may influence potential habitats for WTPD. Protection of grouse breeding areas could benefit the WTPD by protecting their habitat. Limiting access to specific areas by four-wheel-drive vehicles, snowmobiles, equestrians, and pedestrians; prohibiting surface development; and imposing road closures could benefit the species by protecting prairie dog habitat and reducing human access. Wildlife habitat improvement projects may result in temporary disturbance to WTPD habitat. However, it is likely that these same projects would result in lasting improvements to conditions that would benefit the WTPD. Prior to the implementation of any improvement project that involved disturbing WTPD habitat, the conservation strategies (section 4.0) would be implemented in order to minimize direct effects to WTPDs and their occupied habitats.

Wildlife habitat improvement projects in riparian areas and timber stands are not likely to affect the WTPD or its habitat because of the prairie dog's use of short- or mid-grass habitats. Improvement projects that seek to increase forage production and the quality of rangelands may result in damage or destruction of some WTPD habitats. Projects conducted to improve wildlife, fisheries or plant habitat would likely be beneficial for WTPD habitat or may be designed to specifically improve WTPD habitat.

Determination

Implementation of wildlife habitat management **may impact, but is not likely to contribute to the need for Federal listing**. This determination is based on the potential for improvement projects to have a temporary impact on suitable WTPD habitat. However, the effects to WTPDs and their habitat are expected to be minimal based on the localized nature of the projects and implementation of the conservation strategies (section 4.0) when projects occur in WTPD habitat. These same habitat improvements would likely benefit the WTPD in the long-term.

Field Offices

All nine RMPs analyzed in this BE manage wildlife habitat.

Table 4 Summary of WTPD Determinations

Management Action \ Field Office	Platte River RMP (Casper FO)	Cody RMP (Cody FO)	Kemmerer RMP Kemmerer FO	Lander RMP (Lander FO)	Pinedale RMP (Pinedale FO)	Great Divide RMP (Rawlins FO)	Green River RMP (Rock Springs FO)	Grass Creek RMP (Worland FO)	Washakie RMP (Worland FO)
Access	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Air Quality		NLC	NLC		NLC	NLC	NLC	NLC	NLC
Special Areas/ ACECs	BI	BI	BI	BI	BI	BI	BI	BI	BI
Cultural/Historical	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Fire Management	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Forest Resources	NI	NI	NI	NI	NI	NI	NI	NI	NI
Hazardous Material	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Lands and Realty	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Livestock Grazing	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Minerals and Geology	NLC	NLC	MI-L	NLC	MI-L	MI-L	MI-L	NLC	NLC
OHV Use	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Paleontology	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Recreation	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Riparian			NI		NI		NI		
Sensitive Plants						NI	NI		
Soil/Water/Air	NLC			NLC		NLC			
Soils Management		NLC	NLC					NLC	
Surface Disturbance Restrictions					BI				
T&E Species			NLC				NLC		NLC
Vegetation	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC
Visual		NI			NI	NI	NI	NI	NI
Water/Soils					NLC		NLC		NLC
Watershed/Water Resources		NI	NI				NI	NI	
Wild and Scenic Rivers		NI	NI	NI	NI	NI	NI		NI
Wild Horses	NI	NLC	NI	NLC	NI	NLC	NLC	NLC	NI
Wilderness	NI	BI	NI	NI	NI	BI	BI	BI	BI
Wildlife and Fisheries	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC	NLC

Determination categories considered as part of this analysis, and consistent with BLM policy language (BLM Manual 6840: Special Status Species Management) include the following:

- **No impact (NI)**; or
- **May impact, but the overall impacts are beneficial (BI)**
- **May detrimentally impact, but is not likely to contribute to the need for Federal listing (NLC)**
- **May detrimentally impact and is likely to contribute to the need for Federal listing (MI-L)**

4.0 CONSERVATION STRATEGIES

Implementation of the following conservation strategies is intended to minimize adverse impacts resulting from the previously described management actions in the RMPs. In addition to the existing WTPD protections in the RMPs (items 1 through 6), the BLM has also committed to implement conservation measures 7 and 8. The BLM will also consider implementing best management practices (BMPs) (items 9 through 25) to further protect the WTPD and its habitat.

Existing Protections in the RMPs

1. The *Wyoming BLM Standard Mitigation Guidelines for Surface Disturbing Activities* requires any lessee or permittee to conduct inventories or studies in accordance with BLM and USFWS guidelines to verify the presence or absence of threatened or endangered species before any activities can begin on site. In the event the presence of one or more of these species is verified, the operation plans of a proposed action will be modified to include the protection of the species and its habitat, as necessary. Possible protective measures may include seasonal or activity limitations, or other surface management and occupancy constraints (BLM 1990). All BLM FOs.

2. Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the Bureau of Land Management in the State of Wyoming (all BLM FOs). Standards that may specifically protect WTPD habitat include:

    - Standard 1 - Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.
    - Standard 3 - Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.
    - Standard 4 - Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

3. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of Federal threatened and endangered species or the conservation of Federally-listed species of concern and other state-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats (BLM Wyoming Guidelines for Livestock Grazing Management). All BLM FOs.

4. Grazing management practices will restore, maintain, or improve plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site (BLM Wyoming Guidelines for Livestock Grazing Management). All BLM FOs.

5. The BLM will maintain biological diversity of plant and animal species; support WGFD strategic plan population objective levels 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 ESA and approved recovery plans. All BLM FOs.

6. The WTPD is a Wyoming BLM Sensitive Species. BLM Policy Manual 6840 dictates that "the protection provided by the policy for candidate species shall be used as the minimum level of protection for BLM sensitive species" (BLM 2001). All BLM FOs.

Conservation Measures Committed to by BLM

7. Ensure there is no unauthorized control of WTPDs on BLM lands. Prairie dog control on public land shall not be authorized except for human health and safety reasons, or for resource damage determined acceptable for control by the BLM.

8. Notify members of the public that are seeking WTPD control on public lands that unauthorized use of poisons for WTPD control is not allowed on BLM lands.

Best Management Practices

The following BMPs are to be considered on a case-by-case basis at the project level, and implemented where appropriate, to further protect the WTPD.

9. New access roads should avoid traversing prairie dog colonies or bisecting two closely adjacent colonies, to avoid surface disturbing impacts and improving access for recreational shooters.

10. New prairie dog towns should be allowed to become established on public lands.

11. No further oil and gas exploration and development should be allowed into occupied prairie dog colonies, or the BLM should apply a Condition of Approval (COA) on all Applications for Permit to Drill (APDs) within areas containing known populations of WTPDs that protects rearing of young from April 1 through July 15. When possible, a No Surface Occupancy stipulation should be applied to all occupied and recovering prairie dog habitat for well pads or ancillary facilities (e.g. compressor stations, processing plants, etc.) within 1/8th mile of WTPD habitat. When possible, no seismic activity should be allowed in occupied or recovering prairie dog habitat.

12. A steering committee should be formed to develop and prioritize management practices and assist BLM and USFWS with research efforts.

13. If cultural sites are found within WTPD habitat/colonies, developed interpretive sites should be placed outside of WTPD habitat whenever possible.

14. Actively participate in implementation of the Conservation Assessment for WTPDs.

15. Follow the guidelines outlined in the WTPD Conservation Assessment: Encourage the Wyoming Game and Fish Commission to remove unprotected status on prairie dogs, and, if appropriate, work with the WGFD to implement seasonal restrictions on WTPD shooting or seasonal firearms/shooting restrictions or closures on BLM properties with WTPDs between April 1 and July 15.

16. Establish land stewardship agreements with other agencies and/or private landowners where large (1,000 acres) WTPD towns or complexes exist adjacent to BLM land ownership. These agreements can control potential uses that may be detrimental to prairie dogs and their habitats, while preserving the landowner's intent for use.

17. The BLM should avoid the sale or exchange of lands with WTPDs and should attempt to acquire parcels with WTPDs on them.

18. Ensure that WTPD conservation is being addressed on all livestock permit renewal evaluations and associated environmental assessments for oil and gas developments, rights-of-way grants, organized recreational events, etc.

19. Livestock grazing practices that degrade prairie dog habitat should be eliminated in WTPD colonies: grazing should be reduced or eliminated during drought; practices should avoid vegetation stand conversions; and reduce or eliminate any other suspected ecosystem-degrading grazing practices.

20. Natural fire regimes should be restored in WTPD habitats: "Let burn" policies for WTPD towns; and no mechanical or chemical (herbicides) fuel treatments should be allowed in WTPD towns.

21. BLM will encourage, support, and/or establish a WTPD research program, addressing issues such as: The effect(s) of shooting and oil and gas development on WTPDs, sylvatic plague control, and population viability analysis.

22. When drilling multiple oil or gas wells, if geologically and technically feasible, drill from the same pad using directional (horizontal) drilling technologies (up to 16 wells per pad, as technologically feasible) to lessen surface impacts on WTPD colonies/towns.

23. In WTPD habitat, salvage topsoil from all facilities construction and re-apply during interim and final reclamation. In WTPD habitat, native seed mixes will be used to re-establish short- or mid-grass prairie vegetation and shrub plantings will occur during reclamation. Seed mixes and application rates for reclamation should produce stands of vegetation suitable for WTPD habitat, while meeting the BLM's requirements for stabilizing soil and controlling weeds. Seed mix application rates and shrub plantings for reclamation should be designed to produce stands of vegetation suitable for WTPDs in previously suitable WTPD habitat. Reclamation should attempt to return the plant community to the pre-existing condition as soon as possible.

24. When habitat conversion does occur, take steps to minimize and/or eliminate impacts.

25. Monitor populations across range with thorough and consistent methods.

26. Consider the application of flea control on WTPDs and their burrows in areas with high plague incidence.

27. Maintain existing WTPD complexes (**Map 2**) and protect them as potential black-footed ferret reintroduction sites.

28. Consider setting aside one or two areas of good WTPD habitat in each FO as mitigation and/or minimization compensation for unavoidable projects.

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