threats to the species are minimal to low. Public agencies and organizations have also implemented actions that have eliminated or reduced the threats to various populations of *C. deserticola* (*e.g.*, elimination of grazing from the Pilot Knob grazing allotment and the Harper Lake grazing allotment). Of particular importance, EAFB, where the vast majority of populations (approximately 87 percent) are known to occur, has included and implemented conservation measures for *C. deserticola* in the most recent revision to its INRMP. Overall, threats to *C. deserticola* on EAFB are minimal (Table 1).

TABLE 1.—GENERAL SUMMARY OF THE STATUS OF THE 105 TOTAL KNOWN POPULATIONS OF DESERT CYMOPTERUS (*Cymopterus deserticola*)

Basin	General land ownership	Number of known populations	Identified threats	Status of threats	Threat level
Rogers Dry Lake	Edwards Air Force Base (EAFB).	91	Cleanup	Not occurring	None.
			Military activities	Limited activities	Minimal.
			Grazing	Fencing installed on EAFB.	Minimal.
			Utilities	No new corridors	Minimal.
			Inadequacy of management.	INRMP modified	Minimal.
Cuddeback Dry Lake	BLM	4	Grazing	None in 49,000 acre Pilot Knob allotment.	None to Minimal.
			Off Highway Vehicle (OHV) use.	Limited use	Minimal to low.
			Energy	Not expected	None.
Harper Dry Lake	BLM/private	6	Grazing	Eliminated as mitigation for Ft. Irwin expansion.	None to Minimal.
			OHV use	Moderate use	Low.
			Energy	Not expected	None.
			Utilities	No new corridors	Minimal.
Superior Dry Lake	Ft. Irwin	4	Military activities	Protection of large population.	[1] None to high.

[1] Ft. Irwin has eliminated the threats to one large, 366-plant population. Threats from military training to the other three populations are moderate to high.

We will continue to monitor the status of this species and will accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any other interested party concerning this finding. This information will help us monitor and encourage beneficial measures for this species.

References Cited

A complete list of all references cited herein is available on request from the Ventura Fish and Wildlife Office (see **ADDRESSES** section).

Author

The primary author of this document is Robert McMorran, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service (see **ADDRESSES** section).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: October 29, 2004.

Marshall P. Jones Jr.,

Director, Fish and Wildlife Service.

[FR Doc. 04–24700 Filed 11–8–04; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the White-Tailed Prairie Dog as Threatened or Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 90-day petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (USFWS), announce a 90-day finding on a petition to list the white-tailed prairie dog (*Cynomys leucurus*) as threatened or endangered under the Endangered Species Act of 1973, as amended. We find the petition and other information available do not provide substantial scientific or commercial information indicating that listing this species may be warranted. Therefore, we will not be initiating a further status review in response to this petition. We ask the public to submit to us any new information that becomes available concerning the status of the species or threats to it. This will help us monitor and encourage the conservation of the species.

DATES: The finding announced in this document was made on November 2, 2004. You may submit new information concerning this species for our consideration at any time.

ADDRESSES: The complete file for this finding is available for inspection during normal business hours at the Utah Ecological Services Field Office, U.S. Fish and Wildlife Service, 2369 West Orton Circle, Suite 50, West Valley City, Utah 84119. Submit new information, materials, comments or questions concerning this taxon to the Service at the above address.

FOR FURTHER INFORMATION CONTACT: Henry Maddux, Field Supervisor, at the address given in the **ADDRESSES** section or telephone 801–975–3330 or facsimile 801–975–3331.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(A) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the requested action may be warranted. We are to base this finding on information provided in the petition, and all other information available to us at the time the finding was made. Our standard for substantial information with regard to a 90-day petition finding is ''that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted'' (50 CFR 424.14(b)). When a substantial determination is made, we are required to promptly begin a review of the status of the species, if one is not already initiated.

On July 15, 2002, we received a formal petition to list the white-tailed prairie dog (*Cynomys leucurus*) as threatened or endangered, in accordance with provisions in section 4 of the ESA. The petition was filed by the Center for Native Ecosystems, Biodiversity Conservation Alliance, Southern Utah Wilderness Alliance, American Lands Alliance, Forest Guardians, the Ecology Center, Sinapu, and Terry Tempest Williams.

On August 27, 2002, we acknowledged receipt of the petition and advised the petitioners we would not be able to process the petition in a timely manner. On November 29, 2002, we received a notice of intent to sue from the petitioners concerning our failure to produce a 90-day finding on the subject petition in accordance with the provisions of section 4 of the ESA. We responded on February 11, 2003, reiterating that we would not be able to begin an evaluation of the white-tailed prairie dog petition until work on the higher priority activities was completed. On February 20, 2003, the petitioners filed a complaint to compel the USFWS to make a 90-day finding. This 90-day petition finding is made in accordance with a settlement agreement that requires us to complete a finding on the petition to list the white-tailed prairie dog by October 31, 2004 [*Center for Native Ecosystems,* et al. v. *Norton* et al. (cv–03–31–M (DWM))].

The contents of this finding summarize that information included in the petition (cited as Center for Native Ecosystems 2002) and other information readily available to us in our files at the time of the petition review. Most notable of the other information we used in our review was the multi-state White-Tailed Prairie Dog Conservation Assessment (Conservation Assessment) (cited as Seglund *et al.* 2004). Beginning in 2003, the White-Tailed Prairie Dog Working Group of the State Prairie Dog Conservation Team began work on a species assessment. The Draft Conservation Assessment was released May 19, 2004, and the final Conservation Assessment was released August 31, 2004. While our determination is based on the contents of the petition submitted we also included in our review the information in the Conservation Assessment. Because it was not practicable to respond to the petition for approximately 2 years, we considered the information in the Conservation Assessment in order to ensure that the best available information was used in our review. Our review for the purposes of a so-called ''90-day'' finding under section 4(b)(3)(A) of the ESA and section 424.14(b) of our regulations is limited to a determination of whether the information in the petition meets the ''substantial scientific or commercial information'' threshold. In the case of the white-tailed prairie dog, had the petition not met the ''substantial scientific or commercial information'' standard, but the Conservation Assessment had included substantial information, we would have used that information to make a positive 90-day finding. We do not conduct additional research at this stage of the process, but we do critically review the petition as to the scientific validity of the information presented therein. As the ESA and regulations contemplate, at the 90-day finding we base our finding on the petitioner's information and on other information readily available to us in our files at the time of the petition review. Our determination is whether this information is scientific and substantial.

Biology and Distribution

Taxonomy

Prairie dogs are in the squirrel family, Sciuridae, and are endemic to North America (Hollister 1916; Hoogland 2003; Seglund *et al.* 2004). The white-tailed prairie dog is one of five prairie dog species that inhabit western North America. Prairie dogs belong to the genus *Cynomys* (Hollister 1916). The genus has been split into two subgenera (Clark *et al.* 1971, Pizzimenti 1975). Utah (*Cynomys parvidens*), Gunnison (*Cynomys gunnisoni*), and white-tailed prairie dogs are the three species that make up the subgenus *Leucocrossuromys* (Hollister 1916, Clark *et al.* 1971). Although Burt and Grossenheimer (1964 as cited in Knowles 2002) considered all members of the subgenus *Leucocrossuromys* to be a single species, based on Pizzimenti's (1975) work, it is doubtful that the single species concept for the subgenus *Leucocrossuromys* is valid (Knowles 2002). According to Knowles (2002), there is sufficient genetic and morphological evidence to conclude that there are three separate species within the white-tailed prairie dog subgenera. The subgenus *Cynomys* includes black-tailed (*Cynomys ludovicianus*) and Mexican prairie dogs (*Cynomys mexicanus*). The *Leucocrossuromys* subgenus prairie dogs have short tails with white tips and have weaker social structures than the *Cynomys* subgenus (Pizzimenti 1975).

Species Description

The white-tailed prairie dog is the largest member of the subgenera *Leucocrossuromys,* and is only slightly smaller than black-tailed and Mexican prairie dogs (Clark *et al.* 1971). They are between 315–400 millimeters (mm) (12.4–16.7 inches (in)) in length with a tail length of 40–65 mm (1.6–2.6 in) and weigh between 650–1,700 grams (g) (23–60 ounces (oz)) (Fitzgerald *et al.* 1994). The tail has a grayish white tip and is white on the entire terminal half (Merriam 1890, Fitzgerald *et al.* 1994). The coat is generally gray (Hollister 1916). They have distinctive dark brown or black cheek patches that extend above the eye with a lighter black stripe that extends below the eye onto the cheek (Fitzgerald *et al.* 1994). Male white-tailed prairie dogs are on average larger than females (Fitzgerald *et al.* 1994).

Ecology and Life History

Unlike black-tailed prairie dogs that live in grass-dominated habitats, white-tailed prairie dogs are found in drier landscapes including shrublands, semi-desert grasslands, and mountain valleys (Tileston and Lechleitner 1966; Clark 1977; Collins and Lichvar 1986; Fitzgerald *et al.* 1994; Gadd 2000). Like other prairie dog species, white-tailed prairie dogs rely on good visibility to enable them to see predators; however, they do not clip taller vegetation like black-tailed prairie dogs (Clark 1977). White-tailed prairie dogs occur at elevations ranging from 1,150 to 3,200 meters (m) (3,800 to 10,500 feet (ft)) (Tileston and Lechleitner 1966). Their habitats are generally on low slopes or level ground (Forrest *et al.* 1985, Collins and Lichvar 1986).

All prairie dogs are primarily herbivorous, and mainly forage on grasses and forbs (Stockard 1929, Kelso 1939). Although prairie dogs prefer forbs, they will consume other plants seasonally; for example, prairie dogs browse upon sagebrush and saltbush during early spring, grasses in summer, and seed heads following grass and sedge flowering (Kelso 1939, Tileston and Lechleitner 1966). Prairie dogs obtain most of their water requirements through vegetation, and may become water-stressed if sufficient succulent vegetation is unavailable (Stockard 1929, Seglund *et al.* 2004).

White-tailed prairie dogs breed once a year and have a single litter averaging four to five pups (Hoogland 2001). They can reproduce at 1 year of age (Cooke 1993). Breeding occurs from late March to mid-April (Tileston and Lechleitner 1966). Pups are born in the burrows after a gestation period of approximately 30 days (Tileston and Lechleitner 1966), and emerge for the first time 4 to 6 weeks after birth (Bakko and Brown 1967). Reproductive success ranges from 30 to 60 percent (Tileston and Lechleitner 1966, Bakko and Brown 1967, Menkens and Anderson 1989).

Animal densities within white-tailed prairie dog colonies are significantly lower than in black-tailed prairie dog colonies (Eskey and Haas 1940; Tileston and Lechleitner 1966; Hoogland 1981; Clark *et al.* 1985). In white-tailed prairie dog colonies surveyed for black-footed ferret (*Mustela nigripes*) recovery, Biggins *et al.* (1993) reported a density range of 5.7–16.1 prairie dogs per hectare (ha) (2.3–6.5 prairie dogs per acre (ac)). Surveys of other white-tailed prairie dog colonies reported densities ranging between 0.7 and 7.9 prairie dogs per ha (0.3–3.2 prairie dogs per ac) (Tileston and Lechleitner 1966, Clark 1977). In comparison, black-tailed prairie dog densities vary depending upon the season, region, and climatic conditions, but typically are higher and range from 5 to 45 individuals per ha (2 to 18 individuals per ac) (Fagerstone and Ramey 1996, Hoogland 1995, King 1955, Koford 1958, and Miller *et al.* 1996, as cited in 69 FR 51218).

Prairie dogs are semi-fossorial (or adapted for digging) and construct their own burrow systems. Burrow systems can be extensive, with numerous entrances. The density of burrows varies based on the food resources available (Clark 1977). All prairie dog species are social and rely on a social structure for survival. Therefore, burrow systems are grouped together (Clark 1977). Burrow systems within one male's territory makes up a coterie (Hoogland 1995). A concentration of prairie dogs with a minimum of 20 burrows per ha (8 burrows per ac) on at least 5 ha (12 ac) comprises a colony (Seglund *et al.* 2004). Determining what constitutes the boundary of a white-tailed prairie dog colony is particularly difficult because white-tailed prairie dogs are more sparsely distributed than black-tailed prairie dogs (Seglund *et al.* 2004).

The definition of a complex and subcomplex has been defined in terms of black-footed ferret dispersal capabilities. It is unclear if these definitions are entirely adequate for white-tailed prairie dogs. A complex is a group of prairie dog colonies between which individual black-footed ferrets can migrate between them commonly and frequently. Colonies within a complex are separated from the nearest colony by no more than 7 kilometers (km) (4 miles (mi)), with no impassable barriers between the colonies (Seglund *et al.* 2004). A subcomplex is defined as an aggregation of colonies separated from the nearest adjacent group by no more than 7 km (4 mi), but due to various non-biological factors (*e.g.*, State boundaries, land ownership) the whole complex is not surveyed and management occurs on only a portion of the entire complex (Seglund *et al.* 2004).

White-tailed prairie dogs are active approximately 5 to 7 months per year, from early spring to fall (Clark 1977, Cooke 1993). Unlike black-tailed prairie dogs, white-tailed prairie dogs are obligate hibernators (Harlow and Menkens 1986, Harlow and Braun 1995). They hibernate in late fall and winter (Cooke 1993). The amount of time spent hibernating is determined by availability of food resources (Clark 1977). In warm weather, even in mid-winter, if grasses are growing, white-tailed prairie dogs have been observed feeding (Hollister 1916, Goodrich and Buskirk 1998).

Distribution, Abundance, and Trends

White-tailed prairie dogs' distribution ranges across four States—Wyoming, Colorado, Utah, and Montana (Knowles 2002). According to Knowles (2002), the range of white-tailed prairie dogs has not changed appreciably from the historical range. There are indications that abundance may have declined as a result of past control efforts and plague. However, historical abundance and distribution are not well documented for white-tailed prairie dogs (Seglund *et al.* 2004). In addition, white-tailed prairie dog surveys have used varying methodologies, have not always clearly specified occupied or unoccupied habitats, and have been conducted in areas of varying size (Seglund *et al.* 2004).

Accurate, comprehensive inventories of currently occupied white-tailed prairie dog habitat in each State are not available. The petitioners use a Gap Analysis predictive model to estimate 17,719,220 ha (43,785,146 ac) of historically suitable habitat range wide. The petition estimates currently occupied habitat at 325,526 ha (804,392 ac). The Conservation Assessment estimates the historical range of the white-tailed prairie dogs was 20,224,807 ha (49,974,813 ac). The Conservation Assessment estimates there are 340,470 ha (841,300 ac) of currently occupied habitat.

Neither the petition nor the Conservation Assessment provides a population estimate for white-tailed prairie dogs. Developing a reliable population estimate for white-tailed prairie dogs is complicated by the lack of accurate range-wide estimates of occupied acreage and limited density data.

Most of the multi-year white-tailed prairie dog data available is for large complexes that have been considered and monitored for black-footed ferret reintroduction. Other data exist throughout the range of the species, but they are limited to a single data point. Data on these larger complexes were collected in conjunction with black-footed ferret reintroduction efforts. The large white-tailed prairie dog complexes that were considered suitable as black-footed ferret habitat have been mapped and monitored. Because the data were collected for the purpose of determining habitat suitability for black-footed ferret reintroduction, we do not have specific population or trend information for smaller colonies and complexes across the species range. Where population estimates are not available, smaller colonies or complexes are described only by their presence and general location.

Concerns exist regarding the efficacy of using black-footed ferret survey data to evaluate the status of white-tailed prairie dog populations due to the questionable correlation between counts of active burrows and densities of animals (Menkens 1987, Severson and Plumb 1998, Powell *et al.* 1994). Estimates of occupied habitat are similarly complicated in part due to white-tailed prairie dog behavior. Burrow densities and activity levels are variable throughout a colony and mapping efforts have thus often utilized topographic features to describe colony and complex boundaries (Seglund *et al.* 2004).

The Conservation Assessment attempted to alleviate sampling and data recording deficiencies by (1) presenting data state-by-state rather than portraying range-wide population trends, (2) only providing prairie-dog population information on black-footed ferret reintroduction sites surveyed for three or more years, and (3) only providing population information on areas greater than 1,500 ha (3,706 ac). Coeffecients of variation and standard deviations were calculated to evaluate population estimate variability (Seglund *et al.* 2004).

Inventory information on colonies and trends (if determinable) are detailed here by State. Table 1 lists those colonies with at least 3 years of monitoring data, consistent with information presented by the Conservation Assessment. Other, smaller colonies are identified and described in the text.

TABLE 1.—POPULATION ESTIMATES FOR WHITE-TAILED PRAIRIE DOG COMPLEXES MONITORED FOR CONSIDERATION AS POSSIBLE BLACK-FOOTED FERRET RE-INTRODUCTION SITES

[Data taken from Conservation Assessment, Seglund et al. 2004]

State and colony	1988	1989	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Wyoming:															
Shirley Basin	....	....	30,389	29,828	14,551	5,916	7,564	19,876	10,343	6,547	7,161	6,669	34,698	....	....
Meeteetse	25,494	17,692	....	....	1,299	....	....	....	7,095	....	....	1,066	....	....	....
Colorado:															
Coyote Basin	....	....	....	....	....	....	....	....	3,132	....	5,509	6,666	3,545	3,677	1,055
Wolf Creek—West	....	....	....	....	....	....	....	....	....	....	....	19,719	....	7,266	9,214
Wolf Creek—East	....	....	....	....	....	....	....	....	....	....	....	....	10,331	8,212	10,754
Utah:															
Coyote Basin	....	....	....	....	....	....	....	....	43,205	39,565	38,180	33,438	37,424	54,444	14,031
Kennedy Wash	....	....	....	....	....	....	....	....	....	10,697	6,411	5,725	3,670	10,282	3,313
Shiner Basin	....	....	....	....	....	....	....	....	15,065	47,551	5,383	13,707	....	....	....
Snake John	....	....	....	....	....	....	....	....	....	....	....	....	49,346	50,437	31,118

In Wyoming, white-tailed prairie dogs are found in Big Horn, Park, Hot Springs, Natrona, Fremont, Sublette, Sweetwater, Lincoln, Uinta, Carbon, and Albany Counties (Seglund *et al.* 2004). The Conservation Assessment provides population information for three complexes: Meeteetse, Shirley Basin, and Kinney Rim. There are an additional 26 colonies identified by the Conservation Assessment and the Petition for which population numbers or trend information are not provided. The Meeteetse Complex, in Park County, declined from an estimated 80,000 ha (200,000 ac) in 1915, to 4,900 ha (12,000 ac) of prairie dogs in 1981 when the last known wild black-footed ferrets were discovered there, to about 3,000 ha (7,000 ac) in 1986, to about 200 ha (500 ac) by 2000 (Knowles 2002). Population declines between 1915 and 1981 were probably, primarily, the result of intensive federal control efforts. Recent population declines at Meeteetse are probably the result of plague which first appeared in this complex in the mid-1980s (Biggins 2003, Seglund *et al.* 2004. Surveys in the Shirley Basin Complex, Carbon County, indicated large annual fluctuations of occupied habitat attributed to plague since 1991 (Seglund *et al.* 2004). From a high in 1991, the population declined approximately 78 percent by 1997 and 1999, but recent estimates indicate that the population has recovered to levels similar to 1991 numbers and densities. Number of colonies has doubled and occupied habitat has increased 50 percent since 1990 (Seglund *et al.* 2004). Accurate population trends and occupied habitat data are unavailable for the Kinney Rim Complex, in Sweetwater County. Plague apparently reduced population densities in 1989; prairie dogs still occupied the complex by 1993 (Conway 1989 and Albee 1993, as cited in Seglund *et al.* 2004). The petition cites personal communications from B. Luce (2001) documenting substantial declines at this complex by 1995. No more recent specific data are reported. For other complexes in the State, we only have single-year estimates for complex size and, thus, no ability to assess trends.

In Colorado, the range of the white-tailed prairie dog includes Moffat, Routt, Rio Blanco, Garfield, Mesa, Delta, Montrose, Eagle, Jackson, Ouray, and Larimer Counties (Seglund *et al.* 2004). The Conservation Assessment provides population information for three complexes: Little Snake, Wolf Creek, and Coyote Basin. Colonies also occur in 11 other counties or Bureau of Land Management (BLM) Resource Areas across Colorado for which population numbers or trend information are not provided. The Little Snake Complex, in Moffat County, encompassed 31,700 ha (78,300 ac) in 1989 (USFWS *et al.* 1995). In 1994, dramatic declines occurred at the same time plague-positive fleas were detected in the area (USFWS *et al.* 1995, Seglund *et al.* 2004). Inventories conducted on a portion of the Little Snake Complex in 1999 indicated a 90 percent decline since 1990 surveys (Seglund *et al.* 2004). Surveys in 2002 and 2003 indicated little if any change in prairie dog populations and drought conditions resulted in extensive vegetation losses which may have contributed to slow population recovery (Seglund *et al.* 2004). The Wolf Creek Complex, in Moffat and Rio Blanco Counties, was first mapped by Gilbert in 1976. Plague resulted in over 75 percent declines in this complex and other areas of the White River BLM Resource area in the mid-1980's (CDOW 1986, Seglund *et al.* 2004). Populations across the White River Resource area, including Wolf Creek, rebounded and approached pre-plague numbers by 1994 (Seglund *et al.* 2004). Surveys from 2000 through 2003 show relatively stable prairie dog populations on the east side of Wolf Creek and a 50 percent decline on the west side of Wolf Creek (Seglund *et al.* 2004). The Coyote Basin Management Area, straddling the Utah-Colorado border, fluctuated from 3,132 white-tailed prairie dogs in 1997 to 6,666 prairie dogs in 2000 to 1,055 prairie dogs in 2003 (Seglund *et al.* 2004); the 2003 figures represent a 65 percent decline from 1997 levels and an 84 percent decline from the high observed in 2000.

In Utah, white-tailed prairie dogs occur in Rich, Summit, Daggett, Uintah, Duchesne, Carbon, Emery, and Grand Counties (Seglund *et al.* 2004). The Conservation Assessment provides population information for five complexes: Coyote Basin, Kennedy Wash, Shiner Basin, Snake John, and Cisco Desert. There are an additional 15 colonies or areas that are identified as containing white-tailed prairie dog habitats, however, these areas have not been inventoried and there is no population trend information (Seglund *et al.* 2004). The Cisco Complex, in Grand County, has not been inventoried with consistent sampling techniques, however declines and low activity levels have been consistently reported since 1991 (Seglund *et al.* 2004). The Coyote Basin Subcomplex was first mapped in 1985 (Seglund *et al.* 2004). Prairie dog populations appeared relatively stable from 1997 through 2002 (Seglund *et al.* 2004). A high population estimate of 54,444 prairie dogs was reported in 2002 with a subsequent 75 percent decline observed in 2003 (Seglund *et al.* 2004). Kennedy Wash Subcomplex surveys show a similar pattern. Prairie dog population estimates were reported to be a high of 10,000 animals in 1998 and again in 2002 with downward trends of 50 to 60 percent during interim years (Seglund *et al.* 2004). The Shiner Subcomplex declined by 44 percent between 1998 and 2000 and has continued to support only low density prairie dog populations (Seglund *et al.* 2004). The Snake John Subcomplex maintained highs of approximately 50,000 prairie dogs in 2001 and 2002, followed by a 38 percent decline in 2003; however, only 3 years of data are available, so long term trends are unknown (Seglund *et al.* 2004).

In Montana, white-tailed prairie dogs currently occur in Carbon County in the Clark Fork Valley (Seglund *et al.* 2004). Between 1975 and 1977, Flath (1979) identified 15 white-tailed prairie dog colonies in the State. In 1997, Flath revisited the 15 colonies and found only 2 remaining, but 4 new colonies were also identified (Montana Prairie Dog Working Group 2002, as cited in Seglund *et al.* 2004). The petitioners listed the following white-tailed prairie dog colonies as having been extirpated—West Fork, Wolf Creek, Chance, Bridger, Warren colonies No. 7 and No. 8, Bear Canyon colonies No. 9, No. 10, and No. 11, Gypsum Creek colonies No. 12 and No. 13, Silver Tip Creek, and Hunt Creek (D. Flath, Montana Fish, Wildlife, and Parks, pers. comm., as cited in Center for Native Ecosystems 2002). The petition asserts that these colonies have been extirpated for a variety of reasons including: plague (Warren colonies No. 7 and No. 8, Bear Canyon colonies No. 9, No. 10, and No. 11, and Gypsum Creek colonies No. 12 and No. 13), poisoning (Bridger), urban development (West Fork), and conversion to agriculture (Wolf Creek, Chance, Silver Tip Creek, and Hunt Creek) (D. Flath, pers. comm., as cited in Center for Native Ecosystems 2002. Although Montana represents the northern edge of the white-tailed prairie dog's range and totals less than 1 percent of the predicted range of the species (Seglund *et al.* 2004), colonies in Montana provide insights into the possible effects of human-caused factors and disease on small populations. That said, there is no indication that trends in Montana are representative of small colony trends range-wide. Occupied habitat is estimated at 48 ha (119 ac) within six colonies, a decline of 85 percent from the high of 280 ha (692 ac) within fifteen colonies in 1979.

TABLE 2.—MONTANA WHITE-TAILED PRAIRIE DOG (WTPD) OCCUPIED ACREAGE DATA BY COLONY

State and colony	Colony size ha (ac) 1975–1977	Colony size ha (ac) 1999–2003
Montana:		
1	2–4 (5–10)	
2	0.8 (2.0)	
3 (Chance Bridge)	30–34 (74–84)	5.1 (12)
4	8 (20)	
5 (Robertson Draw)	100 (250)	16.4 (40.5)
6	1 (2)	
7	28–40 (69–99)	
8	4–8 (10–20)	
9	32 (79)	
10	20–32 (50–79)	
11	16–24 (40–59)	
12	8–20 (20–49)	
13	1 (2)	
14	0.4–1 (1–2)	
15	1–4 (2–10)	
Duplex		9.1 (22)
S. Sage Creek		5.9 (15)
Warren		7.5 (19)
Inferno Creek		4.2 (10)
Total	[1] 280 (690)	[1] 48 (120)

[1] May not add due to rounding.
Source: Seglund *et al.* 2004.

It should be noted that some level of natural fluctuation in population size, occupied acreage, and density is expected. Some white-tailed prairie dog populations have been reported to fluctuate by more than 50 percent between consecutive years (Menkens and Anderson 1989, as cited in Seglund *et al.* 2004). Variation in densities between years and also among habitats is likely driven partly by local ecology such as site-specific topography, soil type, climate and vegetation quantity and quality. The Conservation Assessment notes that the reason some colonies rebound quickly and others never recover completely are poorly understood. Disease, especially the introduced pathogen responsible for sylvatic plague (*Yersinia pestis*), may play a role in ''amplifying population fluctuations'' (Menkens 1987, Forrest *et al.* 1988, Seglund *et al.* 2004).

Historically, white-tailed prairie dog populations were probably not static, but researchers have inferred that it is unlikely that populations fluctuated as dramatically as they do today (Seglund *et al.* 2004). However neither the petition nor the Conservation Assessment provide substantial scientific information on this inference specific to white-tailed prairie dogs. Observations of black-tailed prairie dogs provide some evidence that prairie dog populations may not have fluctuated historically to the extent that they do today. Biggins and Kosoy (2001) analyzed the role of the black-footed ferret and its relationship with prairie dogs. For example, plague has never been detected within black-tailed prairie dog colonies at Wind Cave National Park, South Dakota, and the population exhibits relatively stable yearly population levels (Hoogland 1995). This differs from a population at the Rocky Mountain Arsenal National Wildlife

Refuge near Denver, Colorado where epizootics of plague are frequent and extreme population fluctuations are common (Biggins and Kosoy 2001). White-tailed prairie dogs lack a comparable example because there are no plague free portions of their range.

Conservation Status

Pursuant to section 4(a) of the ESA, we may list a species of any vertebrate taxon on the basis of any one of the following factors—(A) present or threatened destruction, modification, or curtailment of habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) inadequacy of existing regulatory mechanisms; or (E) other manmade or natural factors affecting its continued existence. The petition asserts that the range of white-tailed prairie dog populations has been negatively affected by plague; recreational shooting; poisoning; oil, gas, and mineral extraction; conversion of habitat to agricultural use; urbanization; fire suppression; overgrazing; noxious weeds; drought; and climate change. Oil, gas, and mineral extraction, conversion of habitat to agricultural use, urbanization, overgrazing, fire suppression and the spread of noxious weeds are discussed under factor A. Recreational shooting is discussed under factor B. Plague is discussed under factor C. The adequacy or inadequacy of regulatory mechanisms for protecting white-tailed prairie dogs is discussed under factor D. Poisoning, invasive species, drought, and climate change impacts are discussed under factor E.

A. The Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range.

With respect to destruction, modification, or curtailment of the species' habitat or range, the petition asserts that oil, gas, and mineral exploration and extraction processes destroy and fragment white-tailed prairie dog habitat. The petitioners claim that human activities associated with oil and gas development, including seismic activities and the construction and operation of well pads, roads, and other equipment and facilities, fragment habitat and negatively impact white-tailed prairie dogs. In addition, they assert that associated structures create raptor perches and increase predation risk on prairie dogs in the area. The petitioners also assert that associated roads and increased access facilitate recreational shooting. They also contend that the aforementioned activities damage native vegetation and introduce invasive species that quickly take hold. The petitioners claim that this vegetation damage and invasive species introduction results in further permanent loss of habitat.

The Conservation Assessment similarly concludes that oil and gas development, especially with decreased well spacing, will result in ''large amounts of habitat lost due to road development and well pad construction'' and states that the habitat will remain fragmented and lost. The Conservation Assessment also states that vibroseis (seismic exploration) may affect prairie dogs by collapsing tunnel systems, causing auditory impairment, and disrupting social structures (Clark 1986, as cited by Seglund *et al.* 2004). The Conservation Assessment also notes that coalbed methane development, including well development, pipelines, roads, and compressor sites, can increase human disturbance and habitat fragmentation and loss. Establishment of well pads and roads facilitate increased vehicular traffic, which may increase the risk of direct and indirect mortality (Seglund *et al.* 2004).

However, neither the petition nor the Conservation Assessment provide substantial scientific information beyond supposition and conjecture that oil and gas development results in losses of large amounts of habitat. The assertion of habitat fragmentation is not supported by substantial scientific evidence. In fact, the Conservation Assessment notes in some areas prairie dogs have continued to inhabit space where development is occurring. Neither the petition nor the Assessment provide substantial scientific information supporting the assertion that predation is increased by oil and gas development. No scientific information is provided that supports the assertion that direct and indirect mortality is affected by road construction or vehicular traffic. Both the petition and the Conservation Assessment note that large amounts of habitat will be lost to oil and gas development, and refer to the fact that the primary sites for oil and gas development occur within white-tailed prairie dog range. However, neither document provides substantial scientific information supporting the claim that large amounts of habitat will be lost to these activities. The assertion regarding the effects of vibroseis is unsupported by substantial scientific information. While the assertion that increased human disturbance is valid by inspection, there is no scientific information presented that substantiates its effect on prairie dogs.

The Conservation Assessment estimates 55 percent of the total occupied white-tailed prairie dog habitat is under BLM jurisdiction. Analyses of available geographic information systems (GIS) data shows that 25 percent of white-tailed prairie dog gross range in Utah is leased or encompassed by active combined oil and gas fields.

The petition reports that, in 2001, the BLM approved leases for 669 oil and gas areas encompassing 293,771 ha (725,925 ac) in Colorado; 295 oil and gas leases on 218,846 ha (540,780 ac) in Montana; 198 oil and gas leases on 132,386 ha (327,133 ac) in Utah; and 1,047 oil and gas leases on 457,728 ha (1,131,071 ac) in Wyoming. However, these are state-wide totals and it is not known what percentage of these areas overlap white-tailed prairie dog predicted range or occupied habitat. It should also be noted that not all leased lands are developed depending upon the results of exploration activities. Neither the petition nor Conservation Assessment present substantial scientific information on the effect in the species in terms of actual habitat affected.

In Colorado, oil and gas leasing and development is ongoing and proposed in occupied white-tailed prairie dog habitat. For example, the petitioners allege that 80 percent of the Little Snake Black-footed Ferret Management Area is considered of highest potential for oil and gas development. According to the petition, there are 7 oil and gas fields encompassing 355 wells within the Management Area, and the BLM Little Snake Field Office is evaluating the potential for additional coalbed methane development. Colorado's largest oil field, the Rangely Oil Field in Rio Blanco County, occupies 12,000 ha (30,000 ac) and overlaps with 3,000 ha (7,000 ac) of suitable white-tailed prairie dog habitat (Wolf Creek Work Group 2001). The overlap of the Rangely Oil Field and white-tailed prairie dog habitat represents 5 percent of estimated white-tailed prairie dog habitat in Colorado (Knowles 2002). Impacts on this development on population levels have not been well studied and neither the petition nor the Assessment provide substantial scientific information that the Rangley Oil Field may result in a 5% reduction in Colorado white-tailed prairie dog habitat nor that the Little Snake Black-footed Ferret management area maybe threatened with development that will harm white-tailed prairie dog habitat (for an in-depth discussion of this see the discussion on regulatory protections).

Oil, gas, and coalbed methane drilling continues in Utah, primarily in the Price Field Office area of the BLM, and in the Uintah Basin in northeastern Utah. The petitioners claim that between 1911 and 2000, a total of 8,737 wells were drilled in the Uintah Basin, Utah, where the large Coyote Basin, Kennedy Wash, Snake John, and Shiner Basin white-tailed prairie dog complexes occur. The petitioners estimate that energy exploration in the Uintah Basin represents 57 percent of all wells drilled in the State of Utah. Over three thimes the 10-year average of wells was approved in 2001 in the Uintah Basin's BLM Vernal Field Office area. It is not known how many of these wells remain active. Analyses of GIS data demonstrate that oil and gas leases and active combined fields overlap with approximately 55 percent of occupied white-tailed prairie dog habitat. However, neither the petition nor the Conservation Assessment provide substantial information that this development may have or may contribute to a curtailment of the species range.

The Conservation Assessment estimates that approximately 75 percent of predicted white-tailed prairie dog range occurs in Wyoming, of which 77 percent of the white-tailed prairie dog range in Wyoming has the potential to undergo or is undergoing oil and gas development to some degree (Seglund *et al.* 2004). The petition describes oil and gas development in Wyoming by BLM Field Office areas. According to the petition, most oil and gas development in the Casper Field Office area is occurring within white-tailed prairie dog range. Over the last 10 years, an average of 50 new wells has been drilled annually (W. Fitzgerald, BLM Casper Field Office, pers. comm., as cited in Center for Native Ecosystems 2002). The loss of habitat in the Cody Field Office area is attributed primarily to oil and gas development. Recent estimates of oil and gas well activity were not cited by the petition. The petitioners describe the Moxa Arch natural gas field, with approximately 50 to 100 new wells being drilled annually, as occupying approximately half of the white-tailed prairie dog habitat within the Kemmerer Field Office area (V. Phinney, BLM Kemmerer Field Office, pers. comm., as cited in Center for Native Ecosystems 2002). The petitioners report that as of December 2001, oil and gas projects in the Pinedale Field Office area comprised approximately 266,661 total ha (658,933 ac), with 3,111 approved well locations and 1,433 wells drilled. According to the petition, most of these fields (including the Pinedale Anticline Natural Gas project and Jonah II field) were located in and around prairie dog colonies. The petitioners further state that in the Rawlins Field Office area, up to 3,000 wells may be approved for the Continental Divide project (an oil and gas field development) which overlaps with white-tailed prairie dog habitat. This area already has 2,130 existing wells. Potential impacts of this future development are difficult to predict. While the petitioners provide substantial information regarding the number and location of oil and gas development, they do not provide substantial scientific information indicating that these developments affect prairie dog use of habitat. As a result, potential impacts of this future development are difficult to predict, thus we cannot conclude that the petitioners have provided substantial scientific information that it may result in a threatened or current loss of habitat.

The petition describes possible direct impacts from oil and gas development, including: clearing and crushing of vegetation, reduction of available habitat due to pad construction, road development and well operation, displacement and killing of animals, alteration of surface water drainage and increased compaction of soils (USFWS 1990, as cited by Seglund *et al.* 2004). However they do not provide substantial scientific information to support their assertions and thus we are not able to conclude that the adverse effects to prairie dogs may occur. For example, the Assessment cites one study that attempted to demonstrate the effects of oil and gas disturbance on white-tailed prairie dogs and information from that study is preliminary (Baroch *et al.* 2004, as cited by Seglund *et al.* 2004). The study observed population declines, but was unable to determine if the declines were attributed to oil and gas development activities or to other factors such as plague. In some instances, white-tailed prairie dogs continue to inhabit areas developed for oil and gas. Within Coal Oil Basin's Rangely Oil Field, where the majority of the area was drilled before 1984 at a spacing of one well every 8 ha (20 ac), white-tailed prairie dogs are consistently present (E. Hollowed, BLM, pers. comm. 2004). However, no formal monitoring information exists for the Rangely Oil Field; conclusions are based on informal observations. With the limited amount of information provided, it is not possible to determine that these oil and gas development activities adversely affect white-tailed prairie dogs.

Animal population densities should not always be presumed to be a direct measure of habitat quality (Van Horne 1983). Several studies show that white-tailed prairie dogs with higher density populations in areas of poor quality habitat exhibited lower body mass, delayed sexual maturity, and delayed dispersal when compared to relatively undisturbed, high quality habitats (Van Horne 1983, Rayor 1985, Dawson 1991, Trevino-Villareal and Grant 1998). Furthermore, habitat loss or degradation can result in reduction of the area and extent of colonies even when densities in the remaining areas remain higher (Johnson and Collinge 2004). Over the long-term, these factors could lead to population declines (Johnson and Collinge 2004). The petitioners do not provide substantial scientific information on how oil and gas development activities might reduce habitat in ways that affect white-tailed prairie dog reproduction and survival.

Beyond direct impacts from oil and gas activity, the Conservation Assessment suggests that indirect effects might occur if habitat adjacent to white-tailed prairie dog complexes is not maintained to allow complexes to shift on a landscape scale in response to plague and other factors. However, neither the petition nor the Conservation Assessment provides substantial information as to the need or acreage required to ensure conservation of local prairie dog populations.

Neither the petition nor the Conservation Assessment provide substantial scientific information supporting the assertion that predation is increased by oil and gas development. The assertion regarding the effect of vibroseis is unsupported by substantial scientific information. There is little scientific information to substantiate the effect of increased human disturbance on prairie dogs. Magle (2003) studied effects of human presence on a black-tailed prairie dog colony in Colorado. He observed prairie dog avoidance behaviors; *i.e.*, prairie dogs retreating to their burrows, in response to humans walking through a colony.

The petition and Conservation Assessment do not provide specific total acreages or distribution of white-tailed prairie dogs within leased areas, nor do they provide complete details of actual oil and gas infrastructure distribution relative to prairie dog colonies. Both documents identify current or projected threats to the species within the foreseeable future including mortality and habitat loss, fragmentation, and degradation, and show that current and projected oil and gas development extends across the range of the white-tailed prairie dog. However, while both documents identify current or projected threats to the species due to oil and gas development impacts to habitat, the identified threats are speculative and neither document provides substantial scientific or commercial information supporting the speculation.

The petition cites agricultural land conversion and urbanization as causing some losses of white-tailed prairie dog habitat on a local scale. In Montana, historic land conversions for agricultural purposes have contributed to white-tailed prairie dog range contraction (Parks *et al.* 1999, as cited in Knowles 2002). The Conservation Assessment states that, in some cases, agricultural lands can be beneficial to white-tailed prairie dogs by providing foraging habitat. However, if the agricultural area requires repeated tilling during the growing season, prairie dogs will not be able to inhabit the area. In addition, the Conservation Assessment points out that prairie dog colonies in or adjacent to agricultural areas frequently are subject to control efforts. According to the Conservation Assessment, agriculture comprises only 3.7 percent of the species' gross historic range. Seglund (*et al.* 2004) thus concluded, loss of habitat from agricultural conversion is significant only on a local scale and is not a range-wide concern.

The petition and Conservation Assessment specifically refer to urbanization in the areas of Grand Junction, Delta, and Montrose, Colorado, and in the Uintah Basin, Utah. As human populations have increased in some of these areas, lands have undergone another type of conversion, agriculture to urban use. Conversion from agricultural lands to urban lands eliminates prairie dog habitat permanently. According to the Conservation Assessment, only 0.2 percent of the white-tailed prairie dog gross historic range is impacted by urbanization. Seglund (*et al.* 2004) thus concluded, loss of habitat from urbanization is significant only on a local scale and is not a range-wide concern.

The petition identifies livestock overgrazing and fire suppression as factors that have degraded white-tailed prairie dog habitat by altering plant species composition. Overgrazing is continued heavy grazing which goes beyond the recovery capacity of the forage plants (Vallentine 1990). Fire suppression in shrub steppe habitats has resulted in areas dominated with late-successional, homogenous stands of shrubs. With fire, shrublands are mosaic of herbaceous and shrub vegetation at varied successional stages (Klebenow 1972, as cited in Fischer *et al.* 1996). Combined overgrazing and fire suppression can result in the proliferation of shrub species and the spread of noxious weeds. Livestock also may trample and destroy biological (cryptogamic) soil crusts, increasing erosion and decreasing nutrient cycling. The petition concludes that resultant habitat alterations reduce forage availability, reduce forage diversity, and degrade the overall quality of available habitat.

It is unclear how significant a factor livestock grazing, fire suppression and desertification play in white-tailed prairie dog viability. Although the Conservation Assessment initially states that public rangelands have seen recent measurable improvements in range conditions, the Conservation Assessment and the petition both reference BLM's finding that 68 percent of the public rangelands are rated as degraded or unsatisfactory (U.S. General Accounting Office 1988, 1991). Because 55 percent of white-tailed prairie dog occurs on BLM land, this is an important consideration. However, neither the petition nor Conservation Assessment provide substantial scientific information demonstrating that livestock grazing or fire suppression are threatened or present sources of habitat loss.

Based on the preceding discussion, we do not believe that substantial information is available indicating that present or threatened destruction, modification, or curtailment of habitat or range may, either singularly or in combination with other factors, rise to the level of a threat to the continued existence of the species over a significant portion of the species range. While factors affecting habitat are in some cases (*e.g.*, oil and gas development, grazing, fire suppression) occurring across the range of white-tailed prairie dog no information as to the rangewide extent of these activities in terms of scale was provided. In addition, neither the petition nor the Conservation Assessment provided substantial scientific information on the actual overlap and effects of habitat losses and degradation associated with these factors relative to the distribution of white-tailed prairie dog colonies and complexes.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Shooting closures for white-tailed prairie dogs have been implemented year-round in Coyote Basin, Utah and seasonally (April 1–June 15) on all other public lands in Utah. Year round shooting closures also apply to white-tailed prairie dogs on federal lands throughout their range in Montana. Wyoming implements a shooting closure on a 1,917 ha (4,737 ac) conservation easement at Shirley Basin. No shooting closures exist for white-tailed prairie dogs in Colorado (Seglund *et al.* 2004).

The petition cites Knowles (1988) to assert that unregulated shooting of white-tailed prairie dogs in Colorado and Wyoming has had negative impacts. In Colorado counties with white-tailed prairie dogs, harvest statistics from 1999–2003 estimate that 28,005 individual prairie dogs were shot annually (CDOW 2002, cited by Center for Native Ecosystems 2002). Based on research, lactating females spend more time above ground during the months of April through July (Tileston and Lechleitner 1966, Bakko and Brown 1967). During this time, adult male activity decreases (Bakko and Brown 1967). The petition asserts if shooting occurs during these times, the female and juvenile prairie dogs are more vulnerable than males (Center for Native Ecosystems 2002). According to the Conservation Assessment, peak shooting pressure on white-tailed prairie dog colonies occurs in May and June when the weather is cooler and juveniles are emerging. The CDOW estimates that juvenile prairie dogs likely make up a disproportionately high percentage of prairie dogs shot (Keffer *et al.* 2000). The petitioners note that due to the disproportionate vulnerability of adult female and juvenile prairie dogs, it is reasonable to see how the demographic structure of shot colonies may differ from that of unshot colonies. The petitioners further reason that shooting may have further implications on behavior, emigration, and population density.

Neither the petition nor the Conservation Assessment provides substantial scientific information on the long-term impacts of recreational shooting on white-tailed prairie dogs. Shooting has the potential to locally reduce population densities and could slow or preclude recovery rates of colonies reduced by plague or other disturbances by being an additive factor to mortality. Available studies of recreational shooting at black-tailed prairie dog colonies have shown short-term colony population declines and behavioral changes (Knowles 1988, Vosburgh and Irby 1998). However, neither the petition nor the Conservation Assessment provides substantial scientific information on the long-term effects of this threat.

C. Disease or Predation

White-tailed prairie dogs are prey species for many mammalian and avian predators. These predators include black-footed ferrets, hawks, eagles, badgers (*Taxidea taxus*) and coyotes (*Canis latrans*). Predation does not appear to exert a controlling influence on prairie dog density (King 1955 as cited in Seglund *et al.* 2004, Tileston and Lechleitner 1966, Clark 1977).

The petition asserts that sylvatic plague is the main threat to white-tailed prairie dog persistence (Biggins and Kosoy 2001, Knowles 2002). Plague is caused by a bacterium (*Yersinia pestis*) not native to North America; fleas are commonly the vectors (Biggins and Kosoy 2001). Plague results in local extirpations, reduced colony sizes, increased variation in local population sizes, and increased distances between colonies (Cully and Williams 2001). All prairie dog species have shown high susceptibility to plague (Williams 1986). White-tailed prairie dog population declines of 85 to 96 percent within an epizootic event have been documented (Anderson and Williams 1997, Clark 1977).

Plague was probably introduced to the United States from Asia circa 1899 (Barnes 1982). The first record of plague in native mammals in North America was near Berkeley, California in 1908 among California ground squirrels (*Spermophilus beecheye*) (McCoy 1908, Wherry 1908, as cited by Cully 1993). Since then, plague moved eastward. According to the Centers for Disease Control (2002, as cited by Antolin *et al.* 2002), sylvatic plague is now distributed from the west coast to its eastern extant stretching along the 102nd meridian from North Dakota south to the 97th meridian in Texas. Within those east-west confines, plague is present from the Canadian to the Mexican border. The white-tailed prairie dog range falls well within these boundaries.

The first white-tailed prairie dog plague case was confirmed in 1936 (Eskey and Haas 1940). We do not have data to indicate that all white-tailed prairie dogs were exposed to plague at this time or the same time. Systematic white-tailed prairie dog surveys did not begin until the 1980's (when there was an effort to find black-footed ferret recovery or reintroduction sites) (Biggins and Kosoy 2001). At that time, the first recorded plague outbreaks were observed (Fagerstone and Biggins 1986a, as cited by Biggins 2003b). For example, in Meeteetse, Wyoming, plague was first recorded in 1985 when the population crashed. This large decline in a short amount of time was an epizootic event. Plague was again recorded in this complex between 1989 and 1990, and again in 1993 (Anderson and Williams 1993, Cully 1993)

Plague has now been confirmed across nearly the entire range of the white tailed prairie dog (Centers for Disease Control 2002, as cited by Antolin *et al.* 2002), and has had a range-wide impact (Knowles 2002). Biggins and Kosoy (2001) note that no examples can be found of plague-free white-tailed prairie dog populations. Thus, unlike black-tailed prairie dogs which maintain plague-free colonies in the eastern portion of their range, white-tailed prairie dogs do not have large insulated populations protected from the plague organism.

The petition concludes that individual white-tailed prairie dogs may be more susceptible than black-tailed prairie dogs. The petitioners cite preliminary research conducted by Dr. Tonie Rocke, a U.S. Geological Survey researcher, indicating that white-tailed prairie dogs may contract sylvatic plague with exposure to only a few plague bacilli versus the many plague bacilli that are required to infect black-tailed prairie dogs with plague. Although quite susceptible, plague antibody titers have been found in white-tailed prairie dogs, indicating exposure and survival of some individuals when exposed to plague (Cully and Williams 2001, Biggins 2003a). Cully and Williams (2001) and Biggins (2003a) research on plague and prairie dogs in the laboratory found one white-tailed prairie dog with an apparent immunity to plague, and Biggins (2003a) found 3 out of 154 white-tailed prairie dogs with plague antibody titers. However, Biggins (USGS pers. comm. 2004) also states that plague antibody titers have been so rare in wild white-tailed prairie dogs colonies that research efforts were not previously directed to the possibility of immunity. Populations of white-tailed prairie dogs thus far have remained highly susceptible to plague even after repeated exposure (Biggins and Kosoy 2001). There is no information on the ability of adults to pass a developed immunity onto their offspring.

Pizzimenti (1975) found that of the five species of prairie dogs in the North America, white-tailed prairie dogs have the largest number of flea species. This suggests white-tailed prairie dogs may be more likely to contract plague from other mammalian species because they are more likely to host the same flea species as other mammalian species (Pizzimenti 1975). This susceptibility can result in epizootic events in which large numbers of animals die within a few days (Cully 1993, Lechleitner *et al.* 1962). Infected fleas have been found to exist in burrows for up to 13 months following a plague event (Fitzgerald 1993). The continued presence of the disease also can affect low-density white-tailed prairie dog colony populations enzootically. Enzootic plague causes some mortality within the colony, but not all individuals become affected simultaneously because of low density and reduced contact. Therefore, low-density populations remain at low densities. Plague not only results in the loss of large numbers of individual animals, it also may alter population dynamics, dispersal, and may result in secondary impacts to habitat.

Responses of white-tailed prairie dog populations to plague are reportedly variable over the long term, because of intrinsic and extrinsic factors. Superficially, some social and behavioral traits of white-tailed prairie dogs appear to favor their long-term persistence in a plague environment (Biggins and Kosoy 2001), in comparison to other prairie dog species. The rate of spread of a plague epizootic is dependent on the density of the host population density (Barnes 1982). White-tailed prairie dog colonies are less dense and more widely dispersed than black-tailed or Gunnison's prairie dog colonies, which may slow transmission rates (Cully 1993, Cully and Williams 2001, Eskey and Haas 1940). Looser social structures and hibernation behavior displayed by white-tailed prairie dogs also may reduce transmission among individual animals (Cully 1993, Cully and Williams 2001). However, Barnes (1993) suggested hibernation may simply delay the onset of symptoms throughout all the colonies. Conversely, the Conservation Assessment also concludes that other environmental and human-caused factors could decrease the ability of populations to recover long-term.

Consequently, while some behavioral traits (*e.g.*, migratory abilities and hibernation) of white-tailed prairie dogs are often reported to buffer adverse effects of plague, the information is neither clear nor conclusive. For example, migration within complexes may promote recolonization of colonies previously impacted by plague; conversely, intercolony movement also may contribute to disease transmission, and isolated colonies are less likely to support sufficient immigration for long-term persistence of plague-affected colonies (Seglund *et al.* 2004).

In addition, the Conservation Assessment and Knowles (2002) raise concerns that white-tailed prairie dog plague cycles (*i.e.*, epizootic, recovery, epizootic) result in successive population peaks that are progressively lower than the previous peak and that with each new epizootic, the loss of colonies from plague exceeds the rate of new colony establishment. This cycle of peaks and crashes is further supported by observations of frequent recurrence of plague in white-tailed prairie dog colonies (Cully 1993, Barnes 1993). The Conservation Assessment reports that colony recovery rates have been reported to occur within as little as 1–2 years (Anderson and Williams 1997), or within as much as 10 years (Cully and Williams 2001). Colonies affected by plague have shown varying recovery responses. The Conservation Assessment reports post-plague recovery occurring in Wyoming's Shirley Basin, Colorado's Wolf Creek, and Utah's Kennedy Wash. Conversely, some large colonies have continued to decline or remained at low numbers since the occurrence of plague, such as Wyoming's Meeteetse, Colorado's Little Snake, and Utah's Cisco. However, for most sites, historical data are not available to compare apparent colony recovery levels with their historical or pre-plague densities. In addition, and importantly, because white-tailed prairie dogs exist in smaller numbers than black-tailed prairie dogs, plague epizootics could have a more significant influence on their viability.

Regardless of social and behavioral factors, some of the largest white-tailed prairie dog complexes at Meeteetse, Cisco, and Little Snake have declined significantly as a result of plague, and have not fully recovered to their pre-plague abundance. In addition, the petition identifies the presence of plague in low-density and medium-density white-tailed prairie dog colonies. Other animals also can transmit plague between prairie dog colonies (Cully and Williams 2001). This suggests that many, if not all, colonies of white-tailed prairie dogs are vulnerable to plague regardless of size, degree of isolation, and density. The Conservation Assessment concludes that "sylvatic plague has the potential to rise to the level of a threat to the continued existence of the species, but the threat is non-imminent" and, "concern over the long-term viability of white-tailed prairie dog populations is warranted." They also state that "the role that plague has played and will play in the overall decline of white-tailed prairie dogs is a critical question for future management and research."

Because of the lack of long-term data or a detailed understanding of plague and white-tailed prairie dog dynamics, both the petition and Conservation Assessment conclude that long-term monitoring over large areas is essential to determine population effects of the disease. The petition and Conservation Assessment provide the following examples of large colonies that declined because of confirmed or suspected plague with some level of population rebound in a couple of cases. Plague was suspected when colonies crashed within a short timeframe.

Little Snake Complex, Colorado—Some decline was suspected in 1983 (USFWS *et al.* 1995). Sylvatic plague was confirmed in 1994 in flea samples and in 1995 in coyote blood samples. Between 1994 and 1999, colony size declined 90 percent. The Conservation Assessment reports likely continued declines in 2002, but a possible small increase in 2003. However, drought-related declines in sagebrush and forbs also were noted in 2003; so, it is unclear if the noted small increase will continue.

Wolf Creek Complex, Colorado—From 1985 to 1987, populations west of Massadona were reduced to about 10 percent of their former abundance. Although partial recovery occurred between 1990 and 1993, declines have occurred since then and the population has not recovered to its pre-1985 abundance. In 2001, population numbers were estimated to be 40 percent lower than in 1993–1994 (Wolf Creek Work Group 2001). Although no reason for the decline is given, the petition cites a personal communication from E. Hollowed (BLM 2004) reporting sylvatic plague in the area since at least 1997.

Montrose County, Colorado—Declines have been noted in these colonies since 1978, but the role of plague is unclear. The petition reports declines may be a cumulative result of plague, shooting, and poisoning.

Colorado National Monument, Colorado—The petition sites a personal communication reporting that prairie dog populations in the area crashed after a 1976 plague epizootic. It is not known if any prairie dogs still inhabit the Monument.

Montana—The petition identifies seven white-tailed prairie dog colonies in Montana that were extirpated and cites personal communication with D. Flath attributing those extirpations to plague outbreaks.

Kennedy Wash Subcomplex, Utah—The petitioners report the white-tailed prairie dog population in this subcomplex undergoing major declines in 1999 due to plague. Personal communication from B. Bibles (Uinta Basin USU Extension Branch) was cited by the petitioners as stating that plague has continued in the area enzootically (constantly present in an animal community but only occurs in a small number of cases). The petition reports prairie dog densities declining from 5.4 dogs per ha (2.1 dogs per ha) in 1999 to 3.1 dogs per ha (1.2 dogs per ha) in 2001. The Conservation Assessment reports a subsequent population increase in 2002, followed by a significant decline in 2003.

Shiner Subcomplex, Utah—Surveys in Shiner Basin from 1997 to 2000 documented a decline from 47,551 prairie dogs in 1998 to 5,383 prairie dogs in 1999 (Seglund *et al.* 2004). Such a decline in a short period of time is characteristic of plague epizootic impacts on prairie dog populations. The petition notes some partial recovery in 2000. The Conservation Assessment describes surveys in 2002 and 2003 that show low densities and little, if any, population recovery.

Snake John Subcomplex, Utah—The petition documents possible population increases between 1989 and 2001, while the Conservation Assessment reports a significant population decline in 2003. The cause of the 2003 decline is not reported; however, it is reasonable to suspect plague given the colony's proximity to Kennedy Wash and the substantial decline in a short amount of time.

Cisco Complex, Utah—Between 1985 and 1992, transect counts show that prairie dog populations increased dramatically. Population declines, likely due to plague, were observed from 1998–2002. Complex remapping in 2002 yielded 1,085 ha (2,682 ac) of occupied habitat, apparently low relative to historic acreages (Seglund *et al.* 2004).

Dinosaur National Monument, Utah—The petition cites a personal communication from S. Petersburg estimating that a substantial plague-related decline occurred at the Monument colony between the late 1980s and early 1990s, but that this population may now be increasing. Specific data are not provided.

Meeteetse Complex, Wyoming—Plague epizootics swept through this complex four times between 1964 and 1985 (Clark *et al.* 1985, Ubico *et al.* 1988, Clark 1989). Between 1988 and 1997, plague resulted in the loss of 18,400 white-tailed prairie dogs, an estimated 72 percent decline in the complex (Biggins 2003b). This complex has experienced no significant recovery (Knowles 2002).

Shirley Basin Complex, Wyoming—The petition reports a 50 percent decline in occupied prairie dog habitat from 1990 to 2000, and an estimated 78 percent population decline (B. Oakleaf, pers. comm., as cited by Center for Native Ecosystems 2002). The WGFD conducted surveys of selected prairie dog colonies between 1992 and 2001 which indicated that white-tailed prairie dog abundance appeared to have decreased (Seglund *et al.* 2004). However, given recent increases, Grenier *et al.* (2003 as cited by Seglund *et al.* 2004) reported a 50 percent increase in occupied habitat from 1990 to 2004 over a different portion of the Shirley Basin complex (Seglund *et al.* 2004).

Kinney Rim, Wyoming—The Kinney Rim complex was first sampled in 1989 with 7,215 ha (17,828 ac) of occupied habitat reported. It was suspected that sylvatic plague was impacting the complex during the 1989 survey, although no attempts were made to confirm presence of plague. The area was partially inventoried, again, in 1993 suggesting an increase (Conway 1989 and Albee 1993, as cited in Seglund *et al.* 2004). The petition cites personal communications from B. Luce documenting substantial declines at this complex by 1995. No more recent conclusive data are reported.

Polecat Bench, Wyoming—Population numbers and accurate occupied acreage data are unavailable for this complex. A personal communication from D. Saville (Cody BLM Office) in the petition concluded that the complex experienced major plague-caused declines between 1979 and 1981. According to the petition, recovery at this site has been slow, similar to the post plague population response reported at the Meeteetse Complex.

The petitioners assert that tularemia is another pathogen that can cause disease-related declines in white-tailed prairie dog populations (Davis 1935). However, there is little data on its prevalence. Long-term impacts of this disease on white-tailed prairie dog populations are unknown (Barnes 1993).

West Nile virus is a recent disease with unknown ramifications for white-tailed prairie dog populations. A black-tailed prairie dog was reported to have died of this disease in Boulder, Colorado, in 2003 (Seglund *et al.* 2004). We are unaware of any confirmed incidences of West Nile virus in white-tailed prairie dogs.

Because of the lack of long-term data or an understanding of plague and white-tailed prairie dog dynamics, both the petition and Conservation Assessment conclude that long-term monitoring over large areas is essential to determine population effects of the disease. On this basis, we believe the petition, the Conservation Assessment, and other information readily available to us do not provide substantial scientific information to indicate that disease may be a threat to the viability of the white-tailed prairie dog. We make this finding while recognizing that the source materials are primarily from white-tailed prairie dog complexes inventoried for black-footed ferret recovery. Because the black-footed ferret recovery work identified only those complexes meeting black-footed ferret prey needs (*i.e.*, generally large in area, and densely occupied by prairie dogs), there is a legitimate concern that the data may not accurately reflect prairie dog trends at all colonies throughout the prairie dog's range. As noted above however, the information regarding the relationship of prairie dog colony size and prairie dog behavior to plague susceptibility is not clear.

D. The Inadequacy of Existing Regulatory Mechanisms

The petition claims that white-tailed prairie dogs have been negatively affected by the lack of Federal and State regulations, to control poisoning, shooting, or habitat destruction. The petition also asserts that current State and Federal regulations do not adequately address the potential impacts of oil, gas, and mineral extraction on white-tailed prairie dog habitat (see factor A), nor do they provide adequate mitigation.

All BLM Field Offices whose jurisdictions include black-footed ferret reintroduction areas will have stipulations related to black-footed ferret habitat protection. While these stipulations are not intended to address white-tailed prairie dog conservation per se, they serve to protect some white-tailed prairie dog habitat because the white-tailed prairie dog is the primary food source available to black-footed ferrets. All black-footed ferrets in the wild have a designation of ‘‘experimental, non-essential’’ pursuant to section 10(j) of the Act. Experimental, non-essential populations are treated as proposed species for section 7 consultation purposes, which means that consultation with the Service is only required if the project is likely to jeopardize the continued existence of the species although generally federal agencies routinely consult with the we on species proposed for listing and 10(j) populations.

In addition, black-footed ferret reintroductions have occurred in only three white-tailed prairie dog complexes including Coyote Basin (Utah), Wolf Creek (Colorado), and Shirley Basin (Wyoming). All other white-tailed prairie dog colonies occur outside of ferret reintroduction areas and thus would see only limited benefit from ferret conservation measures such as ferret survey requirements in potential ferret habitat as defined by prairie dog colony size.

In Colorado, the white-tailed prairie dog range occurs within the jurisdiction of six BLM field offices, with four of these field offices having no stipulations specific to white-tailed prairie dog for oil and gas development in white-tailed prairie dog habitat (R. Sell, BLM, pers. comm., as cited by Seglund *et al.* 2004). However, a number of general stipulations on such development will protect white-tailed prairie dog habitat.

In Utah, the white-tailed prairie dog range occurs within the jurisdiction of the BLM's Vernal Field Office, which includes Coyote Basin Black-footed Ferret Reintroduction Area, which has stipulations related to black-footed ferret habitat protection but does not specifically address white-tailed prairie dog conservation (B. Zwetzig, BLM, pers. comm., as cited by Seglund *et al.* 2004). The white-tailed prairie dog range also occurs within the jurisdiction of the Price and Moab Field Offices, which do not have directives with regard to white-tailed prairie dog management. However, both of these field offices are currently revising their Land Use Plans and the new plans will consider the white-tailed prairie dog in special status species alternatives (S. Madsen, P. Riddle, BLM, pers. comm., as cited by Seglund *et al.* 2004), which would carry with it protections similar to those for species protected under the ESA.

The Montana policy regarding white-tailed prairie dogs is related to potential black-footed ferret reintroductions (J. Parks, BLM, pers. comm., as cited by Seglund *et al.* 2004). ‘‘Prior to surface disturbance, prairie dog colonies and complexes of 32 ha (80 ac) or greater in size will be examined to determine the absence or presence of black-footed ferrets.’’ Currently Montana has only a small amount of active white-tailed prairie dog habitat and no overlap with oil and gas leasing.

The BLM in Wyoming has declared the white-tailed prairie dog a BLM sensitive species. This designation carries with it, through regulation, habitat and species protections similar to those afforded candidate species under the Act. There are eight BLM resource areas in Wyoming within the range of the white-tailed prairie dog, and all of these resource areas are conducting some form of prairie dog management. The Wyoming BLM is currently revising its Resource Management Plans (RMP) in the white-tailed prairie dog range. These RMP revisions are primarily driven by a recent emphasis on oil and gas development activity, and are or will be addressing white-tailed prairie dogs. The BLM also has had nominations submitted by several environmental groups for the designation of prairie dog ''areas of critical environmental concern.'' A BLM Statewide, programmatic, biological evaluation is being prepared for white-tailed prairie dogs, the results of which will be incorporated into RMPs.

The Conservation Assessment concludes that many State Field Offices in Wyoming, Utah, Colorado, and Montana currently do not consider the white-tailed prairie dog in oil and gas development unless it is associated with black-footed ferret reintroduction efforts. Because of this, most current BLM plans throughout the range of the white-tailed prairie dog do not address white-tailed prairie dog species-specific needs, but addresses white-tailed prairie dog as black-footed ferret habitat. In addition, they do not address maintaining habitat for expansion and shifts in occurrence outside of currently mapped colonies and they address impacts at a colony level rather than a complex or landscape level. Finally, RMPs do not address the impact of road development and the potential for an increase in shooting/direct take of white-tailed prairie dog as a result of oil and gas development. Colorado and Wyoming allow yearlong shooting on public lands, except for the shooting closure on the 1,917 ha (4,737 ac) conservation easement at Shirley Basin, Wyoming.

The Petroleum Association of Wyoming asserts that a number of lease stipulations and conditions designed to protect big game species, mountain plover (*Charadrius montanus*), raptors, black-footed ferrets, sage-grouse (*Centrocercus urophasianus*), and other threatened, endangered and candidate species also benefit white-tailed prairie dog (Bower, in litt. 2004). Specifically, it noted that oil and gas surface activity is banned on designated mountain plover habitat from mid-April through early July unless surveys show that no plovers are present (Bower, in litt. 2004). Oil and gas surface activity is banned within a 0.8 to 1.6 km (0.5 to 1.0 mi) radius of active raptor nests on Federal lands during the raptors breeding and young-rearing seasons (February through July depending on the species) (Bower, in litt. 2004). Further, white-tailed prairie dog complexes in excess of 81 ha (200 ac) are off limits to oil and gas development until black-footed ferret surveys have been conducted and towns are cleared (Bower, in litt. 2004). Other lease stipulations prohibit drilling between March 1 and June 30 to protect sage-grouse breeding, nesting, and brood-rearing. Finally, surface disturbances are prohibited from November 15 and April 30 to protect wintering big game animals. These restrictions may benefit white-tailed prairie dog populations in some instances, if they are co-located.

The petition asserts that unregulated poisoning alone has reduced prairie dog abundance in Wyoming by an estimated 75 percent since 1915 (Campbell and Clark 1981). Although large-scale poisoning may have occurred in the past, toxicant control is not considered a significant factor shaping white-tailed prairie dog population dynamics. This factor is discussed in more detail below under factor E. Limited poisoning is still permitted on private lands adjacent to agricultural lands or to control expanding colonies. The Conservation Assessment recommends the use of incentive programs to encourage land owners to minimize the use of toxicants to control white-tailed prairie dog populations.

The petitioners and the Conservation Assessment assert that recreational shooting in April, May, and June may have greatest population level impacts because pregnant and lactating females and young-of-the-year are most vulnerable (see Factor B). Shooting has the potential to locally reduce population density and could slow or preclude recovery rates of colonies reduced by plague or other disturbances by being an additive factor to mortality (Seglund *et al.* 2004). Montana has implemented a year-round shooting closure on white-tailed prairie dogs, and Utah recently implemented an April 1–June 15 seasonal shooting closure on public lands (Seglund *et al.* 2004). In Coyote Basin, Utah, a year-round shooting closure was established to improve black-footed ferret habitat. In Shirley Basin/Medicine Bow Management Area in Wyoming, permanent shooting closure was implemented on a conservation easement of 1,917 ha (4,737 ac). No shooting closures have been adopted on any white-tailed prairie dog habitat in Colorado. No shooting is permitted on National Wildlife Refuges. The Conservation Assessment notes that if shooting can be managed to regulate populations and maintain them at a threshold density, it may be a useful management tool for prairie dog conservation.

Current management status varies by State. Colorado currently has no management or conservation plan for white-tailed prairie dogs and they are not included on the State Species of Concern or State threatened and endangered list.

In January 2002, the Montana Prairie Dog Working Group released the ''Conservation Plan for Black-tailed and White-tailed Prairie Dogs in Montana.'' The stated goal of the plan is to ''provide for management of prairie dog populations and habitats to ensure the long-term viability of prairie dogs and associated species.'' Accomplishments to date that have benefited white-tailed prairie dogs include the reclassification of white-tailed prairie dogs as 'non-game wildlife species in need of management,' the application of a year-round shooting closure on white-tailed prairie dogs occupying Federal lands, and a draft Environmental Assessment anticipating translocation of prairie dogs from Montana and Wyoming sites to formerly occupied colonies. White-tailed prairie dogs are also listed on the Species of Concern List compiled by the Montana Natural Heritage Program and Montana Fish Wildlife and Parks and used to prioritize research and management needs among nongame wildlife species.

In 2003, Utah Department of Wildlife Resources added the white-tailed prairie dog to the agency's Sensitive Species List. The list is intended to stimulate development and implementation of management actions to precluded Federal listing of these species under the ESA. However, at this time Utah does not have a management or conservation plan for the white-tailed prairie dog.

The white-tailed prairie dog is classified as a Species of Special Concern by the Wyoming Game and Fish Department. Currently, Wyoming does not have a management or conservation plan for the white-tailed prairie dog but this designation does carry certain protections with it.

In this finding we have addressed the regulatory concerns as they relate to a number of factors, however, given that these issues have not been identified as significant threats, there is no immediate need to consider whether efforts to regulate them are adequate.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The petition and Conservation Assessment recount a long history of rodent and prairie dog poisoning campaigns in the United States. Black-tailed prairie dogs were the main focus of this eradication. White-tailed prairie dogs were impacted directly and indirectly. In the 1970s, several toxicants used to control prairie dog populations were banned. Large-scale chemical control programs also were phased out. Prairie dog poisoning still occurs on private and State lands range wide, but at a much reduced rate and with less effective poisons and in specialized circumstances. The Conservation Assessment states that poisoning is banned from BLM lands, and 55 percent of white-tailed prairie dog habitat is on BLM land.

Invasive weeds, especially cheatgrass (*Bromus tectorum*), are identified by the petitioners as reducing forage quality for white-tailed prairie dogs. Cheatgrass out-competes other native, plants and provides limited seasonal forage for white-tailed prairie dogs (Knapp 1996). Furthermore, cheatgrass alters fire regimes, fostering an environment in which frequent fires further proliferate and maintain cheatgrass (Young and Allen 1997, Hull 1965, as cited in Center for Native Ecosystems 2002). Cheatgrass establishment depends on the level of disturbance in a plant community. Consequently, overgrazing of an area, dirt roads, activities that are associated with natural resource extraction and off-highway vehicle use can disturb a landscape and introduce invasive noxious weeds.

Drought is another factor mentioned by the petition that may negatively impact white-tailed prairie dogs. White-tailed prairie dogs exist in arid landscapes. During very dry years, vegetation is less abundant for prairie dogs. Prairie dogs obtain most of their water requirements through vegetation, and may become water-stressed if sufficient succulent vegetation is unavailable (Stockard 1929, Seglund *et al.* 2004). Furthermore, less abundant resources result in lower overall body mass (Beck 1994). Beck (1994) conducted research on comparing white-tailed prairie dog use of watered and unwatered plots. Beck (1994) found that the watered plots were the higher quality habitats and consequently promoted higher weaning success for both adult and yearling females. Since prairie dogs have evolved with occurrences of drought, they have developed means of dealing with the shortage of resources such as a lower litter size or earlier initiation of hibernation to conserve energy. However, prolonged drought could lower overall body condition for white-tailed prairie dogs potentially affecting over-winter survival rates. In addition, drought may further exacerbate the impacts of other factors, such as non-native sylvatic plague.

Both the petition and the Conservation Assessment identify climate change, environmental stochastic events, and other human disturbances as other possible impacts, but little additional information or analysis is provided (Center for Native Ecosystems 2002, Seglund *et al.* 2004).

Based on the current information, it does not appear that there is substantial scientific information to indicate that natural and manmade factors threaten the continued existence of the white-tailed prairie dogs throughout a large portion of their range.

Finding

We have reviewed the petition, the Conservation Assessment, and other information available in our files. Based on our review of this information, we find there is not substantial scientific or commercial information to indicate that listing the white-tailed prairie dog may be warranted at this time. Both the petition and the Conservation Assessment note that plague is the most important factor effecting white-tailed prairie dog population dynamics and the long-term viability of the species. However, the lack of long-term data or a detailed understanding of plague and white-tailed prairie dog dynamics indicate that substantial information is not available to determine that plague is a threat which may warrant the listing of this species. Plague (which occurs across the entire range of the species) and the conditions under which white-tailed prairie dogs are affected, both epizootically and enzootically, population responses to plague, and ensuing long-term population viability, require further evaluation. Likewise, the impacts of present and threatened destruction, modification, or curtailment of habitat are inadequately known to constitute substantial information that listing may be warranted.

Although we will not be commencing a status review in response to this petition, we continue to monitor the species' population status and trends, potential threats to the species, and ongoing management measures that may be important with regard to the conservation of the white-tailed prairie dog throughout its range.

References Cited

A complete list of our references cited herein is available upon request from the Utah field office (*see* **ADDRESSES**).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: November 2, 2004.

Marshall P. Jones, Jr.,

Acting Director, U.S. Fish and Wildlife Service.

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