

BLACK-TAILED PRAIRIE DOG

Cynomys ludovicianus



**IN THE OFFICE OF ENDANGERED SPECIES
U.S. FISH AND WILDLIFE SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR**

*Petition to the Secretary of Interior and the U.S. Fish and Wildlife Service to
List the Black-tailed Prairie Dog as an Endangered or Threatened Species Under the Endangered Species Act, 16
U.S.C. § 1531 et Seq. (1973 as amended), and to Designate Critical Habitat*

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PETITIONERS

Forest Guardians

*1536 Wynkoop St., Suite 302
Denver, CO 80202
303-573-4898*

Biodiversity Conservation Alliance

*P.O. Box 1512
Laramie, WY 82073
307-742-7978*

Center for Native Ecosystems

*1536 Wynkoop St., Suite 303
Denver, CO 80202
303-546-0214*

Rocky Mountain Animal Defense

*525 Arapahoe, Suite E4-335
Boulder, CO 80302
303-449-4422*

Prepared by: Lauren McCain, Ph.D., (Forest Guardians)

Review and Assistance by: Nicole Rosmarino, Ph.D. (Forest Guardians); Richard Reading, Ph.D. (Denver Zoological Foundation); Jonathan Proctor, M.A. (Defenders of Wildlife); Jay Tutchton, J.D. (University of Denver Sturm College of Law); Lindsey Sterling Krank (Prairie Dog Coalition); Zoe Ghali, M.A. (Boulder Open Space Department); Johanna Hamburger (Colorado State University); Jacki Lopez (University of Denver Sturm College of Law)

I. Introduction

Forest Guardians, Biodiversity Conservation Alliance, Center for Native Ecosystems, and Rocky Mountain Animal Defense hereby petition the Secretary of the Interior and the U.S. Fish and Wildlife Service (“USFWS” or “the Service”) to issue a rule listing the black-tailed prairie dog (*Cynomys ludovicianus*) as Endangered or Threatened throughout its historic range (and portions thereof) in Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming and in Canada and Mexico under the Endangered Species Act (ESA, 16 U.S.C. § 1531 *et seq.*). Our petition includes *Cynomys ludovicianus arizonensis*, which some consider a subspecies. If the Service believes that *arizonensis* is a distinct subspecies and population segment, then we additionally request this subspecies be listed as Threatened or Endangered throughout its historic range as well. We also request that you designate Critical Habitat for the species. This petition is filed under 5 U.S.C. § 553(e), 16 U.S.C. § 1533(b)(3)(A) and 50 C.F.R. § 424.19 (1987), bestowing interested persons the right to petition for issuance of a rule.

On August 18, 2004 the USFWS issued a “not warranted” finding for the resubmitted petition to list the black-tailed prairie dog (“BTPD” or “prairie dog”) as Threatened under the Endangered Species Act (69 FR 51217). Previously, the species was designated an ESA Candidate species. Responding to petitions from the National Wildlife Federation (“NWF”) submitted July 30, 1998 (NWF 1998) and the Biodiversity Legal Foundation (“BLF”), Predator Project, and Jon C. Sharps submitted August 26, 1998 (BLF *et al.* 1998), the USFWS issued a “warranted but precluded” 12-Month Finding for the black-tailed prairie dog on February 4, 2000 (65 FR 5476). The USFWS rejected NWF’s appeal for an emergency listing of the species but agreed that it deserved to be listed as a Threatened species, though higher priority actions precluded an immediate listing (65 FR 5476).

The USFWS erred in its 2004 Not Warranted Finding. The best scientific and commercial information available at the time of the finding supported listing the species. Subsequent to the 2004 Not Warranted Finding, additional information is available that further justifies an Endangered or Threatened designation for this species.

Despite the USFWS’s 2004 decision to remove the black-tailed prairie dog from ESA candidacy, the species’ status has not improved since 2000. In 2000, the Service believed there were 311,000 active hectares (768,000 acres) of BTPD colonies. In 2004, the Service believed there were 776,000 hectares (1,894,000 acres). Given the historic estimate of 40 million hectares (100 million acres), noted in both 2000 and 2004 Findings, the difference between a 99% population loss and a 98% loss is not significant. This prairie dog species is already extinct throughout a significant portion of its range and is in danger of extinction in all or a significant portion of its remaining habitat. The threats, found significant enough for the USFWS to determine the species deserved to be listed in 2000, did not diminish in the four intervening years between findings. If anything, new information suggests that several threats to the black-tailed prairie dog, including lethal control, sylvatic plague, shooting, and habitat loss, were more severe than believed in 2004 or have become more severe since 2004. What the USFWS concluded about the BTPD in 2000 is still very much true today:

It might be assumed that the persistence of the black-tailed prairie dog as a species is secure because it is relatively abundant in absolute numbers when compared with many other species with smaller populations that are not thought to be vulnerable. Many wildlife species in North America that have experienced significant population

declines remain viable, e.g., various game species such as the pronghorn (*Antilocapra americana*). However, the black-tailed prairie dog is a highly social species that for the most part responds to major factors causing population reductions (e.g., plague and control) as a colony rather than on an individual basis. Additionally, inadequate regulatory mechanisms are in place for the black-tailed prairie dog as compared to game species. Therefore, populations may not be as viable as their absolute numbers might suggest. (65 FR 5476: 5486-5487).

II. Petitioners

Forest Guardians is a New Mexico non-profit corporation with offices in Santa Fe, New Mexico and Denver, Colorado. Forest Guardians has approximately 2,000 members. Forest Guardians' mission is to defend and restore the wildlands and wildlife of the greater American Southwest through fundamental reform of public policies and practices. Two of Forest Guardians' main endeavors are its Endangered Species Program and its Deserts and Grasslands Program. Forest Guardians has directed substantial resources toward the conservation of the black-tailed prairie dog. Members of Forest Guardians frequently use and enjoy the black-tailed prairie dog and its habitat for wildlife viewing, recreational, aesthetic, and scientific activities and will continue to do so. Forest Guardians and its members are particularly concerned with the conservation of the black-tailed prairie dog, the habitat on which it depends for its survival, and the ecosystems it creates and sustains.

Biodiversity Conservation Alliance ("BCA") is a Wyoming based non-profit organization dedicated to conserving and restoring biological diversity in the forests, rivers, and plains of the Rocky Mountain States. For years, BCA has expressed concern over declines in black-tailed prairie dog populations. BCA is also alarmed by declines in numerous prairie species, such as the swift fox, mountain plover, and black-footed ferret, whose continued existence is tied to that of the black-tailed prairie dog. BCA believes that prompt conservation efforts are needed to save these species as well as numerous other troubled species that are dependent upon the black-tailed prairie dog for their survival. BCA depends on full compliance with the ESA to protect its interests in conserving biological diversity generally, and the black-tailed prairie dog and its dependent species, specifically. BCA and its members derive scientific, aesthetic, and spiritual benefits from the black-tailed prairie dog's existence in the wild and from the ecosystem which the black-tailed prairie dog supports, and upon which it depends.

Center For Native Ecosystems ("CNE") is a nonprofit advocacy organization, based in Denver Colorado, dedicated to conserving and recovering native and naturally functioning ecosystems. CNE values the clean water, fresh air, sources of food and medicine, recreational opportunities and healthy communities that natural diversity provides. CNE, and its members, firmly believe that all species and their natural communities have the right to exist and thrive. CNE uses the best available science to forward its mission through participation in policy, administrative process, legal action, public outreach and organizing, and education. CNE's members enjoy scientific, aesthetic, and recreational benefits from the presence of the black-tailed prairie dog in its natural habitat. CNE members intend to continue enjoying the black-tailed prairie dog and its habitat for recreational, scientific, and aesthetic purposes.

Rocky Mountain Animal Defense (“RMAD”) is a Colorado based non-profit organization. RMAD has been a leader in prairie dog advocacy on the state and local level on the Front Range of Colorado since 1994. RMAD has engaged in public education and outreach, protests, legal actions, and participated in local and state policy-making on behalf of the black-tailed prairie dog and the ecosystem this species supports. RMAD plans to continue these activities in the future. RMAD and its members derive scientific, aesthetic, and spiritual benefits from the black-tailed prairie dog’s existence in the wild and from the ecosystem which the black-tailed prairie dog supports, and upon which it depends.

III. Summary of ESA Listing Criteria Applicable to the Black-tailed Prairie Dog

Section 424 of the regulations implementing the Endangered Species Act (50 C.F.R. § 424) is applicable to this petition. Subsections that concern the formal listing of the black-tailed prairie dog as an Endangered or Threatened species are:

424.02(e) “Endangered species” means a species that is in danger of extinction throughout all or a significant portion of its range.”... (k) “species” includes any species or subspecies that interbreeds when mature (16 U.S.C. 1532(6)).

“Threatened species” means a species that “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (16 U.S.C § 1532(20)).

424.11(c) “A species shall be listed...because of any one or a combination of the following factors:

1. The present or threatened destruction, modification, or curtailment of habitat or range;
2. Overutilization for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. The inadequacy of existing regulatory mechanisms; and
5. Other natural or manmade factors affecting its continued existence.”

The black-tailed prairie dog is already extinct in a significant portion of its historic range and in danger of extinction in its remaining range. All five of the factors set forth in 424.11(c) have resulted in the continued decline of the black-tailed prairie dog and are causing the species to face endangerment and extinction.

A. The Black-tailed Prairie Dog is Extinct in a Significant Portion of its Range and is in Danger of Extinction in its Remaining Range

The USFWS misinterpreted or overlooked information available before the August 2004 decision. For example, the USFWS argued in the 2004 Not Warranted Finding that new, more accurate surveys undertaken by several of the states between 2000-2004 indicated that black-tailed populations were actually higher than what was believed in 2000. In the 2000 Warranted But Precluded Finding, the USFWS estimated that 310,798 hectares (768,000 acres) of occupied habitat existed and reported a decline of 94-99% from historic knowledge of occupied habitat (USFWS

2000, citing Mulhern and Knowles 1995; Fagerstone and Ramey 1996; Barko 1997; Wuerthner 1997; and Knowles 1998). The 2004 Finding put the figure of remaining occupied habitat at 745,400 hectares (1,842,000 acres). The USFWS stated in its 2004 Finding, “This estimate of occupied habitat of black-tailed prairie dog has played a substantial role in this decision” (69 FR 51217: 51226). Both Findings accepted historic levels of occupied habitat of 56,656,040 hectares (104,000,000 acres) provided by Anderson et al. (1986) and the range of 40,063,914-99,957,442 hectares (99,000,000 – 247,000,000 acres) provided by Miller et al. (1996). Even using the most conservative historic occupied habitat estimate, the 2004 Finding demonstrated that **black-tailed prairie dog area has declined by 98% from historic levels.**

Additionally, some of the methods used to generate the new, higher occupied habitat estimate substantially over-estimated the area actually occupied by prairie dogs. For example, the 2004 Finding cited a study by Johnson et al. (2003) that put the 2003 total estimate of occupied black-tailed prairie dog habitat in New Mexico at 24,000 hectares (60,000 acres). The Finding noted that the researchers intended to conduct ground-truthing of the results, which were based on remote sensing photographic data. Ground-truthing revealed that the original analysis of digital photographs led to an overestimation of occupied area, and the researchers revised their 2003 estimate of occupied habitat in New Mexico to 16,188 hectares (40,000 acres) (Johnson et al. 2004). The 2000 Warranted But Precluded Finding described 16,000 hectares (39,000 acres) as New Mexico’s occupied habitat estimate. The researchers issued their report with the more accurate but lower estimate on June 15, 2004—two months before the USFWS Not Warranted Finding came out.

In another case, the USFWS relied on aerial survey data provided by the Colorado Division of Wildlife (cited in the 2004 Finding as Pusateri, CDOW, in litt. 2002; Russell, CDOW, in litt. 2003) to describe Colorado’s occupied area estimate at 256,000 hectares (631,000 acres). That is one-third of the total occupied habitat the USFWS reported in the 2004 Finding, 745,400 hectares (1,842,000 acres). Overestimation biases in this survey were brought to the USFWS’s attention prior to the 2004 Finding; the Service noted in its 2004 Species Assessment and Listing Priority Assignment Form,

Rosmarino (Forest Guardians et al., in litt. 2003b) disagreed with the Statewide estimate, suggesting that until vigorous ground-truthing is completed, estimates of occupied habitat for Colorado and other States must not be presumed accurate. The NWF also has expressed concerns regarding the CDOW estimate (Miller, NWF, in litt. 2004). Miller (2004) compared estimates of occupied habitat on National Grasslands (NG) from CDOW and USFS. Miller (2004) noted that at Comanche NG, USFS estimates were 58 percent of CDOW estimates and at Pawnee NG, USFS estimates were 68 percent of CDOW estimates. (p. 11)

Sterling Miller of the National Wildlife Federation, cited above, communicated his intention to USFWS before release of the 2004 Finding to conduct ground-truthing of sample areas to help field-verify the CDOW data. The published study confirmed substantial over-estimation in the Colorado survey (Miller et al. 2005).

The 2000 Warranted But Precluded Finding provided ample evidence that the species is already extinct in a significant portion of its range:

We believe that significant range contractions have occurred in the southwestern portion of the species' historic range in Arizona, in western New Mexico and western Texas, and in the eastern portion of the species' historic range in Kansas, Nebraska, Oklahoma, South Dakota, and Texas in the eastern portion of the species' historic range. These range contractions represent approximately 20 percent of the species' original range. Only a few individuals, or none at all, remain in these areas.

Approximately 37 percent of the species' potential habitat in the United States has been converted to cropland (Black-footed Ferret Recovery Foundation, in *litt.* 1999). This habitat loss is essentially permanent and not considered a range contraction in the usual sense occurring at the periphery of a species' range. Although the species will occupy abandoned tilled ground, these lands are generally unavailable for use by the species because the land is continuously disturbed and thus the habitat is lost permanently. (65 FR 5476: 5479)

The 2004 Finding did not dispute this information. Moreover, the loss of black-tailed prairie dog habitat and contraction of the species' range in Arizona, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, and Texas do not fully account for the 98% loss of occupied prairie dog area. The black-tailed prairie dog is absent from large areas throughout its historic and existing truncated range, occurring primarily in fragmented and isolated colonies.

Fragmentation of the few significant complexes of prairie dog colonies continues to worsen. Since 2000, three of only seven remaining large BTPD complexes were decimated: plague struck Pine Ridge Reservation's 40,500 hectares (100,000 acre) complex and eliminated the majority of prairie dogs; severe drought, overgrazing by livestock, and farming eliminated most of the Janos complex in Chihuahua; and plague struck Thunder Basin's complex, reducing it and other scattered colonies on this National Grassland by two thirds, from 8,683 hectares (21,456 acres) in 2001 to only 2,631 hectares (6,500 acres) in 2006. Of the other four, Rosebud and Cheyenne River Reservations' complexes have both experienced unknown levels of recent poisoning, Conata Basin is currently proposed for significant levels of poisoning as early as this October, and plague recently occurred on the Fort Belknap complex.

B. Summary of Listing Factors Applicable to the Black-tailed Prairie Dog

In the 2000 Warranted But Precluded Finding and in subsequent annual status reviews in 2001 and 2002, the USFWS rated listing factor 1 a moderate threat; factor 2 a low threat; factor 3 a moderate, imminent threat; factor 4 a moderate threat; and factor 5 a moderate threat (65 FR 5476; 66 FR 54808; 67 FR 40657). Then in its next substantive finding after 2002, the Service reversed itself in 2004 by determining that only factor 3—disease or predation: sylvatic plague—was a threat and downgraded this threat to low, non-imminent (69 FR 51217). In its justification for downgrading all of the threats that it previously believed to be significant, the Service stated:

The magnitude and immediacy of the threat should be viewed pursuant to the definitions of the Act. To be considered a threat, a factor should be shown to play a significant role in the population dynamics of the species such that it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of the range. None of the five listing factors as described in section 4(a) of the Act and further described at 50 CFR 424.11 rise to this level of

threat. (69 FR 51217: 51226).

Neither the Endangered Species Act nor its supporting regulations actually define when a hazard constitutes a threat or provide a threshold for making such a determination. The Act only defines Endangered and Threatened as they apply to the species themselves; it does not define the threats. And, according to these definitions the BTPD clearly deserves to be listed as Threatened or Endangered throughout all of its historic range.

Though the USFWS acknowledged in the 2004 Not Warranted Finding that a Threatened species needed only to be at risk of being in Endangered in a **significant portion** of its range, the Service did not actually apply this definition in assessing the listing factors (threats) in its 2004 Finding on the BTPD. For example, the Service indicated that plague must be a threat rangewide to be a significantly high threat to reach the level where the BTPD would warrant listing. See the Service's statement below:

In our 2000 12-month finding, we focused attention on a few large black-tailed prairie dog populations impacted by plague and extrapolated population losses at these sites across the species' entire range. Based on generally accepted conservation biology principles (Gilpin and Soule 1986; Hanski and Gilpin 1997; MacArthur and Wilson 1967; Miller *et al.* 1996; Shaffer 1981; Wilcove *et al.* 1986; and Wilcox and Murphy 1985), we presumed that smaller black-tailed prairie dog populations had been and would be similarly or more adversely impacted. An approximate 50 percent decline per decade was predicted for the foreseeable future. Much better information is now available. Given recent population estimates across a majority of the species' range, it appears the previously hypothesized projections were invalid. **While occupied habitat at specific large complexes may experience dramatic fluctuations due to plague epizootics, they do not appear to be influencing the species' range-wide persistence.** (69 FR 51217: 51223) [emphasis added]

It appears that the Service applied this rangewide standard in its assessment of all the listing factors as they affect the BTPD. Regarding urbanization, the Service stated, "In the 12-month finding, we noted that urbanization represents a locally substantial loss of occupied habitat, but in a range-wide context it is not significant (69 FR 51217: 51222). Regarding shooting, the Service state, "We are aware that recreational shooting can reduce black-tailed prairie dog population densities at specific sites, and acknowledge the possibility that extirpation may have occurred in isolated circumstances" (69 FR 51222). The Service acknowledged that chemical control has caused BTPD extinctions at "specific sites" and "extant and potentially significant local effects on some populations" (69 FR 51226). Yet, the Service determined habitat destruction, including urbanization, shooting, and chemical control not to be a threat to the species.

The local or site specific extinctions that the Service has acknowledged have occurred indicate that the black-tailed prairie dog has and is experiencing extinctions in significant portions of its range. Historically prairie dog populations fluctuated and colonies appeared and disappeared across the range. But, the BTPD's threats have led to a net loss of prairie dogs and their colonies and the best available science shows that this trend is continuing. The current evidence based on the best available science demonstrates that past and current local and regional extinctions demonstrate that the species warrants listing. As with all the major threats to the species: habitat loss, shooting, plague, and poisoning, and the lack of regulatory mechanisms to prevent these threats; it is the

cumulative effect of localized extinctions across the species' range that puts the black-tailed prairie dog at risk of rangewide extinction and has already caused extinctions in significant portions of its range. The FWS discounted the additive effects of these multiple threats to the black-tailed prairie dog in its annual assessments and in its decision to remove the species from ESA candidacy.

In the 2004 Not Warranted Finding, the USFWS set an arbitrary and inappropriately high threshold to evaluate threats to the BTPD. According to data the Service presented in this finding, the black-tailed prairie dog is absent from 98% of its historic range. The aggregate effects of habitat destruction, shooting, plague, insufficient regulatory mechanisms, and lethal control in addition to other lesser threats have caused this loss. These threats are occurring everywhere, even on public land and private conservation reserves, where we would expect them to have at least some protection from anthropogenic threats. A 98% loss clearly equates to extinction in a significant portion of the species' range. Wisely, the authors of the Act did not require that a species be on the very brink of immediate or imminent extinction to deserve listing and the protection ESA listing affords.

Additionally, the Service seemed to apply an unreasonably short time frame in which we should be able to predict the extinction of the BTPD in its assessment of threats. Again, a Threatened species is one that "is likely to become an endangered species **within the foreseeable future** throughout all or a significant portion of its range," as defined by the ESA. The "foreseeable future" criteria does not necessarily mean 10-20 years or even 50 years. It only took humans 100-150 years to decimate the black-tailed prairie dog population from several billion to a few million, removing it from at least 98% of its range. At that rate, it is very reasonable that we could see the extinction of the last 2% within the foreseeable future.

We have summarized the threats to the black-tailed prairie dog in the section immediately below. We have provided a comprehensive analysis of these threats in later sections of the petition. Our assessment demonstrates that the best available science supports listing the black-tailed prairie dog.

1. Factor 1: Habitat Destruction Threatens the Survival of Black-tailed Prairie Dogs

Large-scale conversion of native prairie grasslands to croplands catalyzed by the U.S. Homestead Acts, which may have permanently destroyed 37% of the black-tailed prairie dog's habitat, has slowed but the threat of grassland conversion is not over. The USFWS 2004 Finding for the black-tailed prairie dog determined that destruction, modification, or curtailment of habitat was no longer a threat: "We continue to conclude that present or threatened habitat destruction is not a threat to the species, although considerable effects due to this factor have occurred in the past" (69 FR 51217: 51222). This is a scientifically unsupported conclusion. Rampant oil and gas development across the West is destroying black-tailed prairie dog habitat. Urban expansion is destroying prairie dog habitat in places such as Billings, Montana and the Front Range of Colorado. The Colorado Division of Wildlife's 2002 black-tailed prairie dog survey found that some of the highest concentrations of prairie dogs existed in rapidly developing areas around and between Boulder and Fort Collins, Colorado (White et al. 2005). Much, if not most, of the habitat in this region will be destroyed by urbanization. A renewed and recent U.S. interest in ethanol, made with corn, as a vehicle fuel is increasing corn planting across the country, including the Great Plains states, within the range of the black-tailed prairie dog.

2. Listing Factor 2: Shooting is a Significant Threat to Black-tailed Prairie Dogs

The USFWS has never considered prairie dog shooting a significant threat to black-tailed prairie dogs. In its 2004 Not Warranted Finding, the Fish and Wildlife Service utilized only a fraction of the available scientific information to make its assessment that “effects due to recreational shooting do not rise to the level of a threat pursuant to the definitions of the Act” (69 Fed. Reg. 51217: 51222). However, the culmination of scientific research on the subject demonstrates that prairie dog shooting has significant negative impacts to black-tailed prairie dog populations. Recreational shooting causes direct prairie dog mortality and population losses (Knowles 1988; Livieri 1999). A recent study by Pauli (2005) provided significant evidence that shooting causes detrimental behavioral changes, loss of reproductive capacity, diminished body condition, and higher stress levels in black-tailed prairie dogs. Shooting can also cause colony abandonment, changes in population structure, increased predation, unpredictable and colony-specific effects, decreased population density, decreased colony expansion rates, and habitat fragmentation (Knowles 1988; Miller et al. 1993; Reading et al. 1989; Irby and Vosburgh 1994; Vosburgh and Irby 1998; Keffer et al. 2001; Wyoming Cooperative Fish and Wildlife Research Unit 2001; Reeve and Vosburgh 2003; Reeve and Vosburgh 2006). The Colorado Wildlife Commission rescinded a state wildlife regulation that had banned shooting of black-tailed prairie dogs on public land on September 7, 2006. In 2007, the Montana State Legislature voted down a proposal to give the Montana Fish, Wildlife & Parks permanent authority to regulate prairie dog shooting. Thus, a rule that imposed seasonal shooting closures on state trust lands and portions of Phillips County will not apply after October 1, 2007. No limits on shooting exist in Kansas, Nebraska, New Mexico, North Dakota, Oklahoma, Texas, and Wyoming. There is a ban on prairie dog shooting at Conata Basin in the Buffalo Gap National Grassland; otherwise, there are no shooting limits in South Dakota.

3. Listing Factor 3: Sylvatic Plague is Perhaps the Greatest Threat to Black-tailed Prairie Dog Persistence

In the 2000 Warranted But Precluded Finding and the 2001 and 2002 Candidate Notice of Reviews (CNORs) (66 FR 54808; 67 FR 40657) the USFWS argued that plague was a “moderate, imminent threat.” In its 2002 Candidate and Listing Priority Assignment Form, the Service claimed that, “...recent information suggests that black-tailed prairie dogs may not be as vulnerable to this disease in some situations as previously thought” (USFWS 2002: 3). Despite using most of the same information cited in the 2002 Assignment form and used to make the 2002 CNOR determination that plague remained a “moderate, imminent threat,” the Service declared plague to be “not a significant threat” in the 2004 Not Warranted Finding.

The Service made the following claims in the 2004 Finding:

Our previous conclusions regarding the perceived effects of plague on the persistence of the species have been altered by information indicating that—(1) High exposure doses of plague bacilli may be necessary for disease contraction in some individuals; (2) limited immune response has been observed in some individuals; (3) a population dynamic may have developed in low-density, isolated populations that contributes to the persistence of these populations; (4) the apparent ability of some sites to recover to pre-plague levels after a plague epizootic; and (5) approximately one-third of the species’ historic range has not been affected by plague. Based on both the new information above and recent State-by-State range-wide estimates of

occupied habitat that indicate species abundance, plague no longer appears to be as significant a threat as previously thought. (69 FR 51217: 51224)

Sylvatic plague, first found in black-tailed prairie dogs in the late 1940s, continues to decimate prairie dog populations, with mortality rates up to 100% of entire colonies. We respond to each of the USFWS's arguments, itemized above, in detail in the "Sylvatic Plague" section of this petition within our discussion of the significance of "Disease or Predation" as threats to the black-tailed prairie dog, but summarize our responses to these 5 claims below.

1. It is true that black-tailed prairie dogs have shown some variability in the amount of plague bacilli (*Yersinia pestis* bacterium) needed to infect individuals, but differences have only been found in tightly controlled laboratory conditions (Mencher et al. 2005).

2. Again, the USFWS used preliminary results from laboratory experiments to make this claim (69 FR 51217: 51223, citing Rocke, U.S. Geological Survey (USGS), pers. comm. 2002). The USFWS also cited preliminary data that 2 out of 65 prairie dogs sero-converted after exposure to plague on the Pawnee National Grassland (69 FR 51217: 51223, citing Antolin, Colorado State University, pers. comm. 2002). However, the final peer-reviewed publication of this study reported no evidence of plague anti-bodies in live prairie dogs captured from colonies that experienced die-offs from plague (Webb et al. 2006).

3. The USFWS cited Lomolino et al. (2003) to claim that "habitat fragmentation may benefit some prairie dog populations by protecting them from plague through isolation" (69 FR 51215: 51223). This is the 1 new piece of information the Service used to determine plague was not a threat to BTPDs. Based on prairie dog surveys conducted in the Oklahoma panhandle since 1966, the researchers found larger prairie dog colonies exhibit increased persistence compared with smaller colonies between 1967 and 1989 but that this trend reversed between 1989 and 1997. The researchers **speculated** that this might have been due to a plague event in the early 1990s. Far from labeling this an encouraging finding with regards to plague, Lomolino et al. (2003) concluded that their results are consistent with studies of "range collapse" of over 200 other imperiled species. Moreover, based on this and earlier research (Lomolino et al. 2001), the researchers observed an overall trend in prairie dog population decline regardless of the colony persistence dynamic. Of 281 colonies mapped in 1967, only 86 (31%) existed in 1989 and only 5 (2%) existed in 1999—an average loss of 8-9 colonies per year. The Service's claim implies that maintaining and increasing colony fragmentation is an appropriate mechanism to conserve the species. This response is antithetical to recovering and conserving the large complexes of prairie dogs needed to protect the species from extinction. Isolated colonies risk losing genetic diversity (Trudeau et al. 2004) and are more vulnerable to permanent extirpation from shooting, poisoning, and other threats. In fact Lomolino et al. (2003) recommended that both large complexes as well as isolated colonies be protected.

4. The USFWS used the example of a post-plague recovery on the Cimarron and Comanche National Grasslands after an epizootic in 1995-1996 to argue that colonies can recover to pre-plague levels after epizootics. However, plague struck the Comanche National Grassland in 2006, killing off 54.5% of the total Comanche population in just 1 year (Augustine et al. 2006). There are indications that this recent plague epizootic continues to spread across prairie dog colonies in and around the Comanche in 2007, as this petition is being written. Plague also caused die-offs on the Cimarron National Grassland in 2006, but to a lesser extent (Ibid.). Plague epizootics observed on the

Comanche seem to follow a 10-year pattern (Tom Peters, Comanche National Grassland Supervisor, pers. comm. 2006). If this is true, the black-tailed prairie dog populations on the Comanche National Grassland may never reach levels that could be considered viable. They currently occupy only 3% of the available suitable habitat on the Grassland, as defined by Comanche managers.

5. Once researchers believed that some sort of “plague line” existed that prevented plague from reaching epizootic levels in prairie dogs east of the 102nd meridian. This is the basis for the Service’s implication that one-third of the black-tailed prairie dog range is protected from plague. Some researchers speculated that differences in climate, the mammalian community, or flea community deters plague in the eastern areas (Cully et al. 2006), but no one has identified with certainty the reasons why plague would not eventually spread to black-tailed prairie dogs in the eastern portion of the species’ range. Indeed, recent evidence suggests that plague is spreading beyond its previous range. In September of 2004, plague was documented in a BTPD in Custer County, South Dakota. Then, in 2005, plague was confirmed at a large prairie dog town at the Pine Ridge/Oglala Indian Reservation, devastating a significant part of the complex (T. Ecoffey, biologist Pine Ridge, personal communication to USFWS 2006; Randy Gribel, biologist at Wall Ranger District, personal communication 2007). These findings are highly significant, as South Dakota at the time of the 2004 Not Warranted decision was thought to be free of plague. Plague in South Dakota could affect populations of the endangered black-footed ferret, which has been reintroduced in the Conata Basin, only 30 miles from one of the documented plague sites. Even if the eastern portion of the BTPD’s range were somehow protected from plague, this is precisely the region where the Service has also determined that some of the most severe range contractions have occurred. Other than in South Dakota, no BTPD complexes exist in the area east of the 102nd meridian.

4. Listing Factor 4: Regulatory Mechanisms are Insufficient to Ensure the Survival and Recovery of the Black-tailed Prairie dog

Since the 2004 decision, several states have implemented policies to increase the methods available for poisoning black-tailed prairie dogs or have facilitated private landowner poisoning of prairie dogs. Colorado, Kansas, Nebraska, and Wyoming all approved 24(c) “Special Local Need” labels between 2004-2006 for registering Rozol for use on prairie dogs. Rozol had previously not been approved for use on prairie dogs in any state. Rozol is a bait-delivered poison with the active ingredient chlorophacinone, an anti-coagulant, which causes poisoned BTPDs to bleed to death. The Fish and Wildlife Service raised significant concerns about the use of Rozol to kill black-tailed prairie dogs because of impacts to nontarget wildlife, among other reasons (John Cochnar, Acting Field Supervisor, U.S. Fish and Wildlife Service Ecological Service Branch, Nebraska Field Office letter to Greg Ibach, Director, Nebraska Department of Agriculture, January 13, 2006). Colorado also approved the use of Kaput –D for killing prairie dogs, and Texas is in the process of approving Kaput -D (Colorado Department of Agriculture 2006; Heather Whitlaw, Texas Game, Fish and Parks, personal communication, 2007). On September 7, 2006 the Colorado Division of Wildlife approved use of devices that ignite a mixture of propane and oxygen to kill prairie dogs inside their burrows, and in November 2006, the Colorado Department of Agriculture issued an emergency rule to waive registration requirements for use of such devices. At least 7 out of 10 states with black-tailed prairie dogs have either enacted regulations to make it easier to kill BTPDs or rescinded regulations that promoted protection of the species since the 2004 Not Warranted Finding. The increase in regulations to promote poisoning, the lack of regulations to restrict shooting, and nearly non-existent regulations that would limit BTPD habitat loss confirm that regulatory mechanisms are inadequate to prevent the species from becoming extinct in all or a significant portion of its range.

Quite the opposite, the current regulatory framework is likely to hasten the BTPD's plummet towards extinction.

5. Listing Factor 5: Lethal Control of Black-tailed Prairie Dogs is a Threat to Their Survival

Poisoning and other methods of lethal control remain significant threats to the species. Though black-tailed prairie dogs play an incredibly important role in prairie grassland ecosystems [this will be discussed in more detail below], they have long been considered agricultural pests. For over 100 years, the agricultural industry and the U.S. government worked together to eradicate prairie dogs. The deliberate eradication of prairie dogs is to blame for dramatic population declines, especially in the first half of the 20th Century. In 1923 alone, the government and agriculture industry representatives eliminated over 1.5 million hectares of black-tailed prairie dogs (Forrest and Luchsinger 2006). Poisoning abated somewhat after the 1930s only because there were fewer prairie dogs left to kill (*ibid.*).

The lethal control of prairie dogs at a substantial level continued after the USFWS's 2000 Warranted but Precluded Finding. However, the 2004 Not Warranted Finding declared chemical control and the synergistic effects of chemical control (along with all other threats) were not a threat. As stated in the Finding:

We concluded that synergistic effects likely impact the species; however, we were unable to quantify those effects and consequently described the effects as not a threat due to a lack of information. (69 FR 51217: 51224)

While the Service invoked lack of information repeatedly in the 2004 Finding regarding multiple threats, lack of information is not a sufficient justification for dismissing likely severe threats, including poisoning, to a species from listing consideration. Moreover, the Service had many indications that poisoning and other prairie dog control methods would increase if the species was removed from the ESA Candidate list.

For example, South Dakota made the USFWS aware of its plan to exterminate significant populations of prairie dogs across the state. The Governor of South Dakota announced his "Emergency Interim Prairie Dog Control Program" plan publicly 1 day after the USFWS issued its Not Warranted Finding on August 12, 2004 (but prior to the publication of that finding in the Federal Register). According to a report entitled "South Dakota Prairie Dog Control," between 2004-2005, South Dakota poisoned about 9,816 hectares (24,255 acres) of prairie dogs on private land and about 47 hectares (115 acres) on state land (Smith 2007). At least 3,110 hectares (7,686 acres) of prairie dogs were poisoned on Forest Service land primarily within Conata Basin on the Buffalo Gap National Grassland in South Dakota (*Ibid.*)—home to the most productive black-footed ferret reintroduction site. Between 2005-2006, the state poisoned at least 5,959 hectares (14,725 acres) on private land and 486 hectares (1,200 acres) of state land, and the Forest Service poisoned over 3,440 hectares (8,500 acres) (Smith 2007). Additionally, the South Dakota Department of Agriculture sold 51,796 kilograms (113,950 pounds) of poisoned bait to private applicators (non-tribal). Between 2006 and February 22, 2007, South Dakota Game Fish and Parks Department poisoned 11,940 hectares (29,503 acres) on private land and 37 hectares (91 acres) on state public land. Information regarding the amount of poison sold to private applicators and prairie dogs poisoned on state park land for 2006-2007 was not included in the report. Another 4,709

hectares (11,635 acres) was poisoned on federal National Grasslands in South Dakota during the 2006-2007 reporting period.

The U.S. Forest Service chief rescinded a 2000 moratorium on poisoning black-tailed prairie dogs on National Forest System lands on February 12, 2004. On May 11, 2004, Region 2 Forester Rick Cables added guidance to aggressively control prairie dogs to appease landowners adjacent to National Forests and Grasslands with prairie dogs. The Nebraska National Forest has already conducted extensive poisoning on the Buffalo Gap (see above), Ogalala and Fort Pierre National Grasslands. The Pawnee National Grassland (in Colorado), the Little Missouri National Grassland (in North Dakota), and Thunder Basin National Grassland (in Wyoming) have all signaled their intent to increase prairie dog poisoning.

C. ESA Listing is the Only Way to Prevent Extinction of the Black-tailed Prairie Dog

After the NWF and BLF filed their black-tailed prairie dog ESA petitions in 1998, the 11 states within the range of the species formed a Conservation Team to coordinate prairie dog management actions and ultimately prevent the listing of the species. Representatives from the state wildlife agencies were the primary participants in the Prairie Dog Conservation Team. Nine of the 11 states signed a Memorandum of Understanding, finalized in February 2000, committing them to a multi-state management approach to conserving black-tailed prairie dogs. Colorado and North Dakota declined to sign the MOU (Luce 2003). The states prepared *The Black-tailed Prairie Dog Conservation Assessment and Strategy* in 1999 (Van Pelt 1999) and *A Multi-State Conservation Plan for the Black-tailed Prairie Dog, *Cynomys ludovicianus*, in the United States*, in 2002 (Luce 2003). The state signatories to the MOU promised to develop state black-tailed prairie dog management plans, reach minimum prairie dog habitat objectives, and improve state regulations to promote prairie dog conservation, among other actions. Colorado and North Dakota developed independent management plans and made commitments to conservation actions as well. While each state developed management plans, the extremely limited new protections that resulted are insufficient to ensure the long-term survival of the species. Further, the states have failed to make good on their most important commitments. And, as demonstrated by several of the examples provided above, some states are now backsliding on their promise to conserve the species and are taking more actions to harm black-tailed prairie dogs rather than protect them.

For the reasons outlined above and others, the black-tailed prairie dog should be listed as Endangered or Threatened under the ESA in 10 U.S. states, Mexico and Canada and Endangered in Arizona and also provided with critical habitat. Given the species' imperiled status and the failure of the states to recover and conserve this species, listing is the best and only way to prevent the extinction of the black-tailed prairie dog in significant portions of its range beyond the significant losses it has already experienced. Critical habitat for the species will better ensure its recovery and the re-establishment of prairie dog ecosystems.