

**VIABILITY IMPACTS TO MOUNTAIN PLOVER, BURROWING OWL, AND
BLACK-FOOTED FERRET BASED ON 2013 STATE OF WYOMING PRAIRIE
DOG STRATEGY AMENDMENT REQUEST**



Abstract

The black-tailed prairie dog (BTPD) has garnered much attention as a species of conservation concern given that it only occupies 2% of its historical range in North America and only 0.01% of its former range in Wyoming. Although the species itself is not in immediate danger of extinction, the unique ecosystem they create is jeopardized by continuing fragmentation, isolation, and species persecution. Prairie dogs are considered a keystone species because the habitat they create cannot be duplicated by another species and is required, either directly or indirectly, by other wildlife. For these reasons, there continues to be widespread concern for the viability of species associated with BTPDs in Wyoming and on Thunder Basin National Grassland (TBNG). Associated species of immediate conservation concern include the Mountain Plover (*Charadrius montanus*), Burrowing Owl (*Athene cunicularia*), and the black-footed ferret (*Mustela nigripes*). To address these concerns, the U.S. Forest Service (USFS) initiated a collaborative process to develop a BTPD management strategy in 2005. Despite implementation of this mutually developed and agreed upon strategy in 2010, management of BTPDs on TBNG has become increasingly more controversial. Consequently, on April 17, 2013 the State of Wyoming Governor's Office provided the USFS with a proposal to rework the BTPD Strategy with requests to alleviate prairie dog control restrictions in designated BTPD management areas. These requests include expanding rodenticide options and use as well as allowing shooting and poisoning to create a ¼ mile buffer around all state and private lands within the BTPD management areas. Given the viability analysis provided by this document, the USFS believes that the State's proposal would further reduce prairie dog habitat on TBNG resulting in the inability to sustain long-term viability for any of the associated species analyzed and would preclude the opportunity to implement black-footed ferret reintroductions.

Introduction

In 2005, the U.S. Forest Service (USFS) initiated a collaborative planning process with private landowners, private landowner organizations, state and federal government, and conservation organizations to develop a black-tailed prairie dog (BTPD) management strategy (BTPD Strategy) for the Thunder Basin National Grassland (TBNG). The BTPD Strategy was designed to improve conservation and management of prairie dogs on federal land, decrease prairie dog conflicts with ranchers on private land, and reduce requests for rodenticide use. The BTPD Strategy also encouraged private landowners to enter into Candidate Conservation Agreements with Assurances (CCAAs) for the benefit of both the landowners and landscape-level prairie dog conservation. Thus, there would be an overall gain for prairie dog populations and their associated species, by allowing limited rodenticide use on federal land in exchange for conservation of prairie dogs and their habitat on thousands of acres of private land.

The Thunder Basin National Grassland Prairie Dog Management Strategy and Land and Resource Management Plan Amendment #3 Record of Decision (ROD) was signed in 2009 (see Appendix B for full ROD) and implementation of the BTPD Strategy began in 2010. Since then, management of prairie dogs on TBNG has become increasingly more contentious and politically focused.

The purpose and need of the BTPD Strategy, as identified in the 2009 ROD, is as follows:

- Proactively manage prairie dog populations on the TBNG in an environmentally, biologically, and socially acceptable manner that provides for the long-term conservation of BTPDs and other species associated with prairie dog colonies.
- Manage prairie dog populations, colonies and complexes on the TBNG in adequate acreages and distributions to provide habitat conditions that support future reintroductions of black-footed ferrets. (The Strategy established management Categories with acreage objectives. Refer to Appendix B and the Wyoming State Proposal section in this document for more detail).
- Address the potential for prairie dog movement from the TBNG to adjoining private and state lands and local landowner concerns about possible losses of agricultural production, costs of controlling prairie dogs, effects on land values, and risks to human and animal health and safety that may occur if prairie dogs colonize adjacent non-federal lands as a result of this movement.
- Conserve prairie dogs on the TBNG for the wide variety of wildlife species that are dependent on the habitat provided by prairie dog colonies.
- Gain local landowner and state of Wyoming support for prairie dog management on the TBNG that provides for the biological needs of the black-footed ferret and minimizes potential adverse impacts to adjacent non-federal landowners.

Despite implementation of this mutually developed and agreed upon Strategy, BTPD management on TBNG has become increasingly controversial due to the growing discontent of some of the private landowners. As a result, the State of Wyoming Governor's Office has provided the USFS with a proposal to rework the BTPD Strategy.

The purpose of this document is to analyze the potential effects on BTPD associated species, including two USFS Region 2 sensitive species (Mountain Plover and Burrowing Owl) and one endangered species (black-footed ferret), as a result of implementing the proposed changes to the BTPD management strategy as described in the April 17, 2013 letter for the Governor's Office (Mead 2013). Concomitantly, the TBNG is required to ensure that any analysis, decisions, and actions moving forward are compliant with National Forest Management Act (NFMA) requirements. Planning regulations developed for NFMA

stated that “fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native species in the planning area (a planning area is defined as the area of the National Forest System covered by a Regional Guide or Forest Plan). For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area (36 CFR Part 219 Planning).”

Current Information and Data

Black-Tailed Prairie Dog

The BTPD is one of five prairie dog species estimated to have once occupied more than 247 million acres in North America. The BTPD is a sensitive species in the Rocky Mountain Region of the USFS (USFS Region 2) and a Management Indicator Species (MIS) on TBNG (USFS 2011); is ranked S2 in Wyoming (species ranked S1 are critically imperiled) by Wyoming Natural Diversity Database (WYNDD); and ranked NSS3 by Wyoming Game and Fish (WGFD).

The USFS Region 2 Regional Forester classifies species as sensitive when they meet one or more of the following three criteria: 1) the species is declining in numbers or occurrences and evidence indicates it could be proposed for federal listing as threatened or endangered if action is not taken to reverse or stop the downward trend; 2) the species’ habitat is declining and continued loss could result in population declines that lead to federal listing as threatened or endangered if action is not taken to reverse or stop the decline; and 3) the species’ population or habitat is stable but limited (USFS 2011, FSM 2670-2672).

Management Indicator Species are defined by the USFS as “plant and animal species, communities or special habitats, selected for emphasis in planning, and which are monitored during forest plan implementation in order to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they may represent (USFS 2011, FSM 2620.5).” Therefore, important characteristics of MIS are that they have narrow habitat associations, representing ecosystem components important to multiple species, and are capable of being effectively monitored.

The BTPD Heritage Rank and WYNDD’s Wyoming significance ranking is based on the following factors (Buseck et al. 2005):

- Range encompasses a moderate portion of the state (State of Wyoming historic BTPD occupancy: 40%; State of Wyoming current BTPD occupancy: 0.01%).
- Abundance in Wyoming is unclear, probably declining.
- Low range occupation.
- Vulnerable due to disease and habitat specificity.
- Face threats including eradication programs, habitat fragmentation, and land conversion. Poisoning, shooting, and land conversion are a substantial threat to BTPDs. When threats are combined they can devastate entire populations to a point that they cannot recover.

The WGFD classifies the BTPD as a Native Species of Special Concern – NSS3. They identified the following problems with management of BTPDs: “The BTPD has been the objective of intensive lethal

control programs and the necessity to start conservation efforts may not be well understood or supported. The exotic disease, sylvatic plague (*Yersinia pestis*), has the potential to have significant negative impacts on prairie dog populations (WGFD 2005)."

The area currently occupied by BTPDs has declined to approximately 2% of its historical range in North America. Conversions of habitat to other land uses, widespread prairie dog eradication efforts, and sylvatic plague have concomitantly caused significant population reductions. The species itself is not in immediate danger of extinction; however, the unique ecosystem they create is jeopardized by continuing fragmentation and isolation (USFWS 2009).

Of the 2% of their historical range that prairie dogs currently occupy, 1.5% occurs on tribal lands, 0.33% occurs on federal lands, and only 0.08% occurs on private lands (Miller et al. 2007). Land ownership patterns on a national level presently inhabited by prairie dogs are as follows: 87% Private land; 8% Native American Reservations; 5% federal lands (Luce et al. 2006).

Based on data collected from National Grasslands throughout the US, over 75% of habitat on National Grasslands is suitable for prairie dogs (Sidle et al. 2006); however, prairie dogs also inhabit less than 2% of National Grasslands (Sidle et al. 2006), and only 1.1% of the Great Plains managed by the USFS (Miller et al. 2007).

In Wyoming, it is estimated that BTPDs occupy 0.01% of their historic range (Buseck et al. 2005) with a reduction in habitat of over 80% from pre-settlement estimates (Van Pelt 1999). With the exception of approximately 20,000 acres on the TBNG, and small colonies occurring on Bureau of Land Management (BLM) lands, most prairie dogs occur on private land in Wyoming (Van Pelt 1999).

Figure 1 shows the distribution of BTPDs in Wyoming (WGFD 2005). The most current estimate of BTPDs (2006) in Wyoming is 229,607 acres (USFWS 2009).

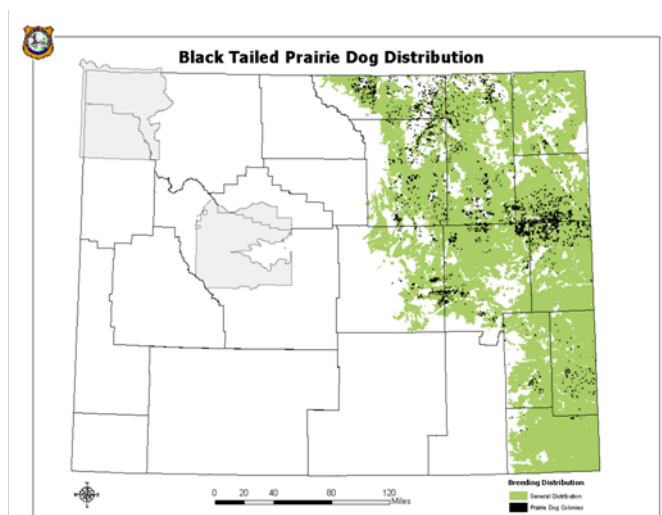


Figure 1. This map indicates the distributions of BTPD colonies (black) and general distribution (green) across the state of Wyoming.

As of 2012 there were approximately 16,640 active acres of prairie dogs on the TBNG (Figure 2). Currently, prairie dogs occupy 3% of the TBNG (TBNG is 553,000 acres) and occupy approximately 25% of the black-footed ferret Management Area 3.63 (Category 1 contains 10,974 acres occupied by BTPD

in MA 3.63; MA 3.63 is 44,420 acres in total size). Based on 2006 estimates by the WGFD, and included in the 2009 USFWS Federal Register Notice, the TBNG makes up 7.2% of the prairie dog population in Wyoming (USFWS 2009). In 2004, the USFS estimated that prairie dogs occupied 71,136 acres across all National Grasslands (Sidle et al. 2006); thus, the TBNG makes up 23% of total prairie dog acres on NFS lands across the US. It is estimated that over 75% of potential prairie dog habitat within the National Grasslands is suitable for prairie dog colonization, but only 2% of that is currently inhabited (Sidle et al. 2006).

North American native grasslands have been reduced by 33-37% (Luce 2006), therefore limiting the available habitat for both prairie dogs and their associated species. Prairie dog colonies on National Grasslands are often fragmented and are more prone to eradication (Sidle et al. 2006). Currently, prairie dogs exist in small, isolated, and disjunct colonies and are, therefore, more vulnerable to genetic inbreeding, plague, human disturbance, and extirpation (Luce 2006).

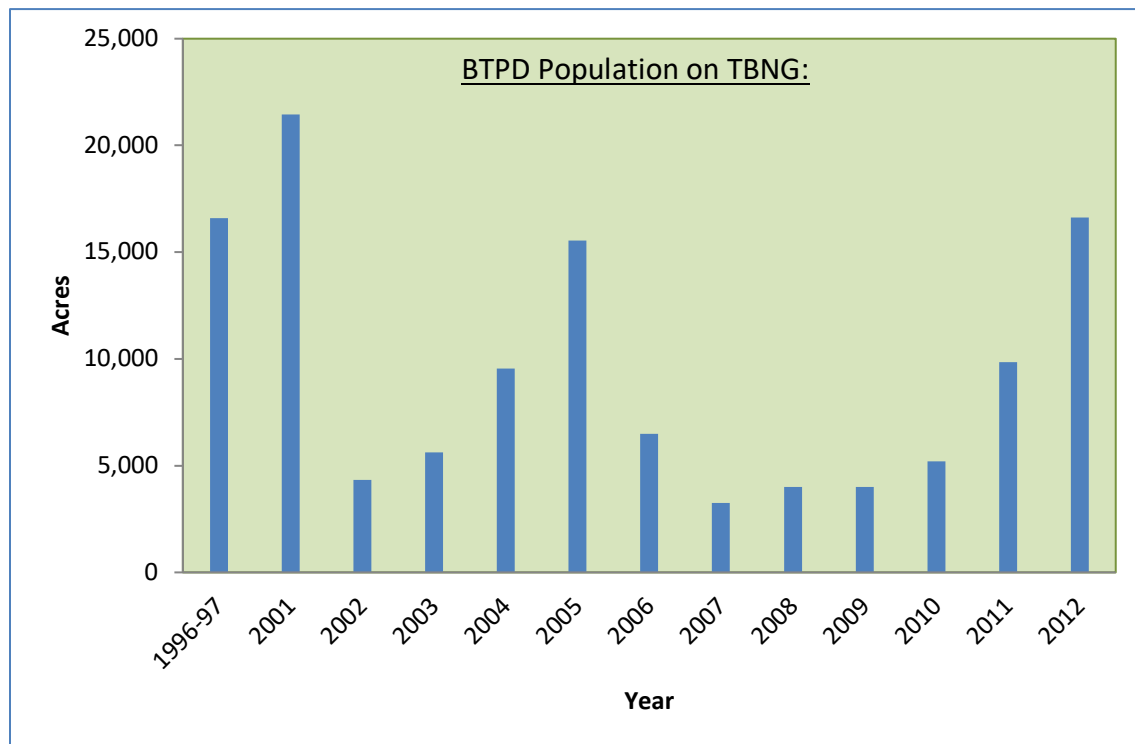


Figure 2. This figure displays the acres of active BTPD colonies mapped on the TBNG.

BTPD Listing History (USFWS 2011)

- 1998 – Petitioned for listing by National Wildlife Federation
- 2000 – Listed as a Candidate Species.
- 2004 – Removed as Candidate Species.
- 2007 – Petitioned for listing (Wild Earth Guardians, Biodiversity Conservation Alliance, Center for Native Ecosystems, Rocky Mountain Animal Defense)
- 2009 – USFWS determined BTPD as Not Warranted for Listing

Prairie Dogs as A Keystone Species

Prairie dogs are considered a keystone species because they significantly affect the structure, function, and composition of the ecosystem and these effects cannot be duplicated by another species (Miller et al. 2000). The habitat prairie dogs create is required by many other wildlife species. Entire communities of animals depend on prairie dogs directly and indirectly, including Mountain Plover, Burrowing Owls, Ferruginous Hawks, and swift fox (Nicholoff 2003). There are at least nine species that are considered prairie dog obligates and another 170 species rely on prairie dogs for survival on some level (Miller et al. 2000). Prairie dogs create a matrix of different habitats, which increase diversity across grasslands, provide a ready source of prey for many predators, and create shelter burrows for other animals (Miller et al. 2007). The swift fox, black-footed ferret, Ferruginous Hawk, and Golden Eagle use prairie dogs as a major food source, while Mountain Plover and Burrowing Owl depend on prairie dogs for nesting habitat (USFWS 2009). Species richness, density, and diversity are all higher on prairie dog colonies than on grasslands unoccupied by prairie dogs (USFWS 2009). The removal of a keystone species results in a domino effect of changes which can cause a rapid decline of species diversity (Nicholoff 2003).

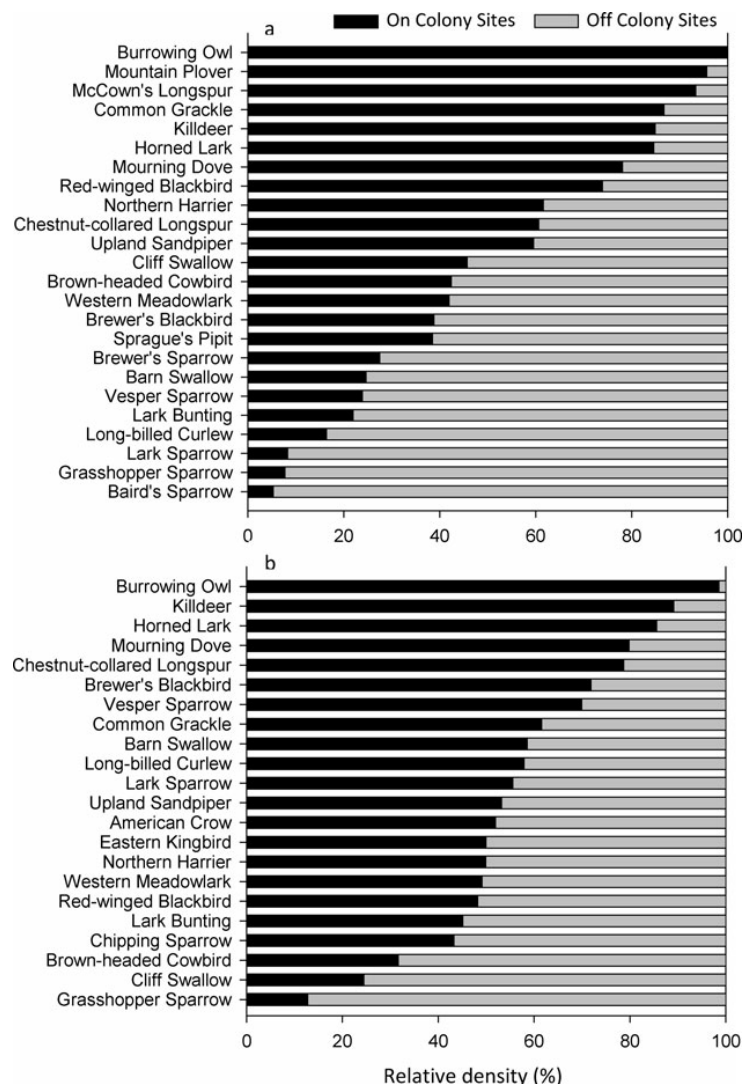


Figure 3. Comparison of relative bird density (%) on BTPD colonies and off BTPD colonies at (a) three western complexes in Wyoming and Montana and (b) four eastern complexes in South Dakota (Augustine et al., 2013).

Figure 3 illustrates how large complexes of prairie dog colonies occurring on the Northern Great Plains contribute to a significantly more diverse bird community than would occur in areas lacking prairie dogs (Augustine and Baker 2013).

Throughout the range of the BTPD, population declines have been so significant that they can no longer perform their historic ecological function (Miller et al. 2007). The minimal prairie dog colony size required to meet multi-species needs is 1,000 acres (VanPelt 1999). Since 2012, the TBNG contains only four colonies that meet this minimal acreage criterion. All four 1,000 acre colonies have Burrowing Owl and Mountain Plover occurrences. Prairie dogs may persist in low numbers and small widely distributed colonies, but scattered distributions and low densities will reduce their ecosystem functions and benefits (Miller et al. 2007).

Risks to Prairie Dog Habitat and Associated Species

Identified threats to BTPDs (USFWS 2011; Luce 2006):

- Habitat loss
- Over-utilization for recreational purposes (shooting)
- Disease – sylvatic plague
- Pest status – Unregulated poisoning and shooting

Conversion of prairie habitats to areas of human occupation and prairie dog control programs have reduced and fragmented prairie dog habitat dramatically (Luce 2006). Conversion, energy development, invasion of non-native species, and urbanization all occur within the range of BTPDs and will likely continue (USFWS 2009).

Shooting depresses colony productivity and health, fragments populations, and can reduce recovery of colonies from plague (Luce 2006). Shooting of prairie dogs can also reduce population densities, diminish body condition and reproduction, cause behavioral changes and increase emigration (USFWS 2009). Non-target scavengers and predators have an increased potential of lead poisoning from consuming prairie dogs containing lead shot (Pauli 2005; USFWS 2009). Extensive poisoning or recreational shooting can reduce the food supply for predators like coyotes, and, therefore, predators may be more likely to attack livestock (Reeve & Vosburgh 2006).

BTPDs are very sensitive to plague, a disease foreign to the evolutionary history of prairie dogs, and mortality is often 100% (USFWS 2009; Cully et al. 2006). Plague exists throughout the range of the BTPD and has caused major population declines (USFWS 2009). According to the USFWS (2009), “Sylvatic plague remains a significant population stressor and the spread and effects of plague on the species (prairie dog) could be exacerbated by climate change in the future.” The unpredictable nature of plague and its devastating mortality, inhibits efforts to manage for prairie dogs (Cully et al. 2006) and their associated species. For example, the extent of prairie dog habitat used by nesting Mountain Plovers is directly affected by plague-driven fluctuations in the extent of active prairie dog colonies (Augustine et al. 2008). Mountain Plover nesting activity declined relatively quickly within 1-2 years of prairie dog declines from plague; therefore, the effects of plague on prairie dog colonies may have significant implications for Mountain Plover (Augustine et al. 2008).

Poisoning on federal, state, and private lands has increased since 2004 when the BTPD was removed as a Candidate species for listing under ESA (Forrest and Luchsinger 2006). For example, the amount of occupied BTPD habitat poisoned in 2008 was approximately 801,000 acres, or 33% of occupied habitat

rangewide (USFWS 2009). Toxicants can kill non-target species other than prairie dogs such as granivorous birds, insects, and mammals, as well as scavengers that consume poisoned prairie dogs (Forrest and Luchsinger 2006). Anticoagulants, like Rozol and Kaput, pose risks of secondary poisoning to non-target wildlife (USFWS 2009). Removing prairie dogs with toxicants can adversely affect the many associated animal and plant species that rely on prairie dog colonies for survival (Forrest and Luchsinger 2006).

Associated Species

The following maps display the BTPD management area on the southern TBNG and all of the occurrences of Mountain Plover, Burrowing Owls, and swift fox in relation to historically occupied BTPD colonies (Figure 4) and currently occupied BTPD colonies (Figure 5). These figures further illustrate the tight association of these species with prairie dog colonies on TBNG and how shrinking prairie dog habitat can potentially affect these associated species.

Associated Prairie Dog Species on Southern TBNG

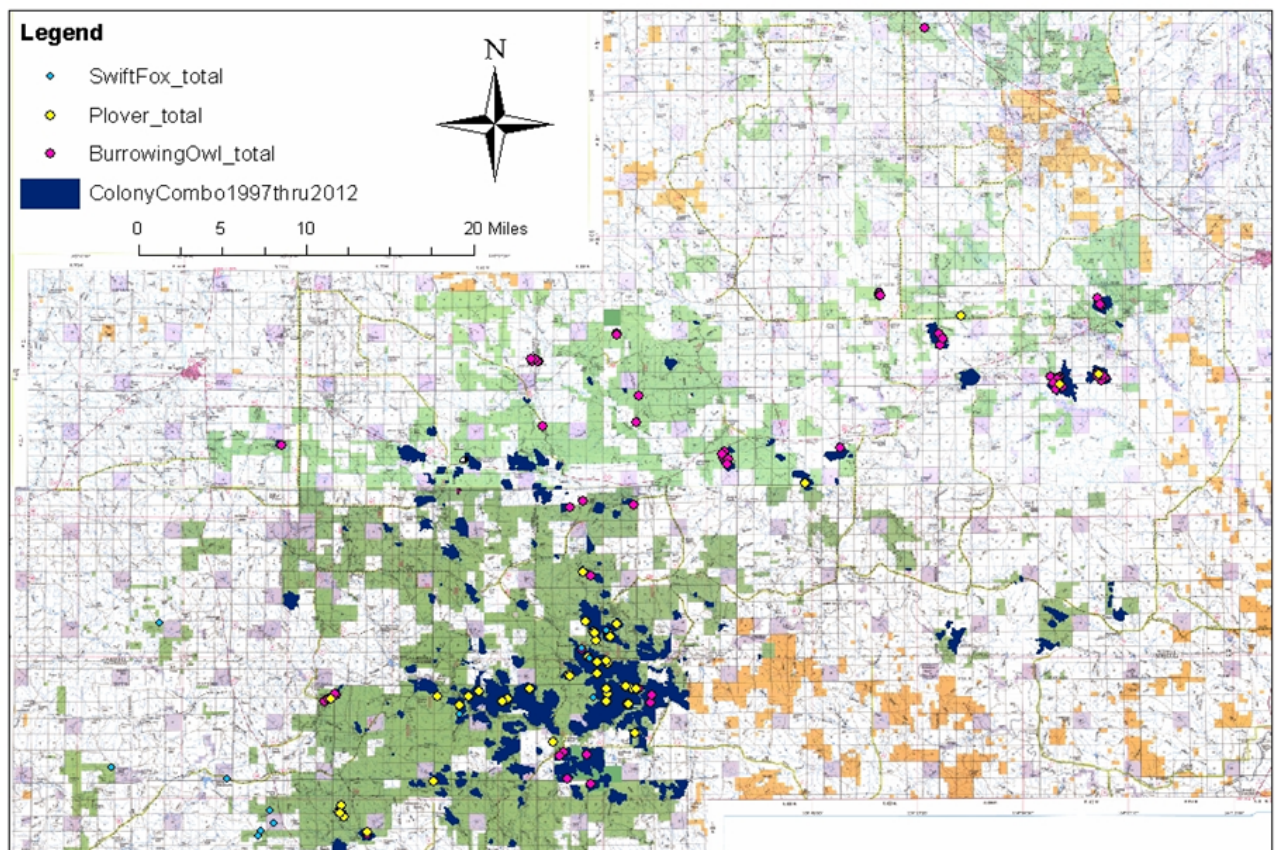


Figure 4. This is a map of the southern TBNG showing occurrences of Burrowing Owl, Mountain Plover and swift fox in association with historic (1997-2012) BTPD colonies on TBNG.

Associated Prairie Dog Species on Southern TBNG

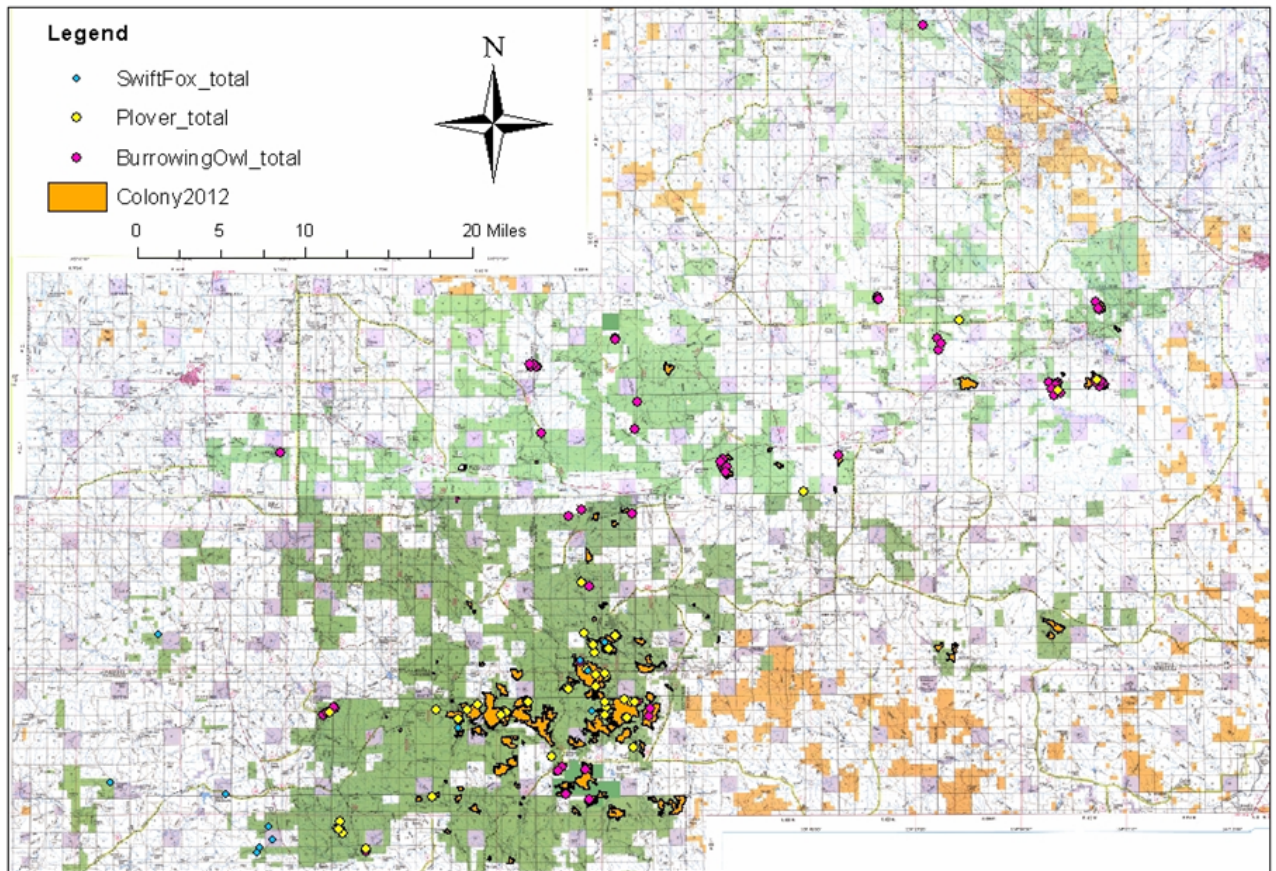


Figure 5. This map of the southern TBNG displays occurrences of Burrowing Owl, Mountain Plover and swift fox in association with current (2012) BTPD colonies on TBNG.

Mountain Plover

The Mountain Plover is considered a sensitive species by the USFS (USFS 2011) and is found in open habitats, such as the short-grass and mixed-grass prairies of central and western Wyoming. Mountain Plovers prefer to nest in large, flat grassland expanses with sparse, short vegetation and bare ground. They are adapted to areas that have been disturbed by prairie dogs, heavy grazing, or fire (WGFD 2005). This small bird is a summer breeder on TBNG and is most often found in prairie dog colonies where the short-grass habitat it prefers is maintained. Appropriate nesting habitat for Mountain Plovers contains approximately 30% bare ground (Dinsmore 2003). Mountain Plovers occur at a 10 times greater density on prairie dog colonies than on areas of grasslands unoccupied by prairie dogs (Augustine et al. 2008). Dinsmore (2003) identifies loss of native habitat, including prairie dog colonies, as the primary threat to Mountain Plover.

The WGFD classifies the Mountain Plover as a Native Species of Special Concern – NSS4. According to the WGFD, The North American Breeding Bird Survey (BBS) did not detect a trend for Mountain Plovers in Wyoming from 1966 – 2002. These data are considered uncertain because the BBS does not

effectively monitor species that occur at low densities, like the Mountain Plover; thus, BBS estimates are less accurate at fine geographic scales (WGFD 2005).

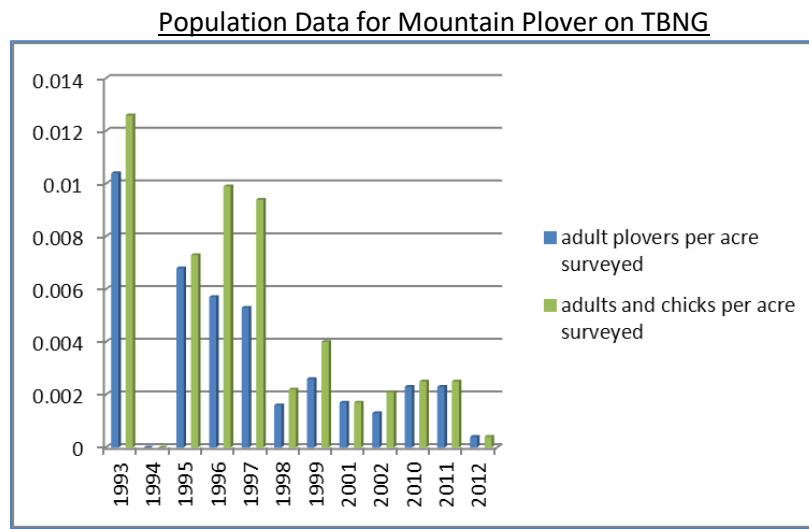


Figure 6. This graph displays the adult Mountain Plover per acre surveyed (blue) and the adults and chicks per acre surveyed (green) on TBNG by year.

The current condition of Mountain Plover populations on the TBNG is reflected in Figure 6. This figure displays adult plovers per acre surveyed as well as adults and chicks per acres surveyed from 1993 to 2012. These data were collected using Mountain Plover survey protocol that has been adapted from protocols used by the BLM and the USFWS (Appendix A). These data suggest that Mountain Plover numbers on the TBNG have been declining for the past 20 years with some of the lowest occurrences (0.002 plover per acre surveyed) found in 2012.

Burrowing Owl

This small owl is dependent on underground burrows for nesting habitat. They are most often associated with prairie dog colonies, but can also be found in other isolated underground burrows. Prairie dog colonies provide ideal habitat as they create an abundance of nest burrows and they produce a short vegetation profile that is preferred for predator detection (McDonald et al. 2004). Burrowing Owls are summer residents on the TBNG where they forage for insects and small vertebrates. McDonald et al. (2004) identified the three primary threats to Burrowing Owl populations as habitat loss/fragmentation, anthropogenic disturbance, and losses on wintering grounds.

The Burrowing Owl is considered an uncommon summer resident in Wyoming and prefers open prairie, grassland, desert and shrub-steppe habitats. The Burrowing Owl depends on mammals, particularly prairie dogs and ground squirrels that dig burrows, which it uses for nesting, roosting, and cover. The WGFD classifies the Burrowing Owl as a Native Species of Special Concern – NSS4 (WGFD 2005).

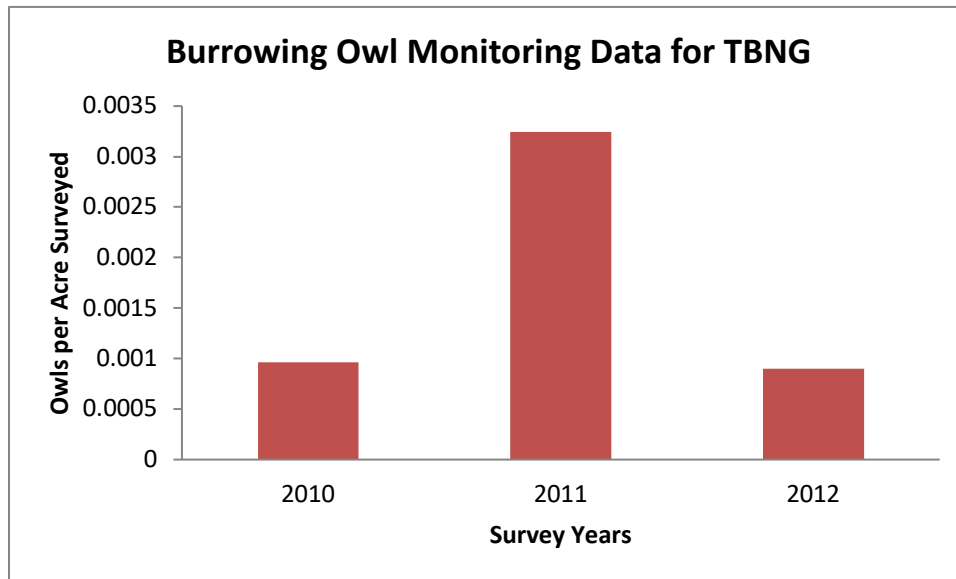


Figure 7. This graph displays Burrowing Owl monitoring data on TBNG as Burrowing Owls per acre surveyed.

The TBNG began conducting formal Burrowing Owl surveys in 2010 (survey protocol can be found in Appendix A), although incidental occurrence data has been collected since 2001. As illustrated by Figure 7, there is limited data from which to draw significant conclusions about population trend; however, these data may still be useful in determining current population viability.

Black-Footed Ferret

The black-footed ferret was listed as endangered in 1967 under early endangered species legislation and grandfathered into the Endangered Species Act of 1973 (ESA). Historically, the species occupied an estimated 100 million acres of intermountain and prairie grasslands in Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wyoming, and small portions of southern Canada and northern Mexico. However, by 1987, no wild ferrets remained in North America. Seven of the ferrets trapped from the last wild population in Meeteetse, Wyoming were successfully bred in captivity. The extant population today descends from these seven “founder” animals (USFWS 2006). There is currently only one active reintroduction site in Wyoming, in the Shirley Basin.

The black-footed ferret depends on prairie dogs (*Cynomys spp.*) for food and on their burrows for shelter. The historic range of the ferret coincided with ranges of the BTPDs (*C. ludovicianus*), Gunnison’s prairie dog (*C. gunnisoni*) and white-tailed prairie dog (*C. leucurus*). The ferret’s close association with prairie dogs is an important factor in the decline of the ferret. From the late 1800s to approximately 1960, both prairie dog occupied habitat and prairie dog numbers were dramatically reduced by the effects of habitat loss caused by conversion of prairie to cropland, habitat curtailment from poisoning,

and habitat modification due to plague; ferret populations declined precipitously as a result (USFWS 2006).

The WGFD classifies the black-footed ferret as a Native Species of Special Concern – NSS1 because populations are greatly restricted in numbers and distribution, extirpation appears possible and there is on-going significant loss of habitat (WFGD 2005).

State of Wyoming Proposal

In a letter dated April 17, 2013, The State of Wyoming Governor's Office requested that the USFS amend the 2009 Prairie Dog Strategy (Mead 2013). The letter claims that the Category 1 and 2 areas (described below) are too restrictive and requests the following:

- Establish a ¼ mile buffer to all private and state land to control prairie dogs
- All management tools should be available for use within the buffer
- Control should not be contingent on trigger or management tool
- Poisoning seasons should be extended
- Poisons should be expanded

A brief description of Categories 1 & 2 as described in the ROD (Full ROD found in Appendix B):

Category 1:

- A single Category 1 Prairie Dog Habitat will be maintained within the planning landscape and will include a large portion of the Black-footed Ferret Reintroduction Habitat (MA 3.63)
- The Category 1 Prairie Dog Habitat is designed to be an adequate size and spatial configuration to sustain a viable population of black-footed ferrets.

Category 2:

- Category 2 Prairie Dog Habitats are necessary to provide an adequate distribution of prairie dogs and their associated species across the landscape to provide some level of protection against a landscape-wide plague epizootic.
- Category 2 Prairie Dog Habitats will contribute to sustaining viable populations of prairie dogs and their associated species.

The figures below illustrate the State of Wyoming's proposal by showing the ¼ mile buffers that would be applied around state and private land in association with the Category 1 and 2 BTPD management

areas (Figures 8, 9, and 10).

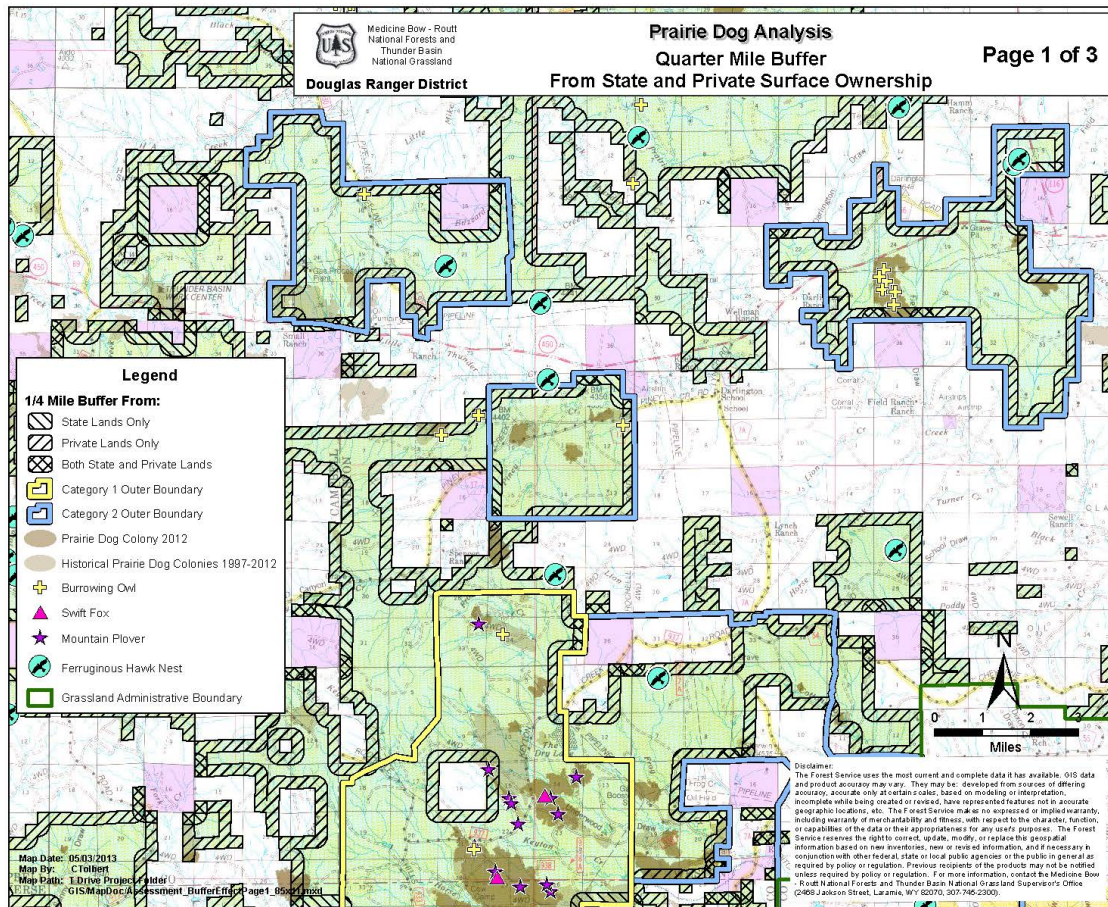


Figure 8. This figure shows the northern portion of the BTPD management area with Category 1 (Ferret Management Areas) in yellow and Category 2 (BTPD Habitat Areas) in blue. The State proposed buffer areas around state and private land are indicated by hashing. Occurrences of Burrowing Owl (yellow cross), Mountain Plover (pink star), swift fox (pink triangle), and Ferruginous Hawk nests (circle with bird) are indicated as well.

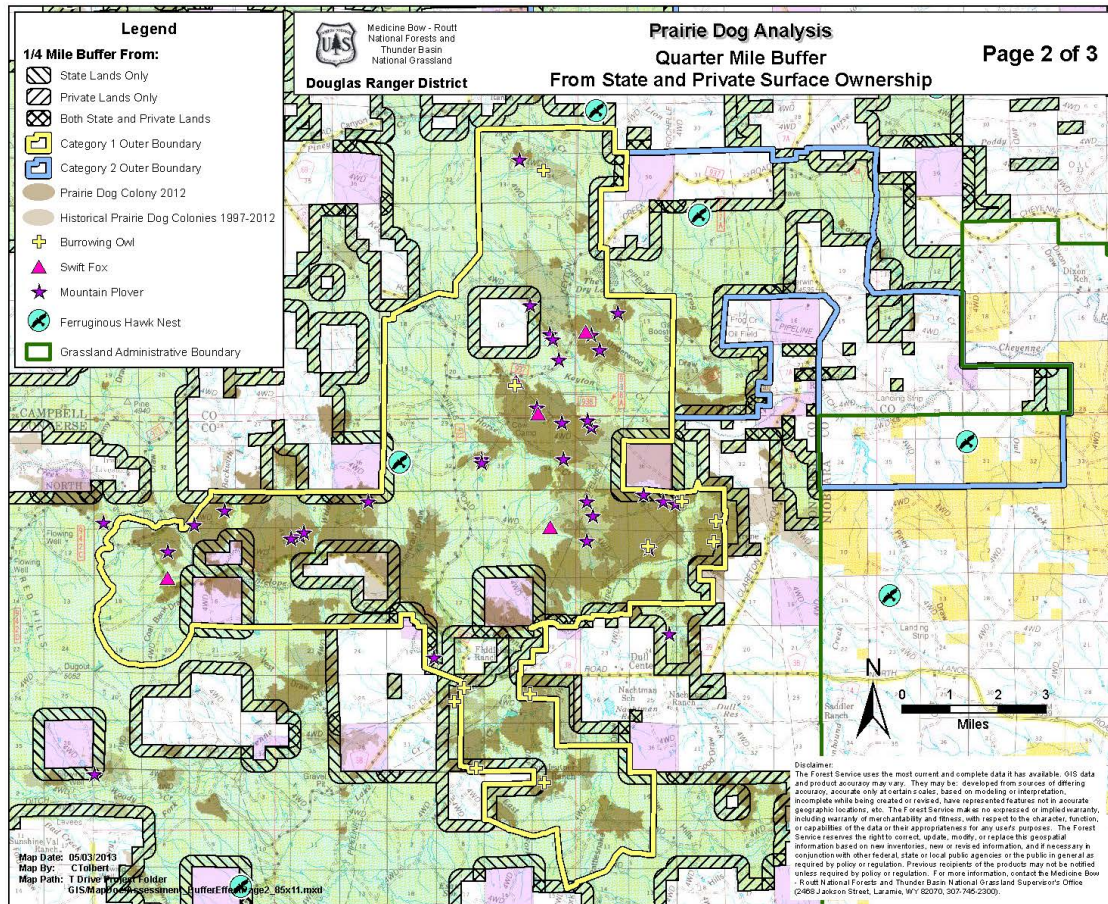


Figure 9. This figure shows the central portion of the BTPD management area which contains the entirety of the Category 1 area (Ferret Management Area) in yellow and portions of Category 2 (BTPD Habitat Areas) in blue. The State proposed buffer areas around state and private land are indicated by hashing. Occurrences of Burrowing Owl (yellow cross), Mountain Plover (pink star), swift fox (pink triangle), and Ferruginous Hawk nests (circle with bird) are indicated as well.

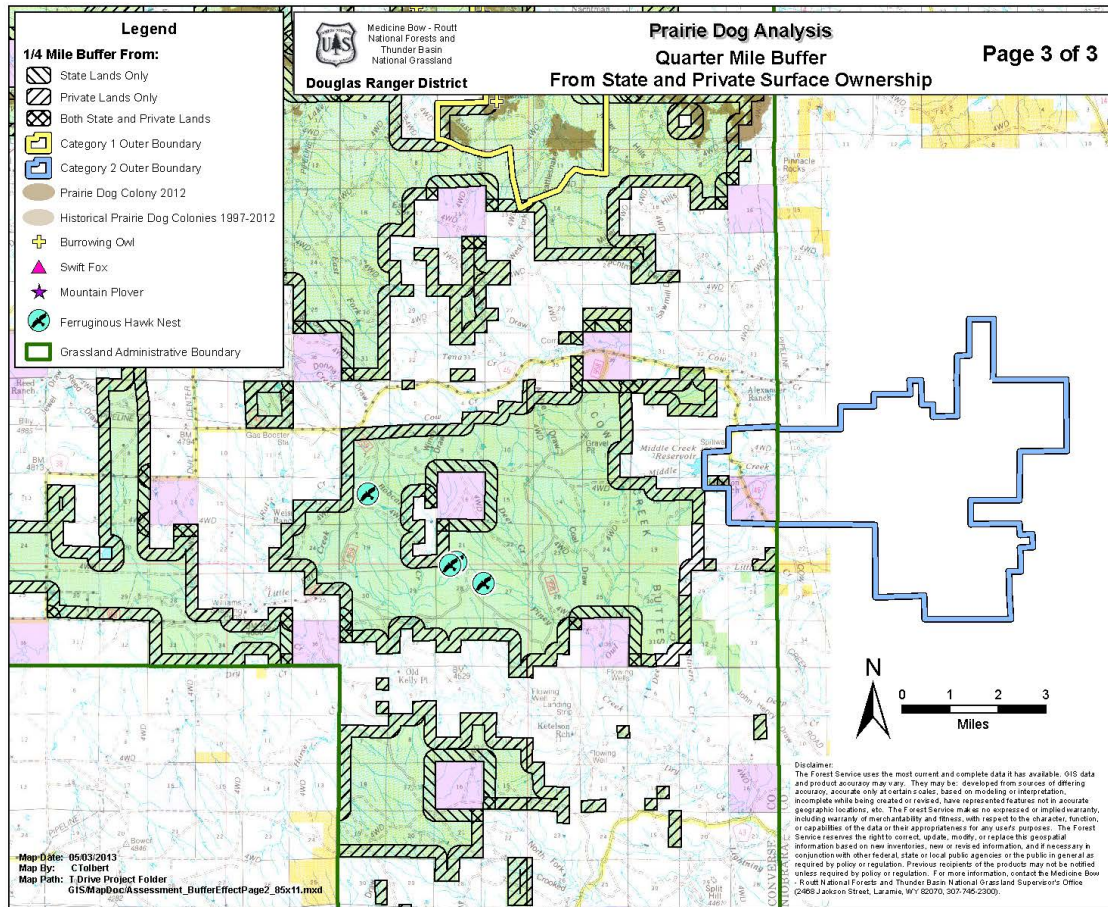


Figure 10. This figure shows the southern portion of the BTPD management area which contains the entirety of the Category 1 area (Ferret Management Area) in yellow and portions of Category 2 (BTPD Habitat Areas) in blue. The State proposed buffer areas around state and private land are indicated by hashing. Occurrences of Burrowing Owl (yellow cross), Mountain Plover (pink star), swift fox (pink triangle), and Ferruginous Hawk nests (circle with bird) are indicated as well.

The following tables (Tables 1 and 2) describe the acres of NFS lands impacted, based on the State's proposal:

Category Acres on NFS Lands Only that are within 1/4 mile buffer of State or Private Lands						
For Current Category 1 and Current Category 2 Areas						
		Category Acres on NFS Lands that would be LOST due to 1/4 Mile Buffer				Total Category Acres on NFS Lands that would be left after applying buffer
Category	Total Category Acres on NFS Lands	Lost due to Private Buffer Only	Lost due to State Buffer Only	Lost due to Overlapping Private and State Buffer	Total Lost	
Category 1	48,239	4,566	2,852	498	7,916	40,323
Category 2	37,274	11,509	1,345	997	13,851	23,423
Total	85,513	16,075	4,197	1,495	21,767	63,746

Table 1. The figures in this table describe only colonies that would be lost on NFS lands with the implementation of the state proposal. This does not include colony acres that are inside Category 1 or 2 areas that are on Private or State lands.

Prairie Dog 2012 Colony Acres on NFS Lands Only that are within 1/4 mile buffer of State or Private Lands						
For Current Category 1 and Current Category 2 Areas						
		Total 2012 Prairie Dog Colony Acres on NFS Lands that would be LOST due to 1/4 Mile Buffer				
Category	Total 2012 Prairie Dog Colony Acres on NFS Lands	Lost due to Private Buffer Only	Lost due to State Buffer Only	Lost due to Overlapping Private and State Buffer	Total Lost	Total 2012 Prairie Dog Colony Acres on NFS Lands that would be left after applying buffer
Category 1	10,506	739	637	58	1,434	9,072
Category 2	1,181	166	73	8	247	934
Total	11,687	905	710	66	1,681	10,006

Table 2. The figures in this table describe colonies acres that would be lost on NFS lands if the state proposal is implemented. They do NOT include colony acres that are inside Category 1 or 2 areas that are on private or state lands.

Category acres on NFS lands that would be lost due to the State of Wyoming's proposal (1/4 mile buffers): Currently there are 48,239 acres of NFS lands in Category 1. Application of the ¼ mile buffer around all state and private lands would reduce Category 1 acres by 7,916 acres, leaving 40,323 acres. The ¼ mile buffer would reduce Category 2 acres by 13,851, leaving a total of 23,423 acres. Collectively, the State's proposal could result in the loss of approximately 21,770 acres of Category 1 and 2 prairie dog habitat (Table 1).

Occupied prairie dog colony acres on NFS lands that would be lost due to the State of Wyoming's proposal (1/4 mile buffers): Currently there are 10,506 acres of occupied prairie dog colony acres in Category 1. Application of the ¼ mile buffer around all state and private lands would reduce occupied prairie dog colonies in Category 1 by 1,434, leaving 9,072 acres. The State's proposal could create a potential loss of approximately 1,680 acres of currently occupied prairie dog colonies in Category 1 and 2, leaving roughly 10,000 acres total (Table 2).

Viability Consideration

Mountain Plover

Although the present distribution of Mountain Plover is estimated to be stable within Region 2 (Dinsmore 2003), plover populations have suffered from long-term reductions in both numbers and distribution especially in key nesting areas. Mountain Plovers in Region 2 suffer from multiple threats that jeopardize their long-term persistence (Dinsmore 2003).

Mountain Plover populations have declined during the last century across their range, mainly as a result of threats to their breeding grounds. Because Mountain Plovers select active prairie dog colonies for nesting, the continued loss of prairie dogs due to poisoning, disease, and/or recreational shooting are viewed as direct threats to Mountain Plover populations. Hence, management activities that increase the distribution of prairie dogs will also serve to increase the distribution and abundance of Mountain Plover (Dinsmore 2003).

Plumb (2004) estimated the statewide population of Mountain Plover at approximately 3,400 adults (range 2,270 to 4,430). Within the occupied range in Wyoming, Plumb (2004) estimated Mountain Plover density to be 4.47 ± 0.55 birds km^2 , which converts to roughly 0.018 birds per acre.

According to Augustine and Baker (2013), “Density estimates of rare bird species, particularly those of conservation concern, may provide guidance on the area of prairie dog colonies needed to support the desired minimum population level.” They estimated that for Mountain Plover, 2.4 birds/ km^2 (0.0097 birds/acre) on colony sites in Wyoming and Montana were needed for viable populations. Extrapolating that density, they estimated that a BTPD complex may need 5,145-20,582 acres to support 100 Mountain Plovers (Augustine and Baker 2013).

Based on the TBNG Mountain Plover monitoring data (Figure 6), it appears that Mountain Plovers have been experiencing a long-term downward trend on the TBNG with very low numbers in 2012 (>0.002 plovers per acre surveyed). Given the specific viability density threshold of Mountain Plover provided by Augustine and Baker (2013) of 0.0097 birds per acre, the TBNG does not currently provide for even 20% of a viable Mountain Plover population. The TBNG is well below 100 birds across the 16,640 acres of active BTPD colonies that currently exist on the TBNG and may need closer to 20,583 active acres of prairie dogs to meet viability needs. Given that 72% of all Mountain Plover occurrences on the TBNG are within the Category 1 area (MA 3.63, ferret reintroduction area) and that 50% of those occurrences are on colonies that are 1,000 acres or larger, habitat fragmentation may be a significant contributing factor to low plover populations on the TBNG.

Considering the declining Mountain Plover populations across Region 2 and the TBNG, management decisions that result in further reductions or fragmentation of prairie dog habitat on the TBNG, such as that proposed by the State of Wyoming, will likely further decrease Mountain Plover numbers and create long-term viability issues. Thus, when considering the State’s proposal in a viability analysis, the probable determination is “likely to result in a loss of viability in the planning area.”

Burrowing Owl

The Western Burrowing Owl is declining over much of its range. The fate of Burrowing Owls at a regional scale is largely tied to that of prairie dogs. Region 2 lies roughly at the center of the Burrowing Owl’s range and conservation of the species appears integral to overall species conservation (McDonald, et al. 2004). Habitat loss and degradation is identified as the single most important threat to persistence and, as such, discussion of threats to Burrowing Owls must be linked to threats and persistence of prairie dogs (McDonald et al. 2004).

Extensive burrow availability is critical to the persistence of Burrowing Owls. Livestock grazing, and large-scale control and eradication efforts for prairie dogs have historically reduced the availability of habitat with suitable vegetation height and burrow density for Burrowing Owls. Large well-connected prairie dog colonies should be maintained in historical prairie dog and Burrowing Owl habitats (McDonald et al. 2004).

The WGFD (2005), identified threats to Burrowing Owl in the ‘Plan for Bird and Mammal Species of Greatest Conservation Need in Eastern Wyoming Grasslands’ as the following (taken directly from the Plan):

- The Burrowing Owl is impacted by the elimination of burrowing mammals through pest control programs and habitat loss.
- Sylvatic plague outbreaks in prairie dog populations have reduced available Burrowing Owl habitat in Wyoming.
- The Burrowing Owl is impacted by the loss of habitat to urbanization and conversion of native grasslands to croplands or to taller, nonnative grasslands.

In the Great Plains, Burrowing Owls are strongly associated with colonial, burrowing mammals, particularly the BTPD. Surveys in eastern Colorado identified 423 Burrowing Owl locations within short- and mixed-grass prairie, 80% of which were located within BTPD colonies (Lantz 2005). On the TBNG, few Burrowing Owl nest burrows have been found away from prairie dog colonies.

Both systematic and incidental Burrowing Owl surveys have been conducted on the TBNG. In 1998, prairie dog colonies on 17 National Grasslands were surveyed for Burrowing Owl. The percentage of occupied colonies varied from 75% occupied on the Grand River to 16% (11 of 68 colonies) on the TBNG (Sidle et al. 2001).

Lantz (2005) surveyed 73 prairie dog colonies on Thunder Basin private and Forest Service land and found 39 inactive colonies and 34 active colonies. A total of 57 colonies surveyed were occupied by Burrowing Owls. Of the occupied nests, 81% were within active prairie dog colonies, and 19% of nests were within inactive prairie dog colonies. In both 2003 and 2004 Lantz identified 136 active Burrowing Owl nest burrows (Lantz 2005).

The scientific literature regarding Burrowing Owls does not contain a calculation of minimum viable population size. In the absence of a more robust analysis, the “50/500” rule is commonly quoted (Franklin 1980). This ‘rule-of-thumb’ states that at least 50 breeding adults are needed for the short-term viability of a population, whereas at least 500 breeding adults are needed for long-term viability. The 50/500 rule has been widely criticized but remains a starting point in cases where baseline data are lacking.

Griebel and Savidge (2007) found that successful Burrowing Owl pairs had an average distance of 251 ± 0.1 m between nests in large ($>1,500$ acres) active BTPD colonies on the Buffalo Gap National Grassland. Based on this figure, the area of active BTPD habitat needed to support a successful Burrowing Owl nest is 53.1 acres per nest/breeding pair. When applying the 50/500 viability rule to these figures, 1,327 acres of active BTPD colonies are required to support 50 Burrowing Owls ($53.1 \text{ acres} \times 25 \text{ pairs}$) to achieve short-term viability and 13,275 acres are required to support 500 individuals ($53.1 \times 250 \text{ pairs}$) for long-term viability. Although the TBNG has $>16,000$ total acres of active BTPD habitat and appears to meet the acreage requirement for both short- and long-term viability requirements for Burrowing Owl, these acres are largely fragmented. Only four of the 150 active colonies on the TBNG meet the 1,000 acre minimum area needed to support multi-species needs (VanPelt 1999). In 2012, 71% of the Burrowing Owl occurrences were found within BTPD colonies that were over 1,000 acres. As such, it seems that the current fragmentation of active BTPD habitat on the TBNG may be preventing adequate populations of Burrowing Owls from being established on the unit.

Given the current, limited known locations of Burrowing Owls on the TBNG, declining populations across Region 2, and existing threats, any additional poisoning of BTPDs or habitat fragmentation could result in a non-viable population of Burrowing Owls on TBNG. However, when considering the reductions in active prairie dog acres on the TBNG proposed by the State (Mead 2013), Burrowing Owl habitat would

decrease, becoming further fragmented, and viability of these owl populations would likely decline. Therefore, analysis of the State's proposal is expected to produce a determination of "likely to result in a loss of viability in the planning area."

Black-Footed Ferret

As a part of the Northern Great Plains Land Management Plan revision process, the USFS designated ferret reintroduction sites (in addition to Conata Basin NG) on the Buffalo Gap NG, Little Missouri NG, and TBNG (USFS 2009 and ROD Appendix B). In a letter dated May 8, 2007, the Regional Forester for Region 2 committed the USFS to providing habitat for future ferret reintroductions and said: "Despite our important contributions to the national recovery program to this point, recovery of the black-footed ferret still remains tenuous at best. Opportunities likely remain for the Forest Service to continue to be a leader in the national recovery effort (Cables 2007)."

In a letter dated March 16, 2007, the USFWS stated the following: "Perhaps no other agency or identity can contribute to more assured and rapid recovery of the ferret than the Forest Service. Ferret recovery cannot be achieved on National Grasslands alone, but likewise, the establishment of adequate numbers of ferret populations across the historical range of the species may not be possible without concerted support by the Forest Service and expansion of field recovery efforts across more of the Forest Service's vast western holdings. Even with more focused Forest Service Management and development of additional sites for prairie wildlife, the amount of managed land actually required to meet these needs would represent a small percentage of the almost 4 million acres of National Grasslands (USFWS 2007)."

The black-footed ferret is found almost exclusively in prairie dog colonies in grasslands. It is dependent on prairie dogs for all crucial aspects of its habitat (WGFD 2005). Problems identified in the Plan for Bird and Mammal Species of Greatest Conservation Need in Eastern Wyoming Grasslands (WGFD 2005) are the following (these are copied directly from the plan):

- Control efforts of prairie dogs by humans directly coincided with the demise of the black-footed ferret.
- Epizootics of sylvatic plague and canine distemper hamper and minimize the potential for successful reintroduction under current management paradigms.
- Successful reintroduction efforts are limited by the availability of captive-raised ferrets; inadequate funding; and protocol that is cumbersome, cost-ineffective, and out-of-date.
- Funding has been inadequate to annually monitor the ferret population and habitat in the Shirley Basin/Medicine Bow Black-footed Ferret Management Area.
- Prairie dog control efforts and the needs of many livestock producers limit the number of potential reintroduction sites for black-footed ferrets. Recent petitions to list prairie dogs under the Endangered Species Act caused localized increases in control efforts and disabled cooperative programs with some private landowners.

In order to support a viable population of ferrets, it is estimated that TBNG would need to have approximately 10,621 acres of prairie dogs at moderate density (Jachowski et al. 2011). A moderate density of prairie dogs is considered 12.14 to 32.38 burrows per acre (Jachowski et al. 2011). The TBNG currently has approximately 10,974 acres of prairie dogs in the MA 3.63 (ferret Management Area) and a density of 33 burrows per acre. Based on these figures, the TBNG is currently at the minimum threshold

to support a viable ferret reintroduction site. The additional prairie dog control within MA 3.63 proposed by the State would reduce active prairie dog colonies to 10,000 acres, which is 621 acres below the minimum threshold for ferret reintroduction.

Discussion

In summary, BTPDs are both a USFS Region 2 sensitive species and a management indicator species, for which the USFS is obligated to manage. They are also a keystone species that provides important habitat for many grassland species including species of conservation concern such as Mountain Plover, Burrowing Owl, and black-footed ferrets. Poisoning and plague, along with other known threats, can each have a significant impact to prairie dogs. However, when these threats are combined, eradication of entire populations of prairie dogs is possible. This leads to reduced or eliminated prairie dog habitat required by other species. Loss of prairie dogs or lack of management for prairie dogs, on private and state land necessitates large areas of federal land to support prairie dog colonies and their associated species. In an effort for the USFS to honor its commitments to manage for endangered, sensitive, and management indicator species, proposals to decrease prairie dog numbers or habitat on federal land must be considered with careful analysis.

Overall, there is a declining trend in the populations of both Mountain Plover and Burrowing Owl on the TBNG and in USFS Region 2. With existing threats impacting these species, a proposal to increase rodenticide use only compounds the current viability problems for these species. The presence of plague on the TBNG also creates inherent unpredictability in prairie dog management and creates a major obstacle in the conservation of prairie dogs. The USFS is obligated by regulation to maintain viable populations of sensitive species; however, as analyzed above, implementing the proposal from the State of Wyoming in its entirety will limit the ability of the USFS to attain viable populations of Mountain Plover and Burrowing Owl. Fragmenting and reducing prairie dog colonies further will preclude any future black-footed ferret reintroductions on the TBNG.

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APPENDIX A

WILDLIFE SURVEY PROTOCOL

FOR THUNDER BASIN NATIONAL GRASSLAND

February 2012

INTRODUCTION

The purpose of wildlife surveys is to determine presence and assess habitat associated with federally endangered, threatened, proposed, candidate, Region 2 Sensitive Species, Management Indicator Species. In addition, surveys will be completed for other species of concern including birds protected under the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and species of other concern as determined by the State of Wyoming. Forest Service policy is to protect the habitat of federally listed proposed (P), candidate (C), threatened (T), or endangered (E) (commonly referred to as T&E) species from adverse modification or destruction, as well as protect individual organisms from harm or harassment (FSM 2670.3). Biological assessments shall be prepared for each project authorized, funded, or conducted on National Forest land to determine possible effects the proposed activity may have on T&E species (FSM 2672.43). The biological assessment (BA) processes (FSM 2672.43) are intended to conduct and document activities necessary to ensure proposed management actions will not likely jeopardize the continued existence or cause adverse modification of habitat for T&E species. Wildlife surveys are performed in order to complete the NEPA process and determine effects from projects. The Survey Protocols described in this document are similar to BLM survey protocol, and are also similar to State of Wyoming protocol to maintain consistency in data.

Survey areas are determined by maximum Timing Limitation and No Surface Occupancy Buffers described in the Land and Resource Management Plan for Thunder Basin National Grassland, and by any new existing science or Regional direction. These buffers are update as new information becomes available. For most projects, surveys are required within 2 miles of a project location. The survey area can be increased to up to 4 miles for sage grouse, due to current state management recommendations.

A Biological Evaluation (BE) is a document the reviews programs or activities on NFS lands in sufficient detail to determine effects on any sensitive species. The objectives of the BE are to ensure that Forest Service actions do not contribute to loss of viability to sensitive species. This is also the same direction used to address MIS, but MIS don't have specific determinations required by law as TEPS species do. The FS is required by NFMA to address the viability of MI Species. MI species are determined by individual LRMP direction. On TBNG, the MIS are designated by Geographic Area.

In addition to TEP, Sensitive, and MIS, the FS is required to address effects to species protected under BGEPA, and MBTA. In some cases these species, or a portion thereof, are covered in previous sections of the BA/BE. Wildlife surveys are performed in order to complete the NEPA process and determine effects from projects.

MOUNTAIN PLOVER SURVEY PROTOCOL

1. Conduct the survey between May 1 and June 15, throughout the breeding range.

2. Conduct surveys between local sunrise and 1000 and from 1730 to sunset (periods of horizontal light to facilitate spotting the white breast of the adult plovers).
3. Drive roads (including 2 tracks) within the project area to minimize early flushing. Flushing distances for mountain plovers may be within 3 meters for vehicles, but plovers often flush at 50 to 100 meters when approached by humans on foot. All plovers located should be observed long enough to determine if a nest is present. These observations should be made from within a stationary vehicle, as plovers do not appear to be wary of vehicles. Because this survey is to determine presence/absence only, and not calculate statistical confidence, there is no recommended distance interval for stopping the vehicle to scan for birds. Obviously numerous stops will be required to conduct a thorough survey, but number of stops should be determined on a project and site-specific basis.
4. Stay in or close to the vehicle when scanning. Use binoculars to scan and spotting scopes to confirm sightings. Do not use scopes to scan.
5. Do not conduct surveys in poor weather (i.e., high wind, precipitation, etc.)
6. Surveys conducted during the courtship period should focus on identifying displaying or calling males, which would signify breeding territories.
7. A site must be surveyed 3 times during the survey window, with each survey separated by at least 14 days. The need for 3 surveys is to capture the entire nesting period, with the intent of reducing the risk of concluding the site is not nesting habitat by an absence of nesting birds during a single survey.

BURROWING OWL SURVEY PROTOCOL

1. Surveys should be conducted within 0.25 miles of proposed surface disturbance or activity to document nest activity during April 15 to August 1.
2. Surveys should be conducted within first light (typically ½ hour before sunrise) and 3 hours after sunrise, and between 2 hours before sunset until dusk (typically ½ hour after sunset). Do not conduct surveys during or within 24 hours after a heavy rain or when wind speed is greater than 32 km/hr (20 mi/hr).
3. Observations should be recorded in UTM coordinates using NAD83 datum.
4. Optimum weather conditions for surveys are clear, calm days. Nests should be approached cautiously to avoid flushing the female, and their status (ie, number of nestling) will be determined from a distance with binoculars or a spotting scope.
5. Nests will not be visited during adverse weather conditions (e.g. extreme cold, precipitation events, windy periods or during the hottest part of the day). Visits will be as brief as possible.

6. Data should be recorded with the following information; field names and codes to use are as follows:

- Location
- GPS UTM (NAD 83)
- Township, Range, Section, Northing, Easting
- Date, Time
- Observer
- Nest site elevation
- County, land status
- Vegetation type
- Comments

APPENDIX B

**Record of Decision, Thunder Basin National Grassland
Prairie Dog Management Strategy and
Land and Resource Management Plan Amendment #3
11/10/2009**

Record of Decision

Thunder Basin National Grassland Prairie Dog Management Strategy and Land and Resource Management Plan Amendment #3

**U.S. Forest Service
Douglas Ranger District
Medicine Bow-Routt National Forests and Thunder Basin National Grassland**

Campbell, Converse, Niobrara and Weston Counties, Wyoming

Decision

Based on my review of the Final Environmental Impact Statement (EIS) and public comments received in its preparation, I have selected Alternative 5 (with modifications) as described in the Final Environmental Impact Statement (FEIS) for the Thunder Basin National Grassland Prairie Dog Management Strategy and Land and Resource Management Plan Amendment #3.

By selecting Alternative 5 (with modifications), I am amending the Revised Land and Resource Management Plan (LRMP) for the Thunder Basin National Grassland (TBNG) to:

- Adopt and implement a prairie dog management strategy (Appendix A) for the TBNG that will provide for the conservation of black-tailed prairie dogs and their habitat. This strategy is both programmatic and site-specific and will be implemented according to the direction outlined in this Record of Decision.
- Alter Management Area 3.63 Black-footed Ferret Reintroduction Habitat to provide a more biologically appropriate boundary for prairie dog colonies based upon topographic and biologic barriers and to include federal lands recently acquired through land exchange that provide additional suitable and historically occupied prairie dog habitat.
- Identify and manage five Category 2 Prairie Dog Habitat areas.
- Revise LRMP management direction to support implementation of the Prairie Dog Management Strategy including the use of prairie dog management tools as described in the strategy and decision screens (Appendices A & B).
- Allow for additional limited site-specific use of rodenticides in situations where unwanted colonization onto adjacent non-federal lands is occurring and where other management tools are impractical or ineffective for changing the rate or direction of experienced colony expansion, or have proven through evaluation to be unsuccessful.

Additionally, I intend to enter into a Candidate Conservation Agreement with the US Fish and Wildlife Service to conserve prairie dog habitat for the host of species that rely on it.

I selected Alternative 5 (with modifications) because the strategic guidance it establishes best matches the direction I believe needs to be taken on the TBNG to provide for the conservation of black-tailed

prairie dogs and their habitat, to address private landowner concerns about unwanted prairie dog encroachment onto private lands within and adjacent to the TBNG boundaries, and to facilitate future recovery of endangered black-footed ferrets.

Alternative 5 (Preferred) with Modifications

This decision involves minor modifications to Alternative 2, the Proposed Action. Alternative 5 was developed based on public comments that additional Category 2 Prairie Dog Habitat areas, beyond those identified in Alternative 2, should be identified and managed on the TBNG. Alternative 5 with Modifications is consistent with the stated Purpose and Need for this action.

This decision modifies FEIS Alternative 5 in the following ways:

- While Category 1, 2, 3, and 4 Prairie Dog Habitat boundaries remain the same, the Management Area 3.63 Ferret Reintroduction Habitat boundary identified in FEIS Alternative 5 was modified to include NFS lands within the 4W Category 2 Habitat. These additional acres were included in the 2001 Thunder Basin National Grassland Plan Land and Resource Management Plan MA 3.63 area.
- This decision makes modifications to the strategic direction in Alternative 5 as described below.

Under this decision, the Prairie Dog Management Strategy contains the following:

A. Prairie Dog Control for Human Health and Safety and Protection of Facilities

Approved rodenticides (grain baits) for reducing prairie dog populations may continue to be used in the following situations regardless of the Category of prairie dog habitat involved:

- Public health and safety risks occur in the immediate area,
- Damage to private and public facilities, such as cemeteries and residences.

B. Category 1 Prairie Dog Habitat

- A single Category 1 Prairie Dog Habitat will be maintained within the planning landscape and will include a large portion of the Black-footed Ferret Reintroduction Habitat (MA 3.63).
- The Category 1 Prairie Dog Habitat is designed to be an adequate size and spatial configuration to sustain a viable population of black-footed ferrets.
- The Category 1 Prairie Dog Habitat has a management objective of at least 18,000 acres of active prairie dog colonies. It is anticipated that 18,000 acres will provide sufficient habitat to allow ferrets the opportunity to persist through future plague epizootics and rebuild naturally along with the prairie dog populations. The acreage in Category 1 is not capped at 18,000 acres, but would be allowed to grow within the boundary of the MA 3.63. The 18,000 acre objective only serves as a potential trigger point beyond which the use of rodenticides becomes available for control of prairie dog colonies that are expanding onto adjacent private lands. Our objective for the Category 1 Area within the Rothleutner allotment is 1500 acres.

- A broad spatial distribution of prairie dog colonies within Category 1 is desired, and we want to ensure connectivity between colonies. Each colony within Category 1 Prairie Dog Habitat should be no more than 1.5 km (approximately 1 mile) from another colony within Category 1.
- The location of Category 1 Prairie Dog Habitat is based on the current and historical distribution of prairie dogs across the planning landscape as well as areas most suitable as prairie dog habitat (as defined by slope, vegetation and soil characteristics).
- Category 1 Prairie Dog Habitat is situated so as to utilize, to the maximum extent feasible, public lands such as TBNG.
- When feasible, natural barriers to prairie dog expansion such as large areas of unsuitable habitat (steep slopes, sandy soils, wetlands, etc.) were used as boundaries for Category 1 Prairie Dog Habitat.

Category 1 Prairie Dog Habitat - Control¹ and Management

- Within Category 1 Prairie Dog Habitat, prairie dogs will be allowed to expand their distribution and colonize new areas.
- Any prairie dog control efforts to address unwanted colonization onto non-federal lands within Category 1 Prairie Dog Habitat proposing to use rodenticides may only be initiated if cumulative acreage of active prairie dog colonies within Category 1 exceeds 18,000 acres. Use of rodenticide on federal lands may only be employed within ½ mile of the TBNG boundary and only in cases where appropriate and available non-lethal options have been tried and found ineffective for changing the rate and direction of colony expansion.
- Capture and translocation of prairie dogs to suitable areas will be a preferred method for managing unwanted colonization on private lands. Prairie dogs captured and removed to control unwanted movement onto private lands will be used to augment prairie dog populations in Categories 1 & 2, with Category 1 being the priority for translocations.
- In areas where no natural barriers exist, and where the vegetation is appropriate, a buffer of ungrazed or lightly grazed areas will be used to discourage colonization out of the designated Category 1 Prairie Dog Habitat.
- If and when control becomes necessary along TBNG boundaries within the Category 1 Prairie Dog Habitat, selection of colonies to be controlled will be based on habitat values to black-footed ferrets as well as the ages of the colonies.
- Category 1 Prairie Dog Habitat will be considered core habitat. Recreational shooting of prairie dogs will be prohibited year round within Category 1 Prairie Dog Habitat.
- If active prairie dog colonies fall below 10,000 acres within Category 1 Prairie Dog Habitat, translocations of prairie dogs from other categories of habitat will be implemented unless doing so would threaten the goals of expanding prairie dogs in Category 1 or harm black footed ferrets.

¹ Control includes all management tools that limit or direct prairie dog expansion, not just rodenticide use.

- Lethal control of prairie dog population density is not planned within Category 1 Habitat due to recent declines in prairie dog populations.

C. Category 2 Prairie Dog Habitat

- Five Category 2 Prairie Dog Habitats will be maintained within the planning landscape. (4W, Middleton, North 450, South Cellers and Piney Creek)
- Category 2 Prairie Dog Habitats are necessary to provide an adequate distribution of prairie dogs and their associated species across the landscape and provide some level of protection against a landscape-wide plague epizootic.
- Category 2 Prairie Dog Habitats will contribute to sustaining viable populations of prairie dogs and their associated species.
- Each Category 2 Prairie Dog Habitat has a management objective of a minimum of 1,500 acres of active prairie dog colonies within 7 km (approximately 4.5 miles) of each other. Combined, Category 2 Prairie Dog Habitats have a management objective of 9,000 acres of active prairie dog colonies.
- The purpose of the Category 2 Prairie Dog Habitat is to provide for viable populations of prairie dogs and associated species, and to provide significant ecological diversity at the broad spatial scales.
- Category 2 Prairie Dog Habitat may be composed of clusters of a few large colonies or more numerous smaller colonies. The sizes of individual colonies within Category 2 Prairie Dog Habitat will vary.
- As understanding of plague dynamics expands, colony sizes and configurations which minimize the severity of a plague outbreak will be preferred and targeted for attainment.
- Locations for Category 2 Prairie Dog Habitats are based on habitat suitability as well as the current and historical distribution of prairie dogs, known presence of associated species, or are considered high value habitat for other reasons.
- At least one Category 2 Prairie Dog Habitat is located as far as possible from the Category 1 Prairie Dog Habitat to reduce and/or slow the spread of a plague epizootic and provide some redundancy in the system.

Category 2 Prairie Dog Habitat - Control and Management

- Translocations will be considered if any individual Category 2 Prairie Dog Habitat falls below 500 acres *or* total Category 2 acreage falls below 1,500 acres.
- In the event that active prairie dog colony acreage in Category 2 exceeds 9,000 acres, control of colonies within Category 2 may be considered. In such cases, those colonies that pose a

potential threat of unwanted colonization onto adjacent non-federal land, newer colonies and colonies with lower habitat value for associated species would be prioritized for control.

- Rodenticide use may occur on Category 2 Prairie Dog Habitats in a manner that is consistent with the specified goals within CCAAs and/or CCA for each Category 2 Prairie Dog Habitat. Prairie dog control efforts may only be initiated if cumulative acreage of active prairie dog colonies on Category 2 Habitats exceeds 9,000 acres.
- Translocations of prairie dogs to suitable areas will be a preferred method of managing unwanted colonization on private lands and augmenting prairie dog populations in Categories 1 & 2, with Category 1 being the priority for translocations.
- Recreational shooting of prairie dogs will be prohibited on all National Forest System (NFS) lands within all five Category 2 Prairie Dog Habitat areas.
- The locations and boundaries of Category 2 Prairie Dog Habitats may change and shift depending on prairie dog activity, new information, or to meet other management objectives.

D. Category 3 Prairie Dog Habitats

Category 3 Prairie Dog Habitats are small isolated colonies which do not fall within the boundaries of Category 1 or 2 Prairie Dog Habitats and occur south of Highway 450 and East of R67W. They also fall within the Thunder Basin Grassland Prairie Ecosystem Association (TBGPEA) potential CCAA area.

- The Category 3 Prairie Dog Habitat has a management objective of at least 2,000 acres of active prairie dog colonies strategically located across the planning landscape. These 2,000 acres includes private land Category 3 Habitat specifically identified in CCAAs.
- The primary purpose of Category 3 Prairie Dog Habitat is to provide a source for natural dispersal to Category 1 and 2 Prairie Dog Habitats following a plague outbreak and to provide a broad geographic distribution of prairie dog colonies and their associated species across the TBNG.
- Priority is given to Category 3 Prairie Dog Habitats which can serve to recolonize Category 1 and 2 Prairie Dog Habitats as well as colonies with a documented presence of species of concern such as burrowing owls and mountain plovers.
- These colonies are located approximately 10-20 km (approximately 6-12 miles) from Category 1 and 2 Prairie Dog Habitats. Active Category 3 Prairie Dog Habitats less than 7 km (approximately 4.5 miles) from a Category 1 Prairie Dog Habitat will be discouraged to provide a buffer zone which could slow the spread of plague. Occupied Category 3 Prairie Dog Habitat areas less than 7 km apart will be evaluated for natural barriers and values that compensate for the added risk from potential disease transmission.

- Approximately 500-1,000 acres of active Category 3 Prairie Dog Habitats will be maintained in isolation from Category 1 and 2 Prairie Dog Habitats to provide additional protection from a landscape-wide plague epizootic as well as ensure wide geographic distribution of prairie dogs.
- A colony will be considered isolated if it is greater than 20 km (approximately 12 miles) from a Category 1 or 2 Prairie Dog Habitat or separated by significant amounts of unsuitable habitat.
- Management actions designed to expand the distribution of prairie dogs will be considered if active Category 3 Prairie Dog Habitats fall below 500 acres or above 2000 acres.
- Recreation shooting of prairie dogs will be allowed on all Category 3 Colonies on NFS lands. Information will be provided to encourage shooters to use non-toxic and non-expanding bullets to minimize the potential risk of exposing non-target wildlife to lead poisoning.
- Prairie dog control efforts that propose to use rodenticides may only be initiated if cumulative acreage of active prairie dog colonies on Category 3 Prairie Dog Habitats exceeds 2,000 acres.

E. Category 4 Prairie Dog Habitats

Category 4 Prairie Dog Habitats are small isolated colonies which do not fall within the boundaries of Category 1 or 2 Prairie Dog Habitats and are north of Highway 450 and East of R67W. They also fall outside the TBGPEA potential CCAA area.

- The Category 4 Prairie Dog Habitat has a management objective of at least 4,000 acres of active prairie dog colonies strategically located on NFS lands across the planning landscape.
- The primary purpose of Category 4 Prairie Dog Habitat is to provide a source for natural dispersal to Category 1 and 2 Prairie Dog Habitats following plague outbreaks and to provide a broad geographic distribution of prairie dog colonies and their associated species across the TBNG.
- Priority is given to active Category 4 Prairie Dog Habitats which can serve to recolonize Category 1 and 2 Prairie Dog Habitats as well as colonies with a documented presence of species of concern such as burrowing owls and mountain plovers.
- These colonies are located approximately 10-20 km (approximately 6-12 miles) from Category 1 and 2 Prairie Dog Habitats. An abundance of active Category 4 Prairie Dog Habitats less than 7 km (approximately 4.5 miles) from a Category 1 Prairie Dog Habitat will be discouraged to provide a buffer zone which could slow the spread of plague.
- A distribution of occupied Category 4 Prairie Dog Habitats will be maintained in isolation from Category 1 and 2 Prairie Dog Habitats to provide additional protection from a landscape-wide plague epizootic as well as ensure wide geographic distribution of prairie dogs.
- A colony will be considered isolated if it is greater than 20 km (approximately 12 miles) from a Category 1 or 2 Prairie Dog Habitat or separated by significant amounts of unsuitable habitat.

- Recreational shooting of prairie dogs will be allowed on all Category 4 Prairie Dog Habitats on NFS lands. Information will be provided to encourage shooters to use non-toxic and non-expanding bullets to minimize the potential risk of exposing non-target wildlife to lead poisoning.
- Prairie dog control efforts that propose to use rodenticides may only be initiated if cumulative acreage of active prairie dog colonies on Category 4 Habitats exceeds 4,000 acres.

F. Colonies not in Category 1, 2, 3, or 4

- Coal Mine Area-colonies will not be scheduled for control and do not count toward category objectives, but will be maintained until they are impacted by mining.
- Control² Colonies will be controlled (using a variety of management tools) on a priority basis as follows:
 1. Colonies close to residences where health and safety are a concern.
 2. Colonies expanding onto private land not in categories 1, 2, 3 or 4.
 3. Colonies expanding onto private land near boundaries of categories 1, 2, 3 or 4.
 4. Colonies moving toward private land.

Control will be done using translocation, when possible, to augment colonies in Category 1 and 2 Habitats.

G. New Colonies

- Management of new colonies may change over time if and when prairie dog populations rebuild from plague. When total active prairie dog acres are at low levels, we will be conservative in the application of rodenticide use.
- New colonies will be maintained until an interdisciplinary review of their values is conducted and a determination of their category designation is completed under the strategy.
 1. New colonies within ½ mile of adjacent non-federal lands will be evaluated to determine their potential for causing unwanted encroachment onto adjacent non-federal lands.
 2. New colonies greater than ½ mile from adjacent non-federal lands will be retained until specified Category 3 or Category 4 (depending on geographic location) objectives are met or exceeded.

H. Additional Prairie Dog Management Strategy components

The boundary of Black-footed Ferret Reintroduction Habitat (MA 3.63) will be modified as shown on the attached map (Alternative 5 with Modifications).

This boundary is expanded from FEIS Alternative 5 to include historic prairie dog habitat in the 4W Category 2 Habitat. This expanded habitat was contained in MA 3.63 in the 2001 Grassland Plan and has potential to provide future ferret reintroduction habitat.

² Control includes all management tools that limit or direct prairie dog expansion, not just rodenticide use.

- Recreational shooting of prairie dogs will be prohibited on all NFS lands within one Category 1 Prairie Dog Habitat and the five Category 2 Prairie Dog Habitats.
- All prairie dog management tools are available, with emphasis given to the following:
 1. Implementing vegetation management strategies to encourage prairie dog expansion where we want it and discourage unwanted prairie dog expansion onto private lands. The appropriate prairie dog management tool will be selected to fit existing environmental conditions (for example, drought) and the potential grassland community.
 2. Within ½ mile of adjacent non-federal lands encourage higher vegetation structure and create a visual barrier to prairie dog colonization by implementing prescribed grazing. If the potential vegetation is determined unable to achieve an average height of 15-16 inches and a VOR of 3-4 inches, methods other than livestock grazing strategies will be used.
 - i. Where livestock grazing strategies are used to encourage higher vegetation structure, prescribed burning and prescribed grazing will be used where appropriate to encourage expansion away from private land boundaries.
 - ii. Prescribed burning will be done in conjunction with prescribed grazing to achieve habitat objectives for prairie dogs and their associated species. Burning may have to occur in successive years to create desired habitat conditions. However, burning intervals will depend on fuel conditions and must be coordinated with grazing permittees to ensure timing of grazing and burning provide for desired habitat conditions.
 - iii. Livestock grazing strategies that create low vegetation structure and enhance prairie dog habitat will be used to promote prairie dog expansion where it is desired.
 3. Encouraging conservation agreements that provide for occupied prairie dog habitat on adjacent or nearby non-federal lands.
 4. Using approved rodenticides on prairie dog colonies under site-specific conditions/situations as outlined in the prairie dog management strategy (ROD-Appendix A), following the Decision Screens as described in ROD-Appendix B.
 5. Translocations of prairie dogs on the TBNG from one area to another will also be an important tool to promote expansion of prairie dog colonies that have been adversely impacted by the plague or other disturbances. The primary objectives of this tool are to remove prairie dogs from colonies that are causing unwanted expansion, to augment prairie dog colonies affected by plague, or to create new colonies in suitable habitat. Translocation will occur from identified problem colonies on TBNG to Category 1 and 2 Prairie Dog Habitats with priority given to Category 1 Habitat. Wyoming State law requires that Wyoming Game & Fish approve all translocations of prairie dogs within the State, and the TBNG intends to follow this process. The TBNG intends to involve both neighboring private landowners and affected counties in these situations.
 6. The Forest Service intends to enter into a Candidate Conservation Agreement (CCA) with the US Fish and Wildlife Service (USFWS) to document Forest Service actions that would be undertaken to reduce or remove threats to the black-tailed prairie dog and associated species (burrowing owl, mountain plover, ferruginous hawk, longspurs).
 7. Land exchanges or acquisitions will be pursued, where feasible and as opportunities arise, to create larger blocks of NFS lands and reduce the amount of intermingled private lands and shared boundaries, especially within and near MA 3.63 Ferret Reintroduction Habitat, to reduce conflicts with private landowners.

8. Plague management tools such as dusting and vaccination will be used where practical and effective to control plague within prairie dog complexes. This will likely happen in MA 3.63 Black-footed Ferret Reintroduction Habitat in the future if ferrets are reintroduced.
9. The Forest Service will work with the USFWS and TBGPEA to ensure that the TBNG CCA and the TBGPEA (landscape level) CCAA are well coordinated.

Land and Resource Management Plan Amendment

The following table identifies current LRMP direction that is deleted (left column) under this action. This current direction is revised or replaced in whole (right column).

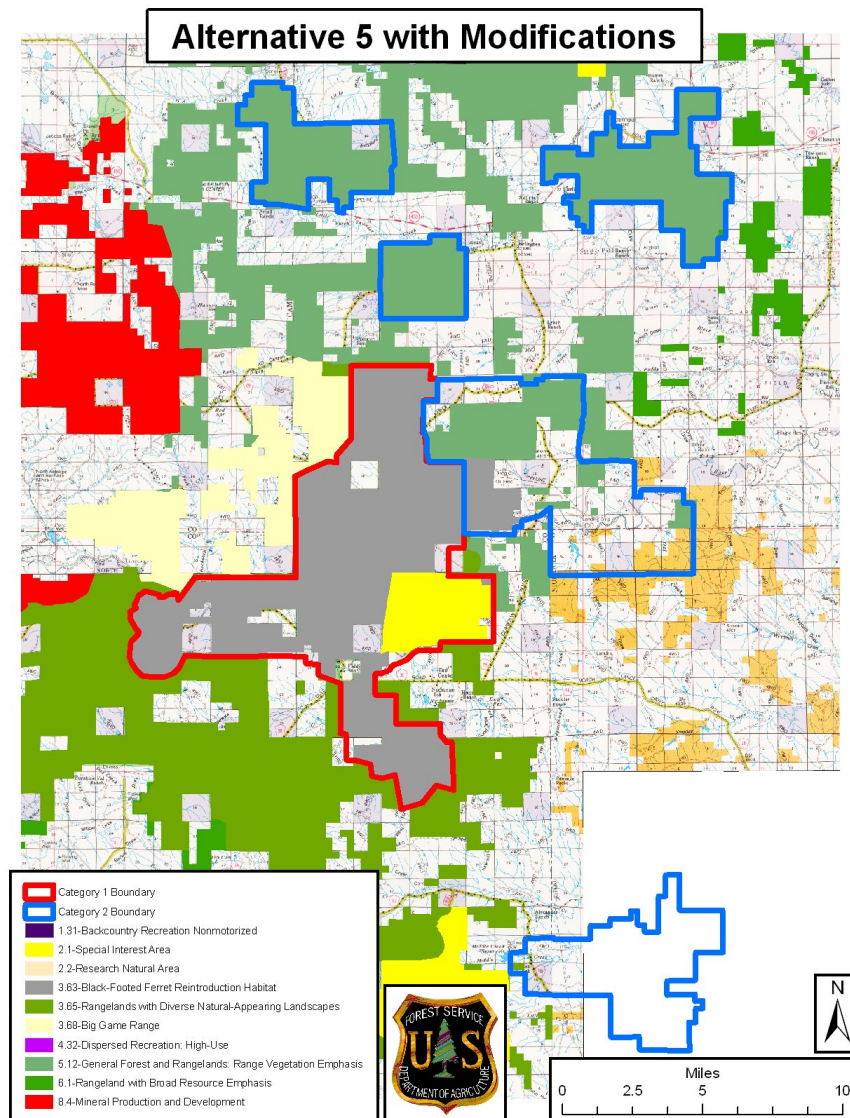
Table 1: LRMP Amendment, changes from current direction under Alternative 5 with Modifications.

Item #	Delete:	Revise or Replace With:
#1	Chapter 1, F-21. Any net loss of suitable black-footed ferret habitat as a result of prairie dog poisoning or development of new facilities within colonies shall be replaced within the year. This is based on the amount of suitable habitat available prior to prairie dog dispersal in the year of the poisoning or development. Standard	Chapter 1, F-21 (revised). Any net loss of suitable black-footed ferret habitat as a result of development of new facilities within colonies shall be replaced within the year. This is based on the amount of suitable habitat available prior to prairie dog dispersal in the year of the development. Standard
#2	Add new	Chapter 1, F-65b (new). Adopt and implement a black-tailed prairie dog management strategy. This strategy and made a part of this plan (Appendix N). Standard
#3	Chapter 1, H-1. 1. Prohibit the use of rodenticides (grain baits) for reducing prairie dog populations to the following situations: ▪ Public health and safety risks occur in the immediate area, ▪ Damage to private and public facilities, such as cemeteries and residences. Standard	Chapter 1, H-1 (revised). 1. Limit the use of rodenticides (grain baits) for reducing prairie dog populations to the following situations: ▪ Public health and safety risks occur in the immediate area. Standard ▪ Damage to private and public facilities, such as cemeteries and residences. Standard ▪ On site-specific colonies where unwanted colonization onto adjacent non-federal lands is occurring and other tools are impractical, ineffective or have been proven to be unsuccessful. Guideline ▪ Colonies outside Categories 1, 2, 3, and 4 (as identified in strategy) if the Forest Service determines they are not needed for habitat for prairie dogs, black-footed ferrets or other associated species. Guideline

Item #	Delete:	Revise or Replace With:																																										
#4	Chapter 1, H-2. Consult state-wide prairie dog conservation strategies for additional guidance on the appropriate response to complaints of unwanted prairie dog colonization on adjoining agricultural lands (private, state, and tribal lands). Guideline	Chapter 1, H-2 (revised). In Consultation with the Wyoming Game and Fish Department, determine the appropriate response to complaints of unwanted colonization on adjoining private and state lands. A spectrum of management tools will be considered based on site-specific evaluations. Guideline																																										
#5	Chapter 2, Broken Hills Geographic Area Management Area Prescription Allocation <table> <tr> <th>Number</th><th>Prescription</th><th>Acres</th></tr> <tr> <td>1.31</td><td>Backcountry Recreation Nonmotorized</td><td>6,545</td></tr> <tr> <td>2.1</td><td>Special Interest Area</td><td>14,170</td></tr> <tr> <td>3.63</td><td>Black-footed Ferret Reintroduction Habitat</td><td>13,619</td></tr> <tr> <td>3.65</td><td>Rangelands with Diverse Natural-Appearing Landscapes</td><td>71,100</td></tr> <tr> <td>3.68</td><td>Big Game Range</td><td>18,426</td></tr> <tr> <td>5.12</td><td>General Forest and Rangeland</td><td>33,577</td></tr> </table> As shown on the map for the LRMP, which is a part of the LRMP	Number	Prescription	Acres	1.31	Backcountry Recreation Nonmotorized	6,545	2.1	Special Interest Area	14,170	3.63	Black-footed Ferret Reintroduction Habitat	13,619	3.65	Rangelands with Diverse Natural-Appearing Landscapes	71,100	3.68	Big Game Range	18,426	5.12	General Forest and Rangeland	33,577	Chapter 2, Broken Hills Geographic Area Management Area Prescription Allocation <table> <tr> <th>Number</th><th>Prescription</th><th>Acres</th></tr> <tr> <td>1.31</td><td>Backcountry Recreation Nonmotorized</td><td>6,545</td></tr> <tr> <td>2.1</td><td>Special Interest Area</td><td>14,170</td></tr> <tr> <td>3.63</td><td>Black-footed Ferret Reintroduction Habitat</td><td>13,300</td></tr> <tr> <td>3.65</td><td>Rangelands with Diverse Natural-Appearing Landscapes</td><td>71,499</td></tr> <tr> <td>3.68</td><td>Big Game Range</td><td>18,426</td></tr> <tr> <td>5.12</td><td>General Forest and Rangeland</td><td>33,577</td></tr> </table> As shown on Appendix C-map	Number	Prescription	Acres	1.31	Backcountry Recreation Nonmotorized	6,545	2.1	Special Interest Area	14,170	3.63	Black-footed Ferret Reintroduction Habitat	13,300	3.65	Rangelands with Diverse Natural-Appearing Landscapes	71,499	3.68	Big Game Range	18,426	5.12	General Forest and Rangeland	33,577
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#7	Chapter 3, Management Area 3.63, General – 1. Authorize only those uses and activities that do not reduce the suitability of the area as black-footed ferret reintroduction habitat. Standard	Chapter 3, Management Area 3.63, General – 1 (revised). Authorize only those uses and activities in the reintroduction area that do not reduce habitat below the level needed to support a long-term sustainable black-footed ferret population. Until habitat is available to support a long-term sustainable black-footed ferret population, do not authorize uses and activities that would prevent annual increases in the prairie dog population. Standard																																				

Figure 1: Additional Category 2 Areas



Monitoring, Evaluation and New Information

Monitoring and Evaluation

Since the TBNG Prairie Dog Management Strategy was developed collaboratively with diverse interests, we intend to continue to work collaboratively with adjacent landowners, state and federal agencies, and non-governmental organizations on implementation of management tools described in this decision, as well as on monitoring and evaluation of the effects of that implementation on meeting the purpose and need for this Grassland Plan amendment. We intend to form a technical advisory team that may subsequently develop monitoring protocols that may form the basis of future CCA monitoring requirements.

Monitoring and evaluation for implementation and effectiveness will be completed as described below and as outlined in Table 2 below.

Active Colony Mapping

All Categories

- Map and evaluate all active colonies every 3-5 years or more often depending on plague cycles, observed expansion rates, and available funding
- Map and evaluate identified colonies of concern annually

Category 2 and 3

- Colonies on private lands mapped per CCAAs

Colonies not within Categories 1, 2, 3, 4

- Monitoring as needed to determine new establishment or growth
- Map identified colonies of concern annually

Counts, Transecting or Density Estimates

- Monitor every 3 to 5 years after re-introduction of black-footed ferrets with a focus on lands occupied by ferrets or within 1 mile of areas occupied by ferrets.

Photo Points

- Establish and evaluate staked points as visual monitors for expansion or movement in key areas.

Observations

- Observations from grazing associations, TBGPEA, holders of CCAAs, WGFD, USFWS, and Forest Service on prairie dog colony changes (growth or reductions) will be recorded and evaluated.

CCA/CCAA Monitoring

- The Forest Service will work with CCAA holders and USFWS, to develop uniform monitoring across all land ownerships to obtain broad scale information on prairie dog expansion following plague.

Management Tool Effectiveness

- As management tools are used, monitoring systems will be developed to evaluate effectiveness for achieving the stated objectives of the management tools.

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Table 2: Monitoring by Category

Category	Acres of Active Colonies	Management Actions	Management Tools	Monitoring
All	35,000	Review management strategy	All	Active Colony Mapping
1	18,000	Along boundaries as needed, > 18,000 acres total	No rodenticide unless exceeds 18,000 acres (Shooting prohibited)	Active Colony Mapping Population estimates Photo points
2	9,000	If less than 500 per Cat 2 area or less than 1,500 or more than 9,000	All (Shooting prohibited on NFS lands)	Active Colony Mapping Photo points
3	2,000	If less than 500 or greater than 2,000	All (Shooting allowed on NFS lands.)	Active Colony Mapping Photo points
4	4,000	If less than 500 or greater than 4,000	All (Shooting allowed on NFS lands.)	Active Colony Mapping Photo points
Outside 1-4		Prioritized based on criteria and objectives	All	Active Colony Mapping

Reporting

- In the annual monitoring and evaluation report, we will disclose the use of tools and the results of effectiveness monitoring.

New Information

- Information is incomplete regarding the correlation of black-tailed prairie dog colony densities to plague reoccurrence. Additionally, it is unknown if recurring plague epizootics create some level of resistance to plague in surviving prairie dogs.
- More information is needed on prairie dog movement distances and effectiveness of management tools (for control and habitat enhancement) and natural barriers on prairie dog colony expansion.

- We will continue to acquire new information or work with research institutions to gain information regarding these information gaps to improve our plague management strategies.

Partnerships

We intend to expand upon existing and develop new partnerships with adjacent landowners, state and federal agencies, and non-governmental organizations to implement management tools to control unwanted expansion of prairie dogs onto private lands while rebuilding occupied prairie dog habitats on the TBNG. The future effect of plague on prairie dog populations on the TBNG is unknown. As we rebuild populations from relatively low levels, it will be important to use non-lethal methods of control and management to help us re-occupy the habitat while preventing or minimizing unwanted encroachment of prairie dogs onto private lands. Tools such as translocations and land acquisition will be important and expensive to help achieve our goals. Having partners to help with implementation of these tools will be essential to fully incorporating them into this strategy.

We also intend to form partnerships to assist with monitoring of the effectiveness of management tools. Neighboring landowners will be key to understanding the effectiveness of management tools needed to reduce unwanted expansion of prairie dogs onto adjacent non-federal lands.

Partnerships with research institutions are desirable to address questions regarding:

- Correlation of prairie dog colony densities to plague reoccurrence.
- Development of plague resistance in surviving prairie dogs.
- Information gaps in plague management tools and effectiveness.

Background

To meet Grassland-wide Goals and Objectives (Goal 1.b, Objective 1), the desired conditions prescribed under the MA 3.63 LRMP direction, the instructions from the Department of Agriculture's LRMP discretionary review of the Chief's LRMP appeal decision, and to contribute to the goals established in the 1988 National Black-footed Ferret Recovery Plan, the purpose of this decision is to establish and maintain the public support and the biological environment needed to facilitate the reintroduction of black-footed ferrets on the TBNG.

To achieve this purpose, the Forest Service has identified the need to:

- Proactively manage prairie dog populations on the TBNG in an environmentally, biologically, and socially acceptable manner that provides for the long-term conservation of black-tailed prairie dogs and other species associated with prairie dog colonies.
- Manage prairie dog populations, colonies and complexes on the TBNG in adequate acreages and distributions to provide habitat conditions that support future reintroductions of black-footed ferrets.
- Manage prairie dogs and their habitat to minimize unwanted colonization onto adjoining private and State lands to address local landowner concerns about possible losses of agricultural production, costs of controlling prairie dogs, effects on land values, and risks to human and animal health and safety that may occur if prairie dogs colonize adjacent non-federal lands.

- Gain local landowner and state of Wyoming support for a prairie dog management strategy on the TBNG that provides for the biological needs of the black-footed ferret and minimizes potential adverse impacts to adjacent non-federal landowners.

Decision Rationale

I established the following decision criteria to help me select the preferred alternative for this plan revision.

1. Maintaining and enhancing the viability of native wildlife species on the TBNG.
2. Cooperating with other landowners to achieve desired biological and social conditions.
3. Contributing to the recovery of threatened and endangered species on the TBNG.

I can best describe my rationale for this decision by telling you how I think Alternative 5 (with modifications) addresses the decision criteria.

1. Maintaining and enhancing the viability of native wildlife species on the TBNG.

The viability of the black-tailed prairie dog continues to be a concern across its range. It has been petitioned for federal listing under the Endangered Species Act on multiple occasions. In a response to the first petition the U.S. Fish and Wildlife Service (USFWS) found that the species was “warranted but precluded from listing” but in August, 2004 found that the action was no longer warranted because distribution, abundance, and trend data indicated that the threats to the species identified in the 12-month finding are not as serious as earlier believed.

On August 6, 2007, a new petition to list the black-tailed prairie dog under ESA was received by the USFWS and on December 2, 2008 the USFWS issued a 90 day finding “that the petition presents substantial information indicating that listing the black-tailed prairie dog under the Act may be warranted based on threats associated with Factor C (sylvatic plague), Factor D (inadequate Federal and State regulations), and Factor E (poisoning). It is currently undergoing a status review by the USFWS to determine whether or not to list it as “threatened” under the Endangered Species Act.

With this decision, the TBNG will enter into a CCA with the USFWS to implement and monitor specific conservation activities designed to reduce threats to black-tailed prairie dog populations and habitats.

Since 2001, TBNG prairie dog colonies have been experiencing a sylvatic plague epizootic which has caused a decline of prairie dog populations from a high of 21,456 acres in 2001 to a low of 3,246 acres in 2007. Currently, occupied prairie dog habitat stands at about 4,000 acres. Adopting the prairie dog management strategy, as modified in Alternative 5, through this Grassland Plan amendment will help the TBNG attain the objective of species’ conservation.

The wide variety of management tools available under this Grassland Plan amendment will, when implemented, provide for enhancement of prairie dog habitat and the potential growth of prairie dog colonies and complexes on the TBNG. It is my intent to utilize all appropriate tools to the fullest extent practicable to encourage prairie dog colony expansion on NFS lands where population increases are desired.

Prescribed burning and **prescribed grazing** will provide for enhancement of prairie dog habitat by creating more early seral, low structure grassland areas for prairie dog population growth where we desire it. Both of these tools will be used to improve habitat for prairie dogs by encouraging prairie dogs to fill in areas that are currently inactive or to influence the direction and rate of colony expansion. Prescribed burning will be done in conjunction with prescribed grazing to achieve habitat objectives for prairie dogs and their associated species. Burning may have to occur in successive years to create desired habitat conditions. However, burning intervals will be dependent on fuel availability and must be coordinated with grazing permittees to ensure timing of grazing and burning provide for the optimal habitat conditions.

Translocation of prairie dogs on the TBNG from one area to another will also potentially provide for repopulation of prairie dog colonies that have been adversely impacted by the plague. The primary objectives of this tool are to remove prairie dogs from colonies that are causing unwanted colonization, augment prairie dog populations in colonies affected by plagues, or to create new colonies in suitable habitat. Translocation will occur from identified problem colonies on TBNG to Category 1 and 2 habitats with priority given to Category 1 habitat. Wyoming state law requires that WY Game & Fish Department approve all translocations of prairie dogs within the state, and the TBNG intends to follow this process. The TBNG intends to involve both neighboring private landowners and counties in any translocation efforts.

Implementation of a Candidate Conservation Agreement with the USFWS for the black-tailed prairie dog will allow us to implement specific conservation actions designed to remove or reduce threats to black-tailed prairie dogs so that federal listing may not be necessary. It is the intent of the Forest Service to enter into a CCA with the USFWS once this prairie dog management strategy is adopted.

Land exchanges and/or acquisitions, where feasible and as opportunities arise, will help to create larger blocks of NFS lands and reduce the amount of intermingled private lands and shared boundaries, thus reducing conflicts with private landowners as prairie dog colonies increase in size and number.

Plague management tools like **dusting**, **vaccination**, and **spatial distribution of prairie dog complexes** will also maintain and enhance prairie dog populations on the TBNG. The primary objectives of plague management strategies are to reduce the impact of the disease on prairie dogs and associated species by limiting the spread of the disease and increasing individual prairie dog survival. Under this alternative dusting and vaccination may be utilized where practical to control plague within prairie dog complexes. Alternative 5 as modified better provides for spatial distribution of prairie dog complexes by **adding five Category 2 prairie dog habitat areas** to the TBNG; 4W, Middleton, North 450, South Cellers and Piney Creek (see Figure 1).

The adopted Prairie Dog Management Strategy is designed to utilize **greater spatial distribution of prairie dog colonies and complexes** across the TBNG to minimize plague impacts. More spatial distribution of protected active colonies in both the north and south parts of the grassland provide for

better potential for natural prairie dog movement across the landscape and potential source prairie dog populations for translocation into MA 3.63. The two southern Category 2 Prairie Dog Habitat areas are primarily on private lands. By adding three Category 2 Prairie Dog Habitat areas north of MA 3.63 which are contained solely on the TBNG, we can assure that the necessary conservation actions for these prairie dog habitats are within the responsibility of the Forest Service and are fully implemented and monitored. This may result in larger complexes that are less likely to be extirpated by plague and in more source populations for those colonies that have been affected by plague.

Recreational shooting, which can disrupt prairie dog behavior and affect population dynamics, will be prohibited on all NFS lands in Category 1 and in all five Category 2 Prairie Dog Habitat areas. Acres closed to shooting increases with this decision from 72,500 acres to about 96,000 acres.

The expected increase in prairie dog populations and occupied habitat under Alternative 5 as modified will have positive effects on a wide variety of wildlife species, many of which are considered rare on the TBNG and in northeast Wyoming. Species such as swift fox, bald eagle, Ferruginous hawk, western burrowing owl, mountain plover, chestnut-collared longspur and McCown's longspur, all of which are highly associated with prairie dog colonies on the TBNG, will benefit from conservation actions taken to enhance and expand occupied prairie dog habitat. Many other raptors, predators, small mammals, reptiles and other species associated with prairie dogs and their habitats will increase under this alternative.

2. Cooperating with other landowners to achieve desired biological and social conditions.

Most livestock producers in the Great Plains do not support the expansion of prairie dog colonies because prairie dogs feed on many of the same plant species utilized by livestock and so they are viewed as competing for forage for their livestock. For decades, many states listed prairie dogs as agricultural pests and poisoning prairie dogs on state and private lands was routinely performed. The state of Wyoming currently lists the prairie dog as an agricultural pest. Although private landowners will tolerate small numbers of prairie dogs, most prairie dog colonies on state and private lands are subjected to periodic control. Rodenticide use is largely supported as an effective tool to control expansion of prairie dogs on private lands.

Although some non-federal landowners within and adjacent to TBNG lands are interested in prairie dog conservation and have entered or plan to enter into Candidate Conservation Agreements with Assurances with the USFWS, some landowners (including some of those who desire to see prairie dogs and other native grassland wildlife species conserved) want to see the Forest Service use all appropriate and economical management tools to control unwanted prairie dog colony expansion. **Prescribed burning, prescribed grazing, recreational shooting, and rodenticide use** are the lowest cost tools with moderate to high effectiveness. Rodenticide use is viewed as a critical tool by local TBNG landowners in helping control unwanted colonization onto private lands. Application of prescribed burning, prescribed grazing, and recreational shooting on interior colonies and application of prescribed grazing, recreational shooting, and rodenticide use on boundary colonies will result in increased cooperation of

adjacent private landowners in the management of the TBNG and in conservation of native wildlife species.

The use of **visual barriers** is another tool that will be implemented when useful and practical on the TBNG for discouraging encroachment of unwanted prairie dog colonies on adjacent non-federal lands. Vegetative visual barriers will be utilized within ½ mile of adjacent non-federal lands to reduce unwanted expansion onto non-federal lands. This can be done through prescribed grazing where appropriate. If the potential vegetative community is determined not to be able to achieve an average height of 15-16 inches and a VOR of 3-4 inches, methods other than livestock grazing strategies will be utilized, such as installing physical visual barriers.

All prairie dog management tools are available, with emphasis given to implementation of alternative livestock grazing strategies, encouraging conservation agreements that provide for occupied prairie dog habitat on adjacent or nearby non-federal lands and using approved rodenticides on prairie dog colonies under site-specific conditions/situations as outlined in the prairie dog management strategy (ROD-Appendix A), following the Decision Screens as described in ROD-Appendix B. Other management tools to be utilized with this decision include translocation, land exchange and/or acquisition, and plague management tools such as dusting and vaccination.

Outside of MA 3.63, the **use of rodenticides** will be available in very specific situations to address public health concerns, potential damage to facilities. This decision will allow for additional limited site-specific use of rodenticides in situations where unwanted colonization onto adjacent non-federal lands is occurring and where other management tools are impractical, ineffective for changing the rate or direction of experienced colony expansion, or have proven through evaluation to be unsuccessful.

In accordance with the 2001 Grassland Plan, prairie dog management will be re-evaluated, should prairie dog populations reach 35,000 acres across the TBNG.

Private landowners who desire to enter into a Candidate Conservation Agreement with Assurances on adjacent private lands desire for the Forest Service to enter into a similar Candidate Conservation Agreement with the USFWS for the Thunder Basin National Grassland. After adopting this decision, the Forest Service intends to work with the USFWS to develop a CCA for prairie dogs and appropriate species that are obligates of prairie dog habitat. Doing so should increase trust relationships and cooperation across land ownerships for habitat management and conservation. This decision should help gain local public support for prairie dog conservation and black-footed ferret recovery on the TBNG, which should facilitate a future ferret reintroduction and conservation of the species.

3. Contributing to the recovery of threatened and endangered species on the TBNG.

The Forest Service remains committed to the goal of reintroducing the endangered black-footed ferret to the TBNG. Adoption of Alternative 5 (with modifications) and the resulting Prairie Dog Management Strategy, when implemented, is expected to provide long term conservation of prairie dogs and contribute to conditions necessary to support a future ferret reintroduction in MA 3.63. Conservation

and enhancement of black-tailed prairie dogs and their habitat will hopefully provide for conditions that will facilitate black-footed ferret reintroduction on the TBNG.

This decision will alter the Black-footed Ferret Reintroduction Habitat (MA 3.63) boundary to provide a more biologically appropriate and socially acceptable boundary for prairie dog colonies based upon topographical and biological barriers (see

Figure 1). It minimizes the potential for unwanted encroachment onto adjacent non-federal lands and includes federal lands recently acquired through land exchange that provide additional suitable and historically occupied prairie dog habitat. The decision will maintain 37,890 acres of suitable prairie dog habitat in the MA 3.63. This decision increases preferred habitat by 639 acres and reduces unsuitable and unknown habitat by 1,911 acres and 927 acres respectively. The adjusted management area boundary also serves to minimize the miles of shared boundary between NFS lands and those of adjacent non-federal land owners.

Figure 2: Changes in MA 3.63

	Alternative 1	Alternative 5 Modified	Change
Total NFS Acres	47,926	44,420	-3,506
Prairie Dog Habitat			
Preferred	4,872	5,520	+648
Marginal	33,686	32,370	-1,316
Unknown	3,618	2,691	-927
Unsuitable	5,750	3,839	-1,911
Historic Acres	12,914	11,964	-950
Current Acres (2008)	1,522	1,507	-15

Our objective for Management Area 3.63 is to maximize prairie dog population numbers and spatial extent of occupied prairie dog habitat. Prairie dog management tools in this area are focused on enhancing prairie dog habitat through prescribed grazing and prescribed burning, augmenting populations through translocations, and implementing grazing strategies to minimize or deter unwanted prairie dog colony expansion onto adjacent non-federal lands and to enhance habitat conditions within its interior. Recreational shooting will be prohibited within the entire Black-footed Ferret Reintroduction Habitat area.

Except in situations where there is a legitimate concern over public health or damage to infrastructure, the use of rodenticides in MA 3.63 will not be allowed until the acres of occupied prairie dog habitat in this management area exceeds 18,000 acres.

Amending the plan to allow for the use of a wider range of prairie dog management tools, including **rodenticide use** when warranted, should facilitate public support for prairie dog conservation, ferret reintroduction efforts, and for development of a 10(j) rule to allow a non-essential experimental population designation for reintroduced ferrets in the future.

Alternative 5 with Modifications is consistent with the stated Purpose and Need for this action. This decision decreases the potential for adverse environmental effects as compared to the Proposed Action (Alternative 2). This modification to FEIS Alternative 5 provides for a larger Management Area 3.63 (Black-footed Ferret Reintroduction Habitat). This decision provides more Category 2 Habitats that provide more protective measures for prairie dogs and more direction for enhancement of prairie dog habitat.

The Thunder Basin National Grassland Prairie Dog Management Strategy and Land and Resource Management Plan Amendment #3 EIS documents the complete analysis and conclusions upon which this decision is based.

Changes between Draft EIS and Final EIS

The Final EIS responded to public comment on the Draft EIS by developing two additional Alternatives, 4 and 5, both of which are within the range of effects identified in Alternatives 1, 2, and 3. Alternatives 4 and 5 were developed to address specific suggestions for management of prairie dog habitat. Both of these alternatives involved modifications to Alternative 2, the Proposed Action in the DEIS. The Final EIS provides additional analyses of impacts, more literature citations, expanded the bibliography and clarifies the purpose and need and alternatives to better describe the tools included in each alternative.

Most of the modifications in the FEIS stem from the public input we received on the DEIS during the comment period. We received 125 comments on the DEIS from 314 commenters.

Summary of Effects Displayed in the FEIS

Black-footed Ferret Reintroduction Habitat (MA 3.63)

This decision results in a **no effect** determination for black-footed ferret. Because the species is not present there will be no direct, indirect or cumulative effects to the species. There will be indirect

effects to habitat, namely prairie dog habitat, but this is expected to be minimal. Consultation with USFWS would be required if rodenticide use was to occur in the Category 1 Prairie Dog Habitat, however, no rodenticide use is expected to occur. This alternative would help to gain local public support for prairie dog conservation and black-footed ferret recovery on the TBNG, which would facilitate a future reintroduction while still maintaining for viability and conservation of these species.

Sensitive Species

Sensitive Species on the TBNG include:

- black-tailed prairie dog
- swift fox
- bald eagle
- ferruginous hawk
- mountain plover
- burrowing owl
- chestnut-collared longspur
- McCown's longspur

This alternative will result in a **“may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing”** (MAIINL) determination for all sensitive species.

Management Indicator Species

Management Indicator Species on the TBNG include the greater sage-grouse, sharp-tailed grouse and black-tailed prairie dog.

There will be no direct effects to sage grouse and sharp-tailed grouse from this decision. There will be no direct mortality of grouse and there will be no increase in raptor predation of grouse, as no raptor perches will be constructed within sage grouse habitat. There will be very minimal disturbance to habitat, since rodenticide use will be performed in prairie dog colonies which are generally located outside most grouse habitat. And, since rodenticide use will be limited, there should be little impact to grouse. Also, rodenticide application would be outside the breeding season, therefore disturbance should be minimal. Population and habitat trend would be expected to continue to increase. Sage-grouse and sharp-tailed grouse populations will remain viable across the planning unit.

With this decision there will be an increase in human activities, disturbance, and increased noise levels on prairie dog habitats. However, this would be on a limited basis and limited time frame, and therefore adverse affects are expected to be minimal. There will be no impact to available suitable habitat for prairie dogs. By changing MA 3.63 and adding more Category 2 Prairie Dog Habitats, more prairie dog colonies are protected from lethal control and more acres of historic prairie dog habitat will be managed with MA 3.63 oil and gas stipulations than in FEIS Alternative 5.

Prairie dog populations and habitat trend would be expected to continue to increase with this decision. Prairie dog populations will remain viable across the planning unit.

Botany

Alternative 5 would have no effects to all species analyzed. The conditions of riparian areas and wetlands (potential habitat for Ute lady's tresses) are expected to remain the same under this decision. No irreversible or irretrievable impacts (loss of occurrence) are expected from this decision. The character of potential habitat won't be changed by this alternative, so there are no irreversible or irretrievable impacts to potential habitat for any of the analyzed species.

Vegetation Seral Status/Structure Classification

As previously stated, the nature and extent of the continued effects of plague on the TBNG is unknown and difficult to predict. The effects to vegetation seral status and vegetation structure will vary depending on the level of plague experienced and the rebuilding of prairie dog populations. Also, the compounding effects of drought and grazing levels have additional affect on vegetation seral stage and structure. For these reasons it is difficult to predict actual short-term impacts to vegetation from the implementation of this decision.

With the relatively low active acres of prairie dogs on TBNG, we would expect to meet vegetation management objectives for vegetative structure by Geographic Area as we implement livestock grazing and prescribed burning management tools. We expect to meet both vegetative seral status and vegetative structure in the short-term and likely in the life of the Grassland Plan.

In the longer term, if we see prairie dog populations rebuilding from the plague, we are more likely to see the environmental effects predicted in the FEIS for Alternative 5. In this case, we may see a shortage of early seral status acres, this would become an adverse long term effect unless livestock numbers were increased to achieve or maintain early seral conditions to meet LRMP objectives.

Altering livestock grazing to create visual and physical barriers would be a beneficial short and long term effect if sufficient early seral status and low structure acres have been achieved to meet the LRMP objectives. If not, this would be an adverse short and long term effect.

Availability of Forage for Livestock and Wildlife

As for predictions of effects on vegetative conditions, the nature and extent of the continued effects of plague on the TBNG is unknown and difficult to predict on the effect of forage availability. The effects on forage availability will vary depending on the level of plague experienced, the rebuilding of prairie dog populations, the compounding effects of drought (if it continues), and grazing levels on the TBNG. For these reasons it is difficult to predict actual short-term impacts to availability of forage for livestock and wildlife from the implementation of this decision.

With the relatively low active acres of prairie dogs on TBNG, we would expect to maintain current levels of available forage. Drought management has been the single most contributing factor to forage production in the last eight years. In the short term, if drought and plague continue to impact the TBNG, we can expect to maintain relatively similar forage production as we are currently experiencing. Due to

the larger pasture sizes on the TBNG, deferred grazing along buffer areas and more intensive grazing away from buffer areas are expected to allow for AUMs to be maintained while reducing unwanted colonization on non-federal lands. We expect minimal (if any) short term reduction in AUMs.

In the longer term, if we see prairie dog populations rebuilding from the plague, we are more likely to see the environmental effects predicted in the FEIS for Alternative 5. In this case, we may see long term effects to livestock operators by reducing AUMs.

Soils

Under this decision, prairie dog colonies would be expected to continue to expand at a moderate level, with some regulation of the growth by recurring plague events. Some control of colony expansion will limit expansion in some areas. Some wind and water erosion would be expected to occur in areas where prairie dog colonies have created large bare areas. However, this impact is not expected to be significant or measurable.

Social

There would likely be no change to the current social situation due to implementation of this decision.

While this Alternative 5 does not change the social systems of the area, this alternative does present socially acceptable management of prairie dog populations with the potential use of lethal control methods in addition to non-lethal control methods. This alternative is likely to gain and maintain landowner support for prairie dog management in the area and for future black-footed ferret reintroductions. Further implementation of this decision should gain landowner support for completing the Non-essential/Experimental designation under the 10(j) Rule.

Economic

As previously stated, the nature and extent of the continued effects of plague on the TBNG is unknown and difficult to predict. The effects to vegetation seral status, vegetation structure, forage availability for livestock, and resulting AUM's of livestock that will be grazed on the TBNG will vary depending on the level of plague experienced, the rebuilding of prairie dog populations, and the compounding effects of drought on grazing use. For these reasons it is difficult to predict actual short-term impacts on economic conditions from the implementation of this decision.

With the relatively low active acres of prairie dogs on TBNG, we would not expect to see much change in the economic conditions from what we have been experiencing in recent years with drought impacts and low levels of active prairie dog colonies.

In the longer term, if we see prairie dog populations rebuilding from the plague and drought, we are more likely to realize the economic effects predicted in the FEIS for Alternative 5. In this case, we may see a fluctuation of economic impacts to ranchers depending on where prairie dog colonies have expanded and what management tools (such as prescribed grazing to create visual barriers along private

lands) are needed to achieve habitat objectives and what levels of rodenticide use are used that may affect grassland vegetative structure.

The projected present net value (PNV) for Alternative 5 is -\$2,769,273. This is due to the need for additional visual barriers (potentially 81 miles of prescribed grazing or installing other visual barriers along private land boundaries) in relation to the additional Category 2 Prairie Dog Habitats, due to anticipated conflicts of managing these as bounded areas, rather than individual colonies. I feel that the FEIS overestimated the cost of this alternative in a “worst case” situation, as currently, these additional Category 2 Prairie Dog Habitats contain low levels of active prairie dog colonies. Depending on rebuilding from plague, the potential for translocations into these habitats, and other habitat factors, it is unknown how much expansion toward private land will actually occur within the life of the LRMP, and thus, it is unknown how much prescribed grazing or installation of visual barriers along boundaries with private lands will be needed (if at all) to prevent unwanted encroachment onto private lands.

When evaluating trade-offs, the use of economic efficiency measures is one tool used in making my decision. Many things, however, cannot be quantified, such as effects on wildlife, water quality, forest health, impacts to AUMs, etc. I have taken these and many other factors into account in making my decision.

Minerals

With this decision, mineral operations would be allowed to continue as described in the LRMP. Current leases would only be subject to those stipulations as described on the lease. The MA 3.63 boundary would be changed as described. Ten (10) current leases would no longer be within the boundary of MA 3.63, but two (2) leases would be added for a total of 22 current leases remaining within the MA 3.63. The one (1) lease that was issued with the 2001 LRMP stipulations for black-footed ferrets remains within the MA 3.63. New leases within the MA 3.63 would be subject to lease stipulations for protection of the black-footed ferret as described in Appendix D of the LRMP. Under this decision slightly more acres would be subject to black-footed ferret stipulations. This would limit oil and gas development in MA 3.63 more than current management, although this is not expected to be substantial.

Public Involvement

The Notice of Intent (NOI) was published in the *Federal Register* on March 13, 2007 (72 FR 11323-11324). In addition, the proposed action was listed in the Medicine Bow-Routt National Forests and Thunder Basin National Grassland Schedule of Proposed Actions and updated periodically during the environmental analysis. The NOI asked for public comment on the proposal from March 13, 2007 to April 12, 2007. In addition, as part of the public involvement process, the Forest Service mailed a scoping letter and request for comments to 231 interested parties on March 9, 2007. News releases were also sent to local and statewide papers on March 9, 2007. A corrected NOI was published in the *Federal Register* on July 7, 2009.

Using the comments from the public, other agencies, and tribes, the interdisciplinary team developed a list of issues to address:

- Soils

- Use of Rodenticide
- Expansion onto private lands
- Loss of forage for permitted livestock
- Long term effects to prairie dog populations, ferrets, and other associated species.

Three alternatives were evaluated in the Draft Environmental Impact Statement (DEIS). The Notice of Availability of the DEIS was published on December 21, 2007 and the comment period extended by Notice in the *Federal Register* on February 8, 2008 (73 FR 7555-7556). To address public comments on the DEIS, the Forest Service Interdisciplinary Team (IDT) developed two additional alternatives for evaluation in the FEIS.

The EIS lists agencies, organizations, and people who were consulted on pages 173-175.

Alternatives Considered

In addition to the selected alternative (Alternative 5), I considered four other alternatives, which are discussed below. Alternative 4 is the environmentally preferred alternative. A more detailed comparison of these alternatives can be found in the FEIS on pages 36-65.

Alternative 1 -No Action

Under the No Action Alternative, the current management plan would continue to guide management of the project area.

- No changes would be made to the current LRMP.
- The proposed Black-tailed Prairie Dog Management Strategy (Appendix A) would be adopted and implemented with the following modifications:
 - There would be no designated Categories of prairie dog habitat; however, the MA 3.63 would be maintained.
 - The use of rodenticides is limited to two conditions: 1) Public health and safety risks; and 2) Damage to private and public facilities, such as cemeteries and residences. (LRMP pg. 1-23). Site-specific implementation of the application of rodenticides for these two conditions will be made according to the Decision screens as described in Appendix B1.
- All prairie dog management tools continue to be available, with emphasis given to the following:
 - Pursuing land exchanges or purchases that help to block up contiguous prairie dog habitat within or adjacent to the MA 3.63 Black-footed Ferret Reintroduction Habitat.
 - Implementing habitat enhancements or features that facilitate prairie dog population control through natural predation such as raptor nesting or perching structures.
 - Using prescribed burning to enhance prairie dog habitat and encourage prairie dog colony expansion.
 - Implementing grazing management strategies to include fencing (as appropriate) to discourage expansion of prairie dogs onto adjacent private lands.
 - Translocation will be used to enhance populations within MA 3.63 whenever feasible.
- Landscape level prairie dog management would be limited largely to management on federal lands with little or no prairie dog populations maintained on adjacent private lands.
- Black-footed Ferret Reintroduction Habitat (MA 3.63) would retain its current size and configuration, as allocated in the LRMP.
- Recreational Shooting outside of MA 3.63 would still be allowed.

Alternative 2 -The Proposed Action

The Forest Service proposes the following actions to meet the purpose and need described above:

- Adopt and implement the proposed Prairie Dog Management Strategy described in Appendix A.
- All prairie dog management tools are available, with emphasis given to the following:
 - Discouraging unwanted prairie dog colonization by implementing alternative livestock grazing strategies within ½ mile of adjacent non-federal lands that encourage higher vegetation structure and create a visual barrier.
 - Encouraging conservation agreements that provide for occupied prairie dog habitat on adjacent or nearby non-federal lands.
 - Using approved rodenticides on prairie dog colonies under site-specific conditions/situations as outlined in the prairie dog management strategy (Appendix A), following the Decision Screens as described in Appendix B2.
- Amend the LRMP to support the implementation of the Black-tailed Prairie Dog Conservation Assessment and Strategy for the Thunder Basin National Grassland (Appendix A).
- Amend the LRMP to modify the boundary of Black-footed Ferret Reintroduction Habitat (MA 3.63). The modification of the boundary to the black-footed ferret reintroduction habitat area is proposed to provide a more biologically appropriate boundary for prairie dog colonies based upon topographical and biological barriers. It includes federal lands recently acquired through land exchange that provide additional suitable and historically occupied prairie dog habitat.
- Adjust the shooting prohibition area to mirror the adjusted MA 3.63 boundary on the south side. Shooting prohibitions would apply to NFS lands in Category 1 and 2 prairie dog habitat.
- The Forest Service would enter into a Candidate Conservation Agreement (CCA) with the USFWS to document Forest Service actions that would be undertaken to reduce or remove threats to the black-tailed prairie dog and associated species.

Alternative 3-Boundary management

This alternative was developed based on the August 3, 2005 Record of Decision made on the Nebraska National Forest (USFS, 2005) and on scoping comments from the public concerning issues with prairie dog encroachment onto adjacent private lands. This alternative is heavily reliant on the use of rodenticide as a means of resolving issues with prairie dog encroachment on private lands. No Prairie Dog Habitat categories will be established. **This alternative meets part of the purpose and need for addressing concerns about encroachment onto adjacent private lands but does not maintain viable populations of prairie dogs to support black-footed ferret reintroduction or for other associated species.** This alternative will also require reconsultation with USFWS on the LRMP concerning black-footed ferret as it will result in an adverse effect to this species' habitat.

Management activities within MA 3.63 will emphasize enhancement of prairie dog habitat to provide the largest population possible in the area greater than ½ mile from private land boundaries within MA 3.63.

Under Alternative 3:

- The proposed Prairie Dog Management Strategy (Appendix A) would not be adopted and implemented.
- Emphasis for prairie dog management across the TBNG would be on the use of rodenticides. Prairie dog colonies within ½ mile of private land/TBNG boundaries, including those occurring

inside MA 3.63, would be controlled using various lethal and non-lethal methods. Site-specific implementation of rodenticide use will be made using the decision screen as found in Appendix B3.

- Livestock grazing on the TBNG would be managed to provide areas of high structure grassland along private land boundaries to deter remaining prairie dog populations from migrating from the TBNG to private lands. This would likely result in reductions of livestock numbers to maintain high structure in a large area.
- All prairie dog management tools continue to be available.
- Within MA 3.63 the following would be emphasized:
 - Land exchange opportunities will be actively sought and heavily emphasized to reduce areas of conflict with adjoining private land.
 - Plague management dusting will be used heavily within MA 3.63 to reduce plague impacts on the remaining population.
 - Prescribed burning will be used heavily within MA 3.63 to enhance habitat and keep prairie dogs within the MA to the extent possible.
 - Translocation will be used to enhance populations within MA 3.63 whenever feasible.

Alternative 4 (Environmentally Preferred)-Adjusted Management Area and Limited Rodenticide Use

Many comments from the public suggested possible limitations or modifications to the proposed action, and this alternative was developed to address these specific suggestions. This alternative allows for some potential use of rodenticides but ensures the continued growth of the prairie dog population. Based upon an average annual growth in occupied prairie dog habitat of 10% on the TBNG from 2002-2008, this alternative restricts rodenticide use to a maximum of 5% of the occupied colony acres per year in areas where unwanted colonization is occurring. If the annual occupied colony growth rate is negative, rodenticide use would be unavailable for that year. The decision screens in Appendix B4 would be used to determine the site specific use of rodenticide. This alternative will be highly reliant on non-lethal methods of control. It will emphasize prescribed burning, translocation and land exchanges as prairie dog management methods. This alternative meets the purpose and need. It also addresses those comments from the public that the additional lands acquired in land exchange should be added to the MA 3.63 without changing the configuration of the area on the north and west sides of the current MA 3.63.

Under Alternative 4, the stated purpose and need would be met through the following:

- The proposed Prairie Dog Management Strategy (Appendix A) would be adopted and implemented with the following modifications:
 - The use of rodenticides on an annual basis is limited to not more than 5% of the active prairie dog colony acres and only if prairie dog colonies have grown to meet or exceed the previous year's inventory (by acres) and adds the following direction. Site specific implementation of the use of the management tools will be made following the Decision Screens as found in Appendix B4.
- All colonies
 - Except for reasons of health and public safety, use of rodenticides is unavailable anywhere on the TBNG until the total acres of active prairie dog colonies exceed 10,000 acres in Category 1 (MA 3.63).

- Except for reasons of health and public safety, use of rodenticides is unavailable in first year after decision in order to implement appropriate proactive measures to reduce or eliminate conflicts surrounding prairie dog expansion with adjacent non-federal land owners.
 - All prairie dog colony acres controlled through the use of rodenticides will be deferred from livestock grazing to allow for the development of high vegetation structure and adequate visual barriers.
 - Use of rodenticides will be:
 - available to protect public health and safety and existing facilities.
 - unavailable to control prairie dog population densities.
 - unavailable for other situations.
- **Category 1 Habitat**
- Use of rodenticides:
 - available within ¼ mile of adjacent non-federal lands, only after the acreage of active prairie dog colonies exceeds 18,000 acres within Category 1 (MA 2.1 and MA 3.63).
 - Prairie dog shooting prohibitions
 - Shooting prohibited in the enlarged Category 1 area (MA 3.63).
- **Category 2**
- Use of rodenticides:
 - available within ¼ mile of non-participating adjacent non-federal lands
 - Prairie dog shooting prohibitions
 - Prairie dog shooting prohibited on NFS acres.
 - Private lands open to shooting as determined by the landowner and the USFWS as documented in a CCAA
- **Categories 3, 4 and Other Prairie Dog Colonies**
- Use of rodenticides:
 - available for problem colonies within ¼ mile of adjacent non-federal lands
 - Prairie dog shooting prohibitions
 - Prairie dog shooting allowed only on those colonies identified for lethal control
- All prairie dog management tools are available, with emphasis given to the following:
- Implementing alternative livestock grazing strategies within ½ mile of adjacent non-federal lands that encourage higher vegetation structure and create a visual barrier to prairie dog colonization.
 - Supporting conservation easements that provide for occupied prairie dog habitat on adjacent or nearby non-federal lands.
 - Actively translocating prairie dogs from within the TBNG that potentially will expand onto adjacent non-federal land, to suitable, unoccupied prairie dog habitat within the Black-footed Ferret Reintroduction Habitat.
 - Pursuing Land exchanges or purchases that help to block up contiguous prairie dog habitat within or adjacent to the MA 3.63 Black-footed Ferret Reintroduction Habitat.

- Prescribed burning to enhance prairie dog habitat and encourage prairie dog colony expansion.
- The boundary of Black-footed Ferret Reintroduction Habitat (MA 3.63) would be modified from the current plan to include additional lands acquired in land exchange as described in the proposed action. The remaining portion of the boundary would remain the same as Alternative 1-No Action.
- Amend the LRMP to support the Black-tailed Prairie Dog Conservation Assessment and Strategy for the TBNG (Appendix A, as modified by this alternative).
- Incorporate additional shooting restriction areas to all prairie dog colonies on NFS lands except those that are scheduled for lethal control.
- The Forest Service would enter into a Candidate Conservation Agreement (CCA) with the USFWS to document Forest Service actions that would be undertaken to reduce or remove threats to the black-tailed prairie dog and associated species.

Identification of the Environmentally Preferred Alternative

Alternative 4, as described above, was identified as the environmentally preferred alternative because it has the least direct and indirect impacts to wildlife species, while still providing for prairie dog conservation across federal and private lands.

Summary Comparison of Alternatives

Summary of Expected Use

Table 3 provides information on the estimated use of the various prairie dog management tools described in the Black-tailed Prairie Dog Conservation Assessment and Strategy. The numbers shown in this table do not necessarily represent a minimum, maximum or target amount expected to be accomplished on a yearly basis; but rather identify a range of annual amounts based upon the intent of each of the alternatives being analyzed.

The acres of chemical control provided in Table 3 represent the low and high amounts of rodenticide use considered for use in a given year under each alternative. These acreage figures are primarily associated with the same prairie dog colonies and represent retreatment applications to those colonies in ensuing years. Retreatment of prairie dog colonies generally occurs on an every 2-3 year basis.

The low acreage amount represents the acres of the colonies identified for control that are currently occupied by prairie dogs. The high amount represents the acres projected for potential treatment of those same prairie dog colonies based upon their greatest extent (2001). Additional information on how these amounts were derived can be found in the Biological Assessment/Biological Evaluation (in the project record).

Table 3. Estimated Management Tool Use by Alternative

Management Tools	<i>Estimated Amount of Expected Use by Alternative (2010-2020)</i>
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	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3 Boundary Management	Alternative 4 Adjusted Boundary and Limited Rodenticide	Alternative 5 Additional Category 2s
		Range (Acres)	Range (Acres)	Range (Acres)	Range (Acres)
Chemical Control(Category 1 or 3.63)	0 acres	0	300-4500	0	0
Chemical Control (Category 2)	0 acres	0	NA	0	0
Chemical Control (Category 3/4)	0 acres	0	NA	0	0
Chemical Control (Other)	0 acres	398-1097	343-4300	200-1073	398-1097
Conservation Agreements	none	CCAA and CCA	none	CCA	CCAA and CCA
Conservation Easements	as opportunities arise	as opportunities arise	as opportunities arise	as opportunities arise	as opportunities arise
Land Exchange or Purchase	Emphasize as opportunities arise	as opportunities arise	Emphasize as opportunities arise	Emphasize as opportunities arise	as opportunities arise
Predator Enhancement	5 structures	5 structures	5 structures	5 structures	5 structures
Prescribed Burning	1500-2500 acres annual avg	1000-1500 acres annual avg	1500-2200 acres annual avg	2500-3500 acres annual avg	1500-2000 acres annual avg
Prescribed Grazing along Boundary	35 miles	25 miles	100+ miles	38 miles	81 miles
Recreational Shooting (Category 1)	prohibited	prohibited	prohibited	prohibited	prohibited
Recreational Shooting (Category 2)	allowed outside MA 3.63	prohibited on NFS	allowed outside MA 3.63	prohibited on NFS	prohibited on NFS
Recreational Shooting (Category 3/4)	allowed outside MA 3.63	allowed	allowed outside MA 3.63	prohibited on NFS	Allowed
Recreational	allowed	allowed	allowed	Allowed only on colonies identified	Allowed

Shooting (Other)				for lethal control	
Translocation ³	300-400 acres	200-300 acres	300-400 acres	300-400 acres	200-300 acres
Visual Barriers along Boundary ⁴	10 miles	3 miles	10 miles	7 miles	5 miles
Pesticide (Dusting) ⁵	0-2000 acres/year	0-2000 acres/year	1500-2000 acres/year	0-2000 acres/year	0-2000 acres/year

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope of the project, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm. Therefore, a number of alternatives were considered, but dismissed from detailed consideration for reasons summarized below.

More Category 1 Areas

It was suggested that it would be desirable to maintain more than one Category 1 area (see Appendix A) for better overall management of prairie dogs and associated species. This possible alternative was dropped from further consideration because there is not another area in public ownership on the TBNG large enough to support a population of prairie dogs to meet the goals of this category, nor has there historically been another prairie dog complex on TBNG to meet these goals. Other areas of this type could potentially be supported on other land ownerships within the area; however, a decision to provide this on other ownerships is outside the scope of this proposal.

Ungrazed buffers

The suggestion was made to use ungrazed areas as buffers to reduce the need for lethal management tools and reduce unwanted colonization onto private lands. This suggestion was dropped from further consideration because that method is a tool that can be used as part of any of the alternatives.

Only Maintaining Prairie Dogs in Category 1 and 2

It was suggested that prairie dogs should only be maintained in the proposed Category 1 and 2 areas and colonies outside of these areas should be controlled or eliminated. This possible alternative was eliminated from further study because it is not consistent with requirements to maintain viability of management indicator species over the entire planning unit and could impact viability of prairie dogs and associated sensitive species.

³ Translocation estimates only-Wyoming Game and Fish must approve all translocations within the state

⁴ Estimates based on colonies historical high populations and colonies with likely conflicts and tools as emphasized by alternative

⁵ Pesticide (Dusting)-range of acres only, actual acres are dependent on colony densities, plague, and colony size

Prairie Dog Management as prescribed in the 1985 Medicine Bow National Forest Land and Resource Management Plan and in the 1960's

It was suggested that prairie dogs should be managed at the levels as prescribed in the 1985 Medicine Bow National Forest Land and Resource Management Plan. This possible alternative was eliminated from further study because it is not consistent with the goals and objectives established in the current LRMP, or with NEPA and NFMA requirements to utilize the best available information.

Findings Required by Other Laws and Regulations

This decision is consistent with the Final Environmental Impact Statement and amends the TBNG Land and Resource Management Plan.

The Endangered Species Act of 1973.

Under ESA, federal agencies are responsible for using their authorities to conserve threatened and endangered species, and to assure that their actions do not jeopardize listed species or adversely modify designated critical habitat. This decision results in a “**no effect**” determination for black-footed ferret and Ute ladies’ tresses. Both species are not present so there will be no direct, indirect or cumulative effects to these species. There will be indirect effects to ferret habitat, namely prairie dog habitat, but this effect is expected to be minimal. This decision is consistent with ESA.

Executive Order 11990. Protection of Wetlands. This executive order directs agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Known major wetland areas (as defined in Sec 6, (c)), have been protected or managed specifically for the protection of wetland resources in past management strategies. This decision will not adversely impact wetlands.

Executive Order 12898

Environmental Justice. This executive order directs agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This decision does not result in adverse human health or environmental effects on minority populations or low-income populations.

Federal Water Pollution Control Act 1977 (Clean Water Act).

Best Management Practices (BMPs) and Watershed Conservation Practices (WCP) Handbook (FSH 2509.25). State of Wyoming Department of Environmental Quality for compliance with the Clean Water Act. This decision will not adversely impact water quality.

The National Forest Management Act of 1976.

Standards, guidelines and management directives set forth in the LRMP and Forest Service policy for habitat maintenance for all existing native and desired non-native plants, fish, and wildlife species (FSM 2601.2) will be met with this decision. Viability of species will be maintained across the TBNG, as determined for Management Indicator Species.

Roadless Area Management

There would be no road construction, reconstruction or timber harvest as a result of this decision. Roadless area values will not be impacted by this decision.

Administrative Review (Appeal) Opportunities

This decision is subject to administrative review pursuant to Federal regulations at 36 CFR 215.11. Appeals (including attachments) must be in writing and filed (regular mail, fax, e-mail, hand-delivery, express delivery or messenger service) with the Appeal Deciding Officer (§215.8) within 45 days following the date of publication of a legal notice of this decision in the *Laramie Boomerang* at:

USDA, Forest Service, Region 2
Attn: Appeal Deciding Officer
740 Simms Street
Golden, CO 80401
Fax: 303-275-5134

In person: Office hours are 7:30 a.m. to 4:30 p.m. MT, Monday through Friday, except holidays.

Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc or .docx) at: appeals-rocky-mountain-regional-office@fs.fed.us

Attachments received after the 45-day appeal period will not be considered. The publication date of the legal notice in the newspaper of record is the exclusive means for calculating the time to file an appeal (§215.15(a)). Those wishing to appeal should not rely upon dates or timeframe information provided by any other source. To be able to appeal any person, non-federal agency or entity has to provide comment or otherwise expressed interest in a particular proposed action by the close of the comment period.

It is an appellant's responsibility to provide sufficient activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed. Notices of Appeal that do not meet the requirements of 36 CFR 215.14 will be dismissed.

In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Implementation Date

Pursuant to 36 CFR 215.9(a), if no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When

appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Implementation of the strategy and amendment will take place according to the direction in this decision.

Contact

For additional information concerning this decision, contact: Misty Hays, Deputy District Ranger, Douglas Ranger District, 2250 E. Richards St., Douglas, WY 82633 or by phone at (307) 358-4690.

MARY H. PETERSON
Forest Supervisor

Date

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