SENATE FISH AND GAME
EXHIBIT NO. 6
DATE 1-16-07
BILL NO. SB58

Montana Fish, Wildlife & Parks

Helena, MT 59620-0701
406-444-3186
Ref:DO032-07
January 16, 2007

Senate Fish and Game Committee Members
60th Montana Legislature - State Capitol Building
Helena, MT

Dear Senators:

During the hearing on SB 58 questions arose regarding how much money and FTE was being directed at prairie dog management and what activities were involved. In addition, Senator Balyeat requested a copy of the federal register that removed prairie dogs from the list of candidate species. This letter and attachments address these issues.

Fish, Wildlife & Parks' (FWP) best estimate is that during FY '06, we expended approximately $3,300 of non-game wildlife income tax check-off funds, $19,400 of federal aid funds and $5,400 of general license revenue for both personal services and operations related to prairie dogs. Total staff hours focused on prairie dogs are estimated at approximately 1080 hours or 0.53 FTEs.

The enclosed report by FWP Native Species Specialist Allison Puchniak-Begley to the Interstate Prairie Dog Conservation Team coordinator outlines most of the activities FWP was involved with regarding prairie dogs. This report is required as part of FWP's obligations under our multi-state agreement to coordinate conservation of prairie dogs across their 11-state range.

Also enclosed is a copy of the federal register from August 18, 2004 in which the FWP announced their decision to remove prairie dogs from the list of candidate species.

During the hearing, Senator Balyeat questioned how the petitioners who requested listing of prairie dogs could claim that the species had declined by 99% when prairie dogs continue to be distributed over 90% of their historic range in Montana according to FWP reports. The confusion related to this issue stems from use of the term "range," meaning distribution, versus "abundance," meaning numbers. FWP believes that prairie dogs do currently occupy 90% of their historic range, that is their general distribution from east to west across the state. However, the abundance, or total number of acres of prairie dog colonies within that range is much less than 90% of historic levels; potentially as low as 6 – 10% of historic abundance.

If you have any other questions regarding FWP's involvement with prairie dog management or our support for SB 58, please let me know.

Sincerely,

Christian A. Smith
Chief of Staff

Attachments

Montana Fish, Wildlife & Parks
2300 Lake Elmo Drive, Billings, Montana, 59105

DATE: JANUARY 12, 2007

TO: DEB O'NEILL, INTERSTATE PRAIRIE DOG CONSERVATION TEAM COORDINATOR

FROM: ALLISON PUCHNIAK BEGLEY, NATIVE SPECIES SPECIALIST

RE: REQUEST FOR INFORMATION ON PRAIRIE DOG STATUS IN MONTANA & ANNUAL INTERSTATE UPDATE TO USFWS

The Montana Prairie Dog Working Group has met once this year (Nov 2006). Our working group notes will shortly be available at http://fwp.mt.gov/wildthings/concern/prairiedogs.html.

White-tailed Prairie Dogs

Mapping for white-tailed prairie dogs was last conducted in 2005. Current known acreage of white-tailed prairie dogs in Montana is 102.5 ha (253 acres) at 10 colonies.

BLM, FWP, and Montana Department of Transportation worked together on an Environmental Assessment and Translocation Proposal under Montana's ARM rule (12.9.1030, jointly adopted by FWP and the FWP Commission in 2004). We received approval from the FWP Regional Supervisor (Region 5) in June 2006. The EA is available at http://fwp.mt.gov/publicnotices/notice_1131.aspx ; http://fwp.mt.gov/publicnotices/notice_1099.aspx. The translocation is scheduled for May-June 2007.

Black-tailed Prairie Dogs

Trends and Mapping

Black-tailed prairie dogs colonies on Charles M Russell NWR (CMR) visually inspected colonies in summer/fall 2006. No plague epizootics have been documented on CMR. Plague was observed on easement property off the refuge in 2006.

The Nature Conservancy's Matador Ranch mapped 1200 ac of prairie dogs, and is working to also map prairie dog acreage on Grassbank participants. Plague activity has been observed in and around the Matador ranch.

The Miles City FO – BLM required prairie dog monitoring by coal bed natural gas permit applications. Over 1400 acres (36 colonies, 0.2 – 274 ac) in 5 counties were mapped.

The Malta FO – BLM did not map prairie dog colonies in 2006, but apparently widespread plague activity was observed in and around the 40-Complex. No prairie dog colonies were dusted. University of SD and USGS plagues studies were completed in 2006, results forthcoming.

The American Prairie Foundation had 650 ac of black-tailed prairie dogs north of CMR, but 84% were lost to plague in the summer of 2006.

MFWP worked with PDWG members and the Fort Belknap Indian Community to assess the extent of plague in the black-footed ferret recovery area.

Control with Toxicants

Montana Department of Agriculture reports that control with toxicants has not increased or decreased in recent times. MDA is not exploring the possibility of registering Rozol as a prairie dog control toxicant.

Tribal Accomplishments:

Using TWG and TLIP funds, Northern Cheyenne is continuing to work on a prairie dog program that includes landowner incentives under NRCS, and a proposal to re-introduce black-footed ferrets. BIA mapped 5600 ac of black-tailed prairie dogs on tribal lands in 2006. Plague has not been documented in the area since 1991.

The Crow tribal prairie dog colonies were not mapped in 2006. The Tribe is also working on developing a landowner incentive program through TLIP to maintain or conserve prairie dogs. There has been plague documented in the Leachman complex area.

The People's Creek area on the Fort Belknap Indian Community was mapped this year. Final results were not yet available. Some plague activity was observed.

Monitoring

The MPDWG continues to investigate methodology for our statewide monitoring program. We continue to look for some guidance from the Interstate Conservation Team, so that our program will be applicable range wide. Until we develop a monitoring strategy, individual mapping efforts by MPDWG members will continue.

Regional Planning

FWP's Region 6 and the Prairie Dog Advisory Committee have completed a final Regional Plan that serves to identify abundance and distribution standards and to identify opportunities and constraints for prairie dog conservation in NE MT. The plan, EA, and ROD can be found at http://fwp.mt.gov/publicnotices/notice_1074.aspx . An Implementation Committee will be established early in 2007.

Shooting Regulations

Montana FWP and the Montana FWP Commission adopted shooting regulations on black-tailed prairie dogs and white-tailed prairie dogs for March 1, 2006 through February 28, 2007 and March 1, 2007 through February 28, 2008. The Commission again adopted the tentative

regulations as a biennial rule (http://fwp.mt.gov/content/getItem.aspx?id=12215). Prairie dog shooting was/will be closed during the months of March, April and May of 2006 and 2007, with a year-round closure in the black-footed ferret reintroduction areas, and within the range of the white-tailed prairie dog. The regulations apply to public lands (excluding school state trust lands).

Status of PDs in Montana

The 2001 legislative bill that made the dual status of prairie dogs (as pests and nongame species in need of management) is due to sunset. MFWP has requested that the sunset be terminated during the current legislature, so that department can retain the ability to manage prairie dogs. It is not expected to be a controversial issue.

Landowner Incentives

The Nature Conservancy's Matador Ranch continued their successful grassbank incentive program and provides more than 3500-4000 acres of incentive areas. (http://www.nature.org/wherewework/northamerica/states/montana/preserves/art10062.html)

The MPDWG (Landowner Incentives Sub-committee) completed a draft Incentive Program under Farm Bill's EQIP. We have been unsuccessful in our application for a Special Initiative under EQIP at a statewide level, and will pursue the incentive program through local EQIP working groups.

Other Species

Black-footed Ferret

CMR fall black-footed ferret surveys found 15 ferrets (8 kits). Captured animals were given plague and CDV vaccine boosters. Preliminary results from an enzootic plague study suggest higher ferret survival on dusted colonies, or for those ferrets receiving the plague vaccine. There are no plans to release additional ferrets at CMR.

Summer surveys for ferrets at the 40-Complex (BLM-Malta Field Office) estimate at most, 1 black-footed ferret. Plague had eliminated most of the prairie dog colonies with ferret re-introductions over the last 2 years. There are no plans to release additional ferrets in the 40-Complex.

MFWP Technicians conducted spotlight surveys for ferrets outside traditional survey areas to search for the potential of dispersing ferrets. No additional ferrets were observed.

Both the Crow and N. Cheyenne communities continue to work with the Ferret Recovery Team and look at the possibility of reintroducing black-footed ferrets.

Mountain Plover

Stephen Dinsmore (Iowa State University) continued research on mountain plovers in north central MT. Over 200 plovers were color-banded, and nest success for known fate nests was 75%.

Burrowing Owl

Statewide burrowing owl surveys were not completed in 2006, but sporadic surveys throughout the state have been submitted. Several cooperators reported seeing burrowing owls during prairie dog monitoring activities.

MFWP is currently exploring the possibilities for statewide burrowing owl and mountain plover surveys under State Wildlife Grants.

A CHECKLIST OF ACCOMPLISHMENTS FOR THE IMPLEMENTATION OF MONTANA'S PRAIRE DOG CONSERVATION PLAN NOVEMBER 2006

GOAL: The goal of this conservation plan for the state of Montana is to provide for management of prairie dog populations and habitats to ensure long-term viability of prairie dogs and associated species. Five objectives are deemed necessary to achieve this goal.

OBJECTIVE #1: Confer legal status on prairie dogs that is consistent with policy provisions of Sections 87-5-102 and 103, MCA, and current management needs

> **STRATEGY A**: Establish authority for conservation of prairie dogs as "nongame wildlife in need of management" (87-5-101 through 87-5-122, MCA) while simultaneously maintaining existing authority to control prairie dogs as pests (7-22-2207(6) and 80-7-1101, MCA), within the context of this plan.

✓**COMPLETED**: The 2001 session of the Montana Legislature passed HB 492, which in all likelihood would not have occurred without the support and testimony presented by members of the MPDWG.

2006 UPDDATE: HB has a sunset clause for October 2007. FWP will be proposing that the sunset clause be eliminated during the 2007 Legislative Session.

> **STRATEGY B**: Designate black-tailed and white-tailed prairie dogs as "nongame wildlife in need of management" and establish necessary management regulations under provisions of 87-5-101 through 87-5-122 and 87-1-301 (1)(a), MCA.

✓**COMPLETED**: An ARM rule-making process was undertaken in 2001 to designate black-tailed prairie dogs as "nongame wildlife in need of management" and this designation was finalized as of March 2002 (ARM 12.2.501). Subsequently, FWP and the FWP Commission jointly adopted an annual rule regulating prairie dog shooting in 2002 and 2003, and adopted a biennial rule regulating prairie dog shooting that is in effect for 2004 and 2005, and again for 2006 and 2007.

OBJECTIVE #2: Develop statewide and regional prairie dog distribution and abundance standards

> **STRATEGY A:** Statewide Prairie Dog Abundance and Distribution Standards: Achieve a mix of prairie dog colonies and complexes (groups of colonies) capable of accommodating black-footed

ferret recovery, supporting viable, well-distributed populations of other wildlife species associated with prairie Dogs, and capable of sustaining a viable population of black-tailed prairie dogs distributed over 90% of the historic range of the species.

✓**COMPLETED:** Statewide targets for Category 1, Category 2 and Category 3 prairie dog acreage are published on pages 15 and 16 of the plan. These figures may need to be revisited and revised following completion of regional prairie dog planning processes.

STRATEGY B: Regional Prairie Dog Abundance and Distribution Standards

IN PROGRESS: FWP administrative region 6 completed the Region 6 Prairie Dog Abundance and Distribution Objectives Plan (March 2006), and is working to prepare and initiate the Implementation Plan. Similar prairie dog planning efforts will also need to be completed in FWP administrative regions 3, 4, 5 and 7.

STRATEGY C: Inventory and monitor prairie dog distribution and abundance

IN PROGRESS: The MT PDWG (primarily the Monitoring Subcommittee) is currently working to design a monitoring program for Montana.

OBJECTIVE #3: Develop management protocol for prairie dog conservation on federal, state and private lands

STRATEGY A: Modify existing programs and develop new programs that compensate private landowners and DNRC for having prairie dogs on their lands

IN PROGRESS: The Landowner Incentives Subcommittee is currently working with NRCS on the potential to establish initiatives for EQUIP within the 2002 Farm Bill. Although this effort was unsuccessful in December 2005 from a statewide perspective, we are hopeful that the effort can be re-engaged at a more local level. The High Plains Partnership was funded in FY05, but has not yet provided additional opportunities for landowner incentives in the future. The sub-committee will continue to investigate all options for incentives such as the Farm Bill (WHIP, EQIP, CSP), HPP or the federal Landowner Incentive Program.

STRATEGY B: Management Actions

IN PROGRESS: An ARM rule-making process to establish guidelines and criteria to guide any future prairie dog translocation was conducted in 2004 and new ARMs governing translocation became effective on August 3, 2004.

STRATEGY C: Identify isolated prairie dog colonies in need of special consideration, assess their needs, and implement special management tasks, as appropriate.

IN PROGRESS: This strategy is incorporated into the Regional planning efforts in Objective 2, Strategy B. Under special circumstances, this strategy may include the participation of the entire MPDWG.

OBJECTIVE #4: Develop and implement a prairie ecosystem education program

STRATEGY A: Establish a subcommittee of MPDWG members charged with 1) identifying information needs, 2) compiling information that addresses those needs, and 3) developing a draft format for presenting the information and 4) solicit public relations expertise from the various agencies to develop implementation strategies and a public relations plan.

IN PROGRESS: The public affairs subcommittee was established in September 2000 and has worked to investigate available brochures and out reach material. They are currently working together on developing an educational trunk.

STRATEGY B: Inform agency personnel about components of the prairie dog conservation plan through a series of internal workshops, presentations and work sessions for all involved agencies, entities and signatories.

STATUS: Due to wide distribution of general prairie dog information as a result of its "candidate" status, and wide knowledge of the existence of the MT PD conservation plan as a result of public processes associated with rule-making processes (ARM and Annual Rules) and legislation, the PDWG decided (at 2002 meeting), that effort on this strategy has become less important than in 2001, when the plan was finalized.

STRATEGY C: Implement a tiered, community-based outreach effort, beginning with regional workshops (first tier) in each of the FWP administrative regions where prairie dogs exist, and involving all state and federal agencies and landowners within these regions.

STATUS: Same as Strategy B.

STRATEGY D: Capitalize on public education opportunities offered by black-tailed prairie dog colonies located at Ulm Pishkun State Park (FWP), Prairie Dog Monument (FWP), Fort Harrison (MT Army National Guard) and Holter Lake (BLM).

STRATEGY E: Address human health risks and concerns by developing and distributing information on prevention and recognition of plague in humans and publicize factual information on human health risks.

IN PROGRESS: The Plague Subcommittee has been charged with working with MT DPHHS to revise and re-format an information brochure about plague that was published by DPHHS some years ago.

Objective #5: Identify and support or conduct research projects designed to form solutions to short-term and long-term biological and social problems related to black-tailed prairie dog communities and their management

STRATEGY A: Determine how plague and other significant diseases operate in the wild and how they can be managed.

STATUS: Current research is being undertaken at a national level, and through universities.

STRATEGY B: Document the degree of competition between prairie dogs and domestic livestock, and resulting economic impacts.

STATUS: Members of the PDWG continue to work on addressing Strategy B.

STRATEGY C: Determine how many, where, and the juxtaposition of black-tailed prairie dogs required to support viable populations and distribution of species associated with prairie dogs.

STATUS: Members of the PDWG and the Region 6 Advisory Board continue to work on addressing Strategy C.

STRATEGY D: Assess the impacts of shooting activity

STATUS: Results of the SWG-funded shooting study in S. Phillips County (2001) is currently under review. We anticipate that our most promising source of information is an on-going research effort being conducted on the Thunder Basin National Grasslands by the U of WY, Laramie.

STRATEGY E: Stay abreast of new scientific information that identifies factors that influence prairie dog population dynamics (e.g., physiography, soils, vegetation, grazing, predators, shooting, range sites, distribution and connectivity, genetic health, and weather.

STATUS: The PDWG works to share information to accomplish this strategy.

WHITE-TAILED PRAIRIE DOG

(Page 27) White-tailed prairie dogs in Montana are at the northern limit of their range and their decline during this century may represent a range contraction. The risk of the white-tailed prairie dog being extirpated from the state in the short-term future is high. White-tailed prairie dogs are present in significant numbers in Wyoming, immediately south of currently existing colonies in Montana.

In anticipation of the need to enhance Montana's white-tailed prairie dog population, donor populations in Montana and Wyoming have been identified and BLM and FWP have prepared a draft environmental assessment (EA) for reintroduction of white-tailed prairie dogs to formerly occupied sites on public lands. A successful reintroduction could ensure continued presence of the white-tailed prairie dog in the most northern portion of its natural range.

IN PROGRESS: BLM contracted with Faunawest Consulting (Craig Knowles) to map remaining white-tailed prairie dog colonies in Montana during the summer of 2004. Formerly-occupied colony sites on BLM (and FS) lands have been identified and FWP and BLM have secured funding to be applied to translocation of WTPDs from WY to these sites. Translocation protocol to guide such translocations was finalized in August 2004. The translocation sub-committee is charged with overseeing the translocation of white-tailed prairie dogs in Carbon Co.

In 2005, BLM Montana conducted a survey of known and extirpated colonies in Carbon Co., MT in an effort to prioritize sites for a potential WTPD translocation. There are 10 known colonies in MT (approximately 150 ha), and at least 18 known extirpated locations. BLM, FWP, and Montana Department of Transportation are working together on a Translocation Proposal under Montana's new ARM rule (12.9.1030) jointly adopted by FWP and the FWP Commission in 2004. The proposal will be to move colonies that will be impacted by road construction in 2006.

In 2006, an EA under MEPA and NEPA was developed following the Translocation ARM guidelines and opened for public comment. The EA had 3 alternatives: no action, translocation only the white-tailed prairie dogs at risk of extirpation due to highway 72 construction, or a 5-year translocation plan that included alternative 2 and the augmentation of known or historical white-tailed prairie dog colonies with prairie dogs from Wyoming. We had little public comment, and were approved to begin Alternative 3 (5-year plan). However, due to hot weather in July of this year translocations have not yet been started. It appears that we have until July 2007 to move the white-tailed prairie dogs along the highway, and until 2010 for any other translocations on the locations listed in the EA.

MFWP continues to work with the Interstate Prairie Dog Conservation Team on the Conservation Assessment, Strategy and Plan for WTPDs throughout their range.

Dated: July 19, 2004.

Norman Niedergang,

Acting Regional Administrator, Region 5.

[FR Doc. 04–18765 Filed 8–17–04; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Finding for the Resubmitted Petition To List the Black-Tailed Prairie Dog as Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Finding on a resubmitted petition.

SUMMARY: We, the Fish and Wildlife Service (Service), announce our resubmitted 12-month petition finding for the black-tailed prairie dog (*Cynomys ludovicianus*). We conclude that the black-tailed prairie dog is not likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, pursuant to the Endangered Species Act (Act) of 1973, as amended. Therefore, we find that proposing a rule to list the species is not warranted, and we no longer consider it to be a candidate species for listing. We make this determination because recent distribution, abundance, and trend data indicate that the threats to the species identified in the 12-month finding are not as serious as earlier believed.

DATES: This finding was made on August 12, 2004. Although no further action will result from this finding, we request that you submit new information concerning the status of, or threats to, this species, whenever it becomes available.

ADDRESSES: The complete file for this finding is available for inspection, by appointment, during normal business hours, at the South Dakota Field Office, U.S. Fish and Wildlife Service, 420 S. Garfield Avenue, Suite 400, Pierre, South Dakota 57501. Submit new information, materials, comments, or questions concerning this species to us at the above address. You may obtain a copy of our species assessment for the black-tailed prairie dog on the Internet at *http://mountain-prairie.fws.gov/species/mammals/btprairiedog/* or by contacting the South Dakota Field Office at the above address.

FOR FURTHER INFORMATION CONTACT: Pete Gober, at the South Dakota Field Office, (see **ADDRESSES** section above), by telephone at (605) 224–8693, extension 24, by facsimile at (605) 224–9974, or by e-mail *Pete_Gober@fws.gov.*

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Act requires that within 12 months after receiving a petition to revise the List of Endangered and Threatened Wildlife that contains substantial information indicating that the petitioned action may be warranted, the Secretary shall make one of the following findings—(a) The petitioned action is not warranted, (b) the petitioned action is warranted, or (c) the petitioned action is warranted but precluded by pending proposals. Such 12-month findings are to be published promptly in the **Federal Register.** The Act also requires that when a warranted but precluded finding is made, a petition is treated as resubmitted and the Service is required to publish a new petition finding on an annual basis.

On July 31, 1998, the Service received a petition dated July 30, 1998, from the National Wildlife Federation (NWF) (1998). The petitioner requested that the Service list the black-tailed prairie dog (*Cynomys ludovicianus*) as threatened throughout its range. On August 26, 1998, the Service received another petition regarding the black-tailed prairie dog from the Biodiversity Legal Foundation, the Predator Project, and Jon C. Sharps (Biodiversity Legal Foundation *et al.* 1998). The Service accepted this second petition as supplemental information to the NWF petition. A notice of a 90-day finding for the petition was published in the **Federal Register** on March 25, 1999 (64 FR 14425), indicating that it and other readily available scientific and commercial information presented substantial information that the petitioned action may be warranted. On February 4, 2000, the Service announced a 12-month finding that listing the black-tailed prairie dog as a threatened species was warranted but precluded by other higher priority actions (65 FR 5476). When we find that a petition to list a species is warranted but precluded, we refer to the species as being a candidate for listing.

Section 4(b)(3)(B) of the Act directs that, when we make a "warranted but precluded" finding on a petition, we are to treat the petition as being one that is resubmitted annually on the date of the finding; thus the Act requires us to reassess the petitioned actions and to publish a finding on the resubmitted petition on an annual basis. Two previous candidate assessments and resubmitted petition findings for this species were completed February 7, 2001, (66 FR 54808, October 30, 2001) and March 18, 2002 (67 FR 40657, June 13, 2002) (2001 Candidate Assessment, and 2002 Candidate Assessment respectively). These assessments are available at *http://mountain-prairie.fws.gov/btprairiedog/.* In our most recent Notice of Findings on Resubmitted Petitions, we noted that we had not yet updated our finding with regard to the black-tailed prairie dog (69 FR 24876, May 4, 2004). We noted that, since our 2002 assessment, we had received significant new information about this species from the NWF, Forest Guardians, and the States of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming. We stated that we were considering this new information and intended to publish a finding for this species upon completing our new assessment. This resubmitted 12-month finding is based on consideration of all new information that we have received since 2002. It presents evaluations of this new information and re-evaluations of previously acquired information. In accordance with section 4(b)(3)(B) of the Act, we have now completed a status review of the best available scientific and commercial information on the species, and have reached a determination regarding the petitioned action.

Species Information

Prairie dogs occur only in North America. They are rodents within the squirrel family (Sciuridae) and include five species—the black-tailed prairie dog; the white-tailed prairie dog (*C. leucurus*); the Gunnison's prairie dog (*C. gunnisoni*); the Utah prairie dog (*C. parvidens*); and the Mexican prairie dog (*C. mexicanus*) (Pizzimenti 1975). The Utah and Mexican prairie dogs are currently listed as threatened (49 FR 22339, May 29, 1984) and endangered (35 FR 8495, June 2, 1970), respectively. Generally, the black-tailed prairie dog occurs east of the other four species in more mesic habitat. Based upon the information currently available, the Service concurs with Pizzimenti's (1975) assessment of the black-tailed prairie dog as monotypic.

Prairie dogs are small, stout ground squirrels. The total length of an adult black-tailed prairie dog is approximately 37 to 43 centimeters (14 to 17 inches) and the weight of an individual ranges from 0.5 to 1.4 kilograms (1 to 3 pounds). Individual appearances within the species vary in mixed colors of brown, black, gray, and white. The black-tipped tail is characteristic

(Hoogland 1995). Black-tailed prairie dogs are diurnal, burrowing animals. They do not hibernate as do white-tailed, Gunnison's, and Utah prairie dogs (Hoogland 1995, Tileston and Lechleitner 1966). The black-footed ferret (*Mustela nigripes*), swift fox (*Vulpes velox*), mountain plover (*Charadrius montanus*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), and numerous other species are dependent upon prairie dogs to varying degrees.

Several biological factors determine the reproductive potential of the species. Females may breed in their first year, but usually do not breed until their second year, live 3 to 4 years, and produce a single litter, usually four to five pups, annually (Hoogland 1995; Hoogland 2001; King 1955; Knowles and Knowles 1994). Therefore, 1 female may produce 0 to 20 young in its lifetime. While the species is not prolific in comparison to many other rodents, the species is capable of rapid population increases subsequent to substantial reductions (Seery, U.S. Forest Service (USFS), in litt. 2001).

Historically, black-tailed prairie dogs generally occurred in large colonies that contained thousands of individuals, covered hundreds or thousands of acres, and extended for miles (Bailey 1905). At present, most colonies are much smaller. Colonial behavior offers an effective defense mechanism by aiding in the detection of predators and by deterring predators through mobbing behavior. It increases reproductive success through cooperative rearing of juveniles and aids parasite removal via shared grooming. Colonial behavior also can play an important role in the transmission of disease (Antolin *et al.* 2002; Biggins and Kosoy 2001; Hoogland 1995; Olsen 1981). The role of colonial behavior in the transmission of disease is discussed in more detail below (see Factor C).

Black-tailed prairie dog colonies can combine to form a complex, or metapopulation, with interchange occurring between colonies. Typical dispersal is usually between established colonies and limited to approximately 5 kilometers (3 miles) or less (Garrett and Franklin 1988, Hoogland 1995); although Knowles (1985) noted occasional long-distance dispersal distances as high as 10 kilometers (6 miles). Black-tailed prairie dog complexes or metapopulations expand or contract depending upon various intrinsic factors (*e.g.*, reproductive capabilities) and extrinsic factors (*e.g.*, chemical control). In order to substantially augment or replace populations, several individuals must migrate between colonies. However, only a very few individuals are required for useful genetic exchange.

Distribution, Abundance, and Trends

The historic range of the black-tailed prairie dog included portions of 11 States, Canada, and Mexico. The species is currently present in 10 States—Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming. It has been extirpated from Arizona. Black-tailed prairie dogs occur from extreme south-central Canada to northeastern Mexico and from approximately the 98th meridian west to the Rocky Mountains. Range contractions have occurred in the southwestern portion of the species' range in Arizona, western New Mexico, and western Texas through conversion of grasslands to desert shrub lands (Pidgeon *et al.* 2001). Range contractions are largely due to habitat destruction through cropland development in the eastern portion of the species' range in Kansas, Nebraska, Oklahoma, South Dakota, and Texas (Black-footed Ferret Recovery Foundation, in litt. 1999a).

Populations in Canada represent approximately 0.1 percent of the current North American populations. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has considered the black-tailed prairie dog vulnerable since 1978 due to its restricted distribution. This status was reconfirmed in 1998 (COSEWIC 1998). Populations in Mexico represent approximately 2.7 percent of the current North American populations. These populations have been reduced, largely due to control efforts and agricultural conversion (Ceballos *et al.* 1993). The species is considered threatened in Mexico (Secretaria del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP) (Environment, Natural Resources and Fishing Secretary) 1994).

Most estimates of prairie dog populations are not based on numbers of individual animals, but on estimates of the amount of occupied habitat. The actual number of animals present depends upon the prevailing density of animals in that locality. Estimates of black-tailed prairie dog density vary depending upon the season, region, and climatic conditions; but typically range from 5 to 45 individuals per hectare (2 to 18 individuals per acre) (Fagerstone and Ramey 1996; Hoogland 1995; King 1955; Koford 1958; Miller *et al.* 1996). Density also can vary temporally, due to chemical control and plague, as discussed in later sections. Most prairie dog surveys do not estimate density because of the associated effort and cost. The Service believes that estimates of black-tailed prairie dog occupied habitat provide the best available and most reasonable means of gauging populations and the status of the species across the extensive range of the species.

Since the 12-month finding in 2000, all States, with the exception of Montana, have completed Statewide surveys based on occupied habitat. These efforts were systematically designed and implemented, although methodologies varied between States. We believe that the current Statewide estimates are likely more accurate than those provided in the 12-month finding, which were largely based on earlier data, extrapolation of partial surveys, telephone surveys, and desktop exercises. Collectively, the recent estimates represent the first broad benchmark of comparison for black-tailed prairie dog populations since the early 1960s (Bureau of Sport Fisheries and Wildlife (BSFW) 1961).

ARIZONA—The black-tailed prairie dog has been extirpated from Arizona. No additional information regarding distribution, abundance, and trends of the species in Arizona has been obtained since the 12-month finding.

COLORADO—The Colorado Division of Wildlife (CDOW) reported a Statewide estimate of 256,000 hectares (631,000 acres) of black-tailed prairie dog occupied habitat based on an aerial inventory (Pusateri, CDOW, in litt. 2002; Russell, CDOW, in litt. 2003). Thirty-eight complexes were identified Statewide. The methodology employed by CDOW is comprehensive and based on an aerial transect method developed by Sidle *et al.* (2001) and modified by White (CDOW 2003). The Service estimate (based upon a sum of site-specific estimates and extrapolations) in the 2000 12-month finding was 38,000 hectares (93,000 acres) of occupied habitat. The 1961 BSFW estimate was about 39,000 hectares (96,000 acres). A mail survey estimate reported by Colorado Department of Agriculture (1990) was about 394,000 hectares (973,000 acres) of occupied habitat.

The CDOW (2003) identifies 18 extant complexes greater than 2,000 hectares (5,000 acres). More than 10 percent of the total occupied acreage in Colorado occurs in complexes greater than 400 hectares (1,000 acres). The most recent inventory indicates that the black-tailed prairie dog remains widely distributed in Colorado with 100 percent of the counties within the historic range still containing prairie dogs (CDOW 2003).

Trend information at some Colorado sites indicates declines due to plague

with at least partial recovery in subsequent years. At the Rocky Mountain Arsenal, plague has resulted in a substantial overall decline in occupied habitat from 250 hectares (1,646 acres) in 2000 to 127 hectares (314 acres) in 2002 (Seery, Service, in litt. 2002). However, at Comanche National Grasslands (NG), occupied habitat appears to have returned to pre-plague levels following epizootics. Cully and Johnson (2002) estimated 2,382 hectares (5,886 acres) of occupied habitat at Comanche NG, a 42 percent increase from 2001. Occupied habitat at Pawnee NG in 2002 was reported at about 730 hectares (1,800 acres), a 65 percent increase from 2001 (Cully and Johnson 2002). Hoefert (U.S. Army, in litt. 2002) reported 1,418 hectares (3,500 acres) of occupied habitat at Fort Carson, a 109 percent increase from 2001. Estimates for Pueblo and Pinon Canyon in 2002 were similar to those in 2001 with 1,066 hectares (2,632 acres) at Pueblo Army Depot and 143 hectares (353 acres) at Pinon Canyon Maneuver Site.

KANSAS—Based on recent aerial surveys, Kansas Department of Wildlife and Parks (KDWP) estimated there are about 53,000 hectares (130,000 acres) of black-tailed prairie dog occupied habitat in Kansas (Mitchener, KDWP, in litt. 2003). The Service estimate (based upon a mean of previous estimates) in the 2000 12-month finding was 17,000 hectares (42,000 acres). The 1961 BSFW estimate was about 20,000 hectares (50,000 acres).

There are no extant complexes greater than 2,000 hectares (5,000 acres) in Kansas. One complex is greater than 400 hectares (1,000 acres). Less than 10 percent of the total occupied acreage in Kansas occurs in complexes greater than 400 hectares (1,000 acres). The black-tailed prairie dog appears to be largely absent from eastern portions of its historic range in Kansas. Nevertheless, more than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c).

For specific sites, Cully and Johnson (2002) estimated 1,344 hectares (3,321 acres) at Cimarron NG. This was an increase of 26 percent from 2001.

MONTANA—The Montana Department of Fish, Wildlife and Parks (MDFWP) provided a Statewide estimate (including Tribal lands) of 36,000 hectares (90,000 acres) of black-tailed prairie dog occupied habitat in 2002 (Hagener, MDFWP, in litt. 2002). This estimate is the same as that in the 2002 candidate assessment. The Service estimate (based upon Knowles 1998) in the 2000 12-month finding was 26,000 hectares (65,000 acres). The 1961 BSFW estimate was about 11,000 hectares (28,000 acres). In 2003, Hagener (MDFWP, in litt. 2003) noted that most areas in Montana show expansion of black-tailed prairie dog occupied habitat.

There are three extant complexes greater than 2,000 hectares (5,000 acres). More than 10 percent of the total acreage in Montana occurs in complexes greater than 400 hectares (1,000 acres). Black-tailed prairie dog populations appear to be widely distributed in Montana with 90 percent of the historic range occupied by the species (Montana Prairie Dog Working Group 2001).

For specific sites, Vosburgh (Intertribal Consortium, in litt. 2003) estimated about 3,000 hectares (7,000 acres) of black-tailed prairie dog occupied habitat at Crow Reservation in Montana. Approximately 80 percent of Reservation lands have been mapped, so the actual amount of occupied habitat may be larger. Vosburgh (Intertribal Consortium, in litt. 2002) and Hagener (MDFWP, in litt. 2002) both noted a 1,200 to 1,600 hectares (3,000 to 4,000 acres) reduction in occupied habitat on Crow Reservation lands during 2002 due to plague. Both sources also estimated nearly 5,300 hectares (13,000 acres) of occupied habitat at Fort Belknap Reservation, a decrease of about 600 hectares (1,200 acres) from the 1999 estimate due to plague. Additionally, Vosburgh (Intertribal Consortium, in litt. 2003) estimated 1,585 hectares (3,913 acres) of occupied habitat at the Northern Cheyenne Reservation, an increase of about 240 hectares (600 acres) from the previous estimate in 2002. Hagener (MDFWP, in litt. 2003) estimated 2,600 hectares (6,300 acres) on Charles M. Russell National Wildlife Refuge in 2002. Trend information over the last 10 to 20 years at most large sites in the State continues to indicate declines due to plague, with partial recovery in subsequent years, but without complete recovery to pre-plague levels.

NEBRASKA—Statewide, the Nebraska Game and Parks Commission (NGPC) estimated 55,000 hectares (137,000 acres) of black-tailed prairie dog occupied habitat in 2003 (Fritz, NGPC, pers. comm. 2004). This estimate is derived from aerial surveys employing the same methodology used by CDOW. The Service estimate (based upon Amack, NGPC, in litt. 1998 and Knowles 1998) in the 2000 12-month finding was 24,000 hectares (60,000 acres) of occupied habitat. The 1961 BSFW estimate was about 12,000 hectares (30,000 acres).

There are no extant complexes greater than 2,000 hectares (5,000 acres) in Nebraska. One complex is greater than 400 hectares (1,000 acres). Less than 10 percent of the total occupied acreage in Nebraska occurs in complexes greater than 400 hectares (1,000 acres). The black-tailed prairie dog appears to be largely absent from eastern portions of its historic range in Nebraska. Nevertheless, more than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2003).

For specific sites in Nebraska, 40 hectares (100 acres) of black-tailed prairie dog occupied habitat were estimated at Enders Wildlife Management Area in Chase County and 350 hectares (863 acres) at Oglala NG in Sioux County (Fritz, NGPC, in litt. 2002). Thompson (USFS, in litt. 2002) provided a more recent estimate for Oglala NG of 516 hectares (1,275 acres) of occupied habitat. This estimate represents an increase of 47 percent from the previous estimate in 2001.

NEW MEXICO—Based upon evaluations of remote sensing data, about 24,000 hectares (60,000 acres) of black-tailed prairie dog occupied habitat existed Statewide in 2002 (Bell, New Mexico Department of Game and Fish (NMDGF), in litt 2002 and Thompson, NMDGF, in litt. 2003). Ground-truthing of this estimate is currently under way (Johnson *et al.* 2003). The Service estimate (based upon a sum of site-specific estimates) in the 12-month finding was 16,000 hectares (39,000 acres) of occupied habitat. The 1961 BSFW estimate was about 7,000 hectares (17,000 acres).

There are no extant complexes greater than 400 hectares (1,000 acres) in New Mexico. The black-tailed prairie dog appears to be largely absent from western portions of its historic range in New Mexico. Nevertheless, more than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c).

For specific sites, the U.S. Army provided an estimate of 130 hectares (330 acres) of black-tailed prairie dog occupied habitat at a Fort Bliss facility in New Mexico (Hoefert, U.S. Army, in litt. 2002). This estimate is the same as that reported in 2001.

NORTH DAKOTA—Based upon aerial surveys and ground-truthing, a minimum of 8,000 hectares (20,000 acres) of black-tailed prairie dog occupied habitat existed Statewide (including on Tribal lands) in 2003 (McKenna, NDGFD, in litt. 2003). The

Service estimate (based upon Sidle, USFS, pers. comm. 1999) in the 12-month finding was 10,000 hectares (25,000 acres) of occupied habitat. The 1961 BSFW estimate was about 8,000 hectares (20,000 acres).

North Dakota has the smallest recent State-occupied habitat estimate with about 8,000 hectares (20,000 acres) in 540 active colonies (Knowles 2003). Knowles (2003) describes two complexes or metapopulations—one being connected to metapopulations in South Dakota, and the other quite disjunct from other populations. According to Luce (Prairie Dog Conservation Team Interstate Coordinator, in litt. 2003), there are no extant complexes greater than 2,000 hectares (5,000 acres) in North Dakota. One complex is greater than 400 hectares (1,000 acres), but less than 10 percent of the total occupied acreage in North Dakota occurs in complexes greater than 400 hectares (1,000 acres). Black-tailed prairie dog populations appear to be widely distributed in North Dakota with 81 percent of the counties within the historic range of the species containing prairie dogs (Knowles 2003).

For specific sites, 117 hectares (290 acres) of black-tailed prairie dog occupied habitat were estimated at Fort Berthold Reservation, following mapping in 2003 (Vosburgh, Intertribal Consortium, in litt. 2003). There was an estimated 821 hectares (2,026 acres) of occupied habitat on the Little Missouri NG (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2003).

OKLAHOMA—Based upon aerial surveys, the Oklahoma Department of Wildlife Conservation (ODWC) estimated 26,000 hectares (64,000 acres) of black-tailed prairie dog occupied habitat Statewide in 2003 (Hoagland, ODWC, pers. comm. 2003). Approximately 50 percent of the area has been ground-truthed to date, with 15,700 hectares (38,700 acres) verified as active (Duffy, ODWC, in litt. 2003). The Service estimate (based upon Lomolino and Smith 2001) in the 12-month finding was 3,600 hectares (9,000 acres) of occupied habitat. The 1961 BSFW estimate was about 6,000 hectares (15,000 acres).

There do not appear to be any complexes greater than 400 hectares (1,000 acres) in Oklahoma. The black-tailed prairie dog appears to be largely absent from eastern portions of its historic range in Oklahoma. Nevertheless, more than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c).

For specific sites, 5,477 hectares (13,523 acres) of black-tailed prairie dog occupied habitat were estimated to exist in Cimarron County (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002b).

SOUTH DAKOTA—In 2003, a partial estimate was provided for South Dakota of more than 81,000 hectares (200,000 acres) of black-tailed prairie dog occupied habitat, including Tribal lands (Cooper and Gabriel, South Dakota Department of Game, Fish, and Parks (SDDGFP) and South Dakota Department of Agriculture, in litt. 2004). Subsequently, a draft management plan was released that estimated, based on aerial surveys, 165,000 hectares (407,000 acres) of black-tailed prairie dog occupied habitat Statewide (South Dakota Department of Agriculture and SDDGFP 2004). This included an estimated 87,000 hectares (215,000 acres) of occupied habitat on Tribal lands and 78,000 hectares (192,000 acres) on non-Tribal lands. The Service estimate (based upon Sidle, USFS, pers. comm. 1999) provided in the 2000 12-month finding was 60,000 hectares (147,000 acres) of occupied habitat. The 1961 BSFW estimate was about 13,000 hectares (33,000 acres).

There are four extant complexes greater than 2,000 hectares (5,000 acres). More than 10 percent of the total acreage in South Dakota occurs in complexes greater than 400 hectares (1,000 acres). The black-tailed prairie dog appears to be widely distributed in South Dakota with at least 91 percent of the counties within the historic range of the species containing prairie dogs (South Dakota Department of Agriculture and SDDGFP 2004).

For specific sites, 1,900 hectares (4,800 acres) of black-tailed prairie dog occupied habitat were mapped at Badlands National Park in 2002 (Albertson, National Park Service (NPS), in litt. 2002) and 2,300 hectares (5,600 acres) in 2003 (Albertson, NPS, in litt. 2003). This represents a 17 percent increase from 2002 to 2003. Turner Endangered Species personnel estimated 584 hectares (1,443 acres) of occupied habitat at Bad River Ranch in 2003 (Bly Honness, Turner Endangered Species Fund, in litt. 2003), an 11 percent increase from 2002. Morgenstern (Ellsworth Air Force Base, in litt. 2003) reported 38 hectares (95 acres) of occupied habitat on Ellsworth Air Force Base and 320 hectares (800 acres) on the Badlands Bomb Range in 2003. The Lower Brule Sioux Tribe estimated 1,190 hectares (2,940 acres) of occupied habitat in 2003 (Lewis, Lower Brule Sioux Tribe, in litt. 2003). Newspaper interviews of Tribal representatives reported approximately 40,500 hectares (100,000 acres) of occupied habitat at Pine Ridge/Oglala Sioux Reservation and 20,250 hectares (50,000 acres) of occupied habitat at Rosebud Sioux Reservation in 2003 (Miller 2004). The South Dakota Black-Tailed Prairie Dog Management Plan estimates approximately 36,000 hectares (89,000 acres) of occupied habitat at Pine Ridge/Oglala Sioux Reservation and approximately 16,000 hectares (39,000 acres) of occupied habitat at Rosebud Sioux Reservation in 2004 (South Dakota Department of Agriculture and SDDGFP 2004). Thompson (USFS, in litt. 2002) estimated 7,327 hectares (18,105 acres) of occupied habitat at Buffalo Gap NG, 260 hectares (642 acres) at Fort Pierre NG, and 723 hectares (1,787 acres) at Grand River NG in 2002.

TEXAS—The Texas Parks and Wildlife Department (TPWD) provided a preliminary Statewide estimate in 2002 of 96,000 hectares (236,000 acres) of black-tailed prairie dog occupied habitat based upon 1996–97 digital ortho-photo quadrangle interpretation (Young, TPWD, in litt. 2002). The TPWD proposed to review 2003 satellite imagery for select counties to determine any changes in occupied habitat from 1996–97 to 2003. Ground-truthing has been completed for 70 out of 78 counties for a current minimum of 72,000 hectares (178,000 acres) of occupied habitat (Holdstock, TPWD, in litt. 2003). The Service estimate (modified from Cheatheam 1977) in the 2000 12-month finding was 29,000 hectares (71,000 acres) of occupied habitat. The 1961 BSFW estimate was about 11,000 hectares (26,000 acres).

There are no extant complexes greater than 400 hectares (1,000 acres) in Texas. The black-tailed prairie dog appears to be distributed throughout most of its historic range in Texas. More than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c).

For specific sites, about 284 hectares (700 acres) of occupied habitat were estimated at the City of Lubbock Land Application Site (Fuquay 2004). County estimates are under development by the TPWD.

WYOMING—Luce (Prairie Dog Conservation Team Interstate Coordinator, in litt. 2003) estimated 51,000 hectares (125,000 acres) of black-tailed prairie dog occupied habitat Statewide in 2003. This estimate is equal to the Service estimate (based upon a projected decline from Wyoming Game and Fish Department's (WGFD)

1987 estimate) in the 12-month finding. The 1961 BSFW estimate was about 20,000 hectares (49,000 acres). The WGFD is currently mapping towns from 2001 color infrared aerial photos and field checking a significant portion of the towns mapped (Rothwell, WGFD, in litt. 2003).

There is one extant complex greater than 2,000 hectares (5,000 acres) in Wyoming. We are unaware of any additional complexes greater than 400 hectares (1,000 acres). It appears that less than 10 percent of the total occupied acreage in Wyoming occurs in complexes greater than 400 hectares (1,000 acres). The black-tailed prairie dog appears to be widely distributed throughout most of its historic range in Wyoming. More than 75 percent of the counties within the historic range of the species contain prairie dogs (Luce, Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c).

Plague has resulted in notable declines in the State's largest identified complex at Thunder Basin NG. Thunder Basin NG was estimated to contain about 3,600 hectares (9,000 acres) of occupied habitat in 2003 following a plague epizootic (Byer, USFS, pers. comm. 2003). Approximately 7,300 hectares (18,000 acres) of occupied habitat existed in 2000 prior to plague (Thompson, USFS, in litt. 2002). Another way to evaluate the impacts of plague at this site is to examine the number of colonies impacted. In 2002, the WGFD reported that only 11 percent of the colonies surveyed at Thunder Basin NG were still active (Wichers, WGFD, in litt. 2002).

For other specific sites, the U.S. Army provided an estimate of 280 hectares (700 acres) of black-tailed prairie dog occupied habitat at the Sheridan Training Area in 2002 (Hoefert, U.S. Army, in litt. 2002). This was the same as the estimate provided in 2001. Cheatham (NPS, in litt. 2003) reported 16 hectares (40 acres) of occupied habitat at Devils Tower National Monument in 2003.

CANADA—No new estimates of black-tailed prairie dog occupied habitat have been provided since 2001. The most recent estimate is 1,049 hectares (2,589 acres) of occupied habitat (Fargey, Grasslands National Park, in litt. 2001). This estimate is similar to the Service estimate in the 12-month finding of 800 hectares (2,000 acres) of occupied habitat, all at Grasslands National Park in Saskatchewan. In general, population estimates of the black-tailed prairie dog in Canada appear to be stable, but small.

MEXICO—No new estimates of black-tailed prairie dog occupied habitat have been provided since 2001. The most recent estimate is more than 20,000 hectares (49,000 acres) of occupied habitat, almost all of it at one site near Janos, Chihuahua (List in litt. 2001). The Service estimate in the 12-month finding was 36,000 hectares (90,000 acres) of occupied habitat. List (in litt. 2001) also noted that 1,170 hectares (2,889 acres) of occupied habitat had been lost (50 percent of that due to conversion of rangeland to cropland), but that the large difference from earlier estimates for the site was due to earlier mapping errors and did not represent an actual loss of occupied habitat. In general, population estimates of the black-tailed prairie dog in Mexico appear to be stable in recent decades. The species appears to be absent from much of its historic range in Mexico.

State agencies now estimate approximately 745,400 hectares (1,842,000 acres) of occupied habitat across the United States as opposed to an estimate of 364,000 acres in 1961. As noted above, evaluation of prairie dog population status is based on amount of occupied habitat, not numbers of individual animals. However, many people are interested in the estimated numbers of prairie dogs. Estimates of black-tailed prairie dog density typically range from between 2 to 18 animals per acre, with an average of 10 per acre. Applying these density estimates to the acreage figures generates an estimated population of black-tailed prairie dogs ranging between 3,684,000 and 33,156,000, with the average density figure yielding an estimated population of 18,420,000 black-tailed prairie dogs in the United States. This estimate of the abundance of the black-tailed prairie dog has implications for our analysis of the threats faced by the black-tailed prairie dog described below.

Discussion of Listing Factors

Section 4 of the Act (16 U.S.C. 1533) and implementing regulations at 50 CFR part 424 set forth procedures for adding species to the Federal List of Endangered and Threatened Wildlife. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to black-tailed prairie dog are evaluated below.

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

In the 2000 12-month finding, we concluded that effects due to the present or threatened destruction, modification, or curtailment of habitat or range were a moderate, imminent threat. No changes regarding the magnitude or immediacy of threat from this factor were made in our assessment of the species and resubmitted petition finding in 2001 (66 FR 54808, October 30, 2001). Our 2002 assessment and resubmitted petition finding (67 FR 40657, June 13, 2002) addressed habitat threats individually. We concluded that the present or threatened destruction of habitat from agricultural conversion and other factors was no longer a threat. We concluded that the present or threatened modification of habitat due to the presence of plague was a moderate, imminent threat. We concluded that the present curtailment of habitat due to chemical control was no longer a threat and the threatened curtailment of habitat was a low magnitude, non-imminent threat.

Historically as many as 40 million hectares (100 million acres) of occupied black-tailed prairie dog colonies occurred across a landscape of approximately 162 million hectares (400 million acres) of potential habitat (Black-footed Ferret Recovery Foundation, in litt. 1999a; Fagerstone and Ramey 1996; Knowles 1998; Seton 1953). At present, there are an estimated 745,400 hectares (1,842,000 acres) of occupied habitat in the United States. Habitat destruction resulted from cropland development, urbanization, changes in vegetative communities, burrow deterioration, and fragmentation. The most substantial cause of habitat destruction that we are able to quantify is cropland development. Conversion of the native prairie to cropland has largely progressed across the species' range from east to west, with the more intensive agricultural use in the eastern portion of the species' range. Black-tailed prairie dog use of potential habitat is somewhat, but not completely, limited by this conversion. Approximately 37 percent of the suitable habitat within its range has been converted to cropland uses (Black-footed Ferret Recovery Foundation, in litt. 1999b). However, the 12-month finding noted that the current threat of habitat loss through cropland conversion is much less than in the early days of agricultural development in the Great Plains and that a considerable amount of potential unoccupied habitat remains.

The Natural Resources Conservation Service quantified land cover/land use changes from 1982 to 1997 (U.S. Department of Agriculture 2000). The 11 States within the historic range of the black-tailed prairie dog experienced a 10 percent loss of cropland and a 2 percent loss of rangeland during this

time period. However, when the amount of current occupied habitat is contrasted with the amount of remaining rangeland (potential habitat), estimated in the hundreds of millions of acres, it is evident that sufficient potential habitat still occurs in each of the 11 States within the historic range of the species to accommodate large expansions of black-tailed prairie dog populations (U.S. Department of Agriculture 2000). This conclusion is supported by Sidle *et al.* (2001), who noted that, although substantial areas of grassland have been converted to cropland in the northern Great Plains, vast areas of suitable habitat for colonization and expansion of black-tailed prairie dogs remain.

Rosmarino (Forest Guardians *et al.*, in litt. 2003a and 2003b) expressed concern regarding the substantial loss of habitat due to urbanization along the Colorado Front Range. We acknowledge that urbanization is an ongoing factor in habitat loss along the Front Range. 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. We continue to believe that, given population estimates in Colorado and elsewhere, urbanization cannot be considered a threat at present or in the foreseeable future, either in Colorado or rangewide.

Gilpin (University of California, in litt. 2001) considered habitat fragmentation, which decreases colony and metapopulation size, a serious threat that could impact future viability of the black-tailed prairie dog. However, Luce (Prairie Dog Conservation Team Interstate Coordinator, in litt. 2002c) suggested that fragmentation of habitat and scattered distribution may have isolated black-tailed prairie dog populations and prevented plague from impacting them. He noted that it is important to recognize the presence and value of "small, remnant populations." This issue is more thoroughly discussed under Factor C.

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. Additionally, we now conclude that present or threatened habitat modification as it relates to plague is not a significant threat to the species given the analysis that follows under Factor C. Threatened habitat curtailment as it relates to chemical control is not a significant threat to the species given the analysis that follows under Factor E.

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

In the 2000 12-month finding, we concluded that effects due to scientific or educational purposes and commercial use of the species via the pet trade were not threats to the species. These conclusions were reaffirmed in our assessments of the species in 2001 and 2002. We continue to believe these factors are not threats pursuant to the definitions of the Act.

The 2000 12-month finding also concluded that recreational shooting could be a low, imminent threat in some circumstances. No changes regarding the magnitude or immediacy of threat from this factor were made in our 2001 Candidate Assessment. In the 2002 Candidate Assessment we determined that recreational shooting did not rise to the level of a threat to the species.

Knowles (2003) noted extensive recreational shooting in North Dakota, but found no clear evidence that shooting controlled prairie dog populations. Rosmarino (Forest Guardians *et al.*, in litt. 2003a and 2003b) suggested that density is reduced, that small colonies have been extirpated by shooting, and that larger colonies could be reduced. Reeve and Vosburgh (in draft) concluded that interest in and intensity of recreational shooting has increased dramatically over the past decade and that shooting can cause changes in prairie dog behavior and reproductive success. However, they also noted that prairie dog populations are capable of recovering from shooting.

Some of the States with substantial amounts of public lands are experiencing greater shooting pressure on prairie dogs in some areas than previously estimated, and are implementing regulations to better monitor and control this activity. These regulations are described under Factor D.

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 (Knowles 1988), but we believe black-tailed prairie dog populations can recover from very low numbers following intensive recreational shooting (Knowles 1988, Reeve and Vosburgh in draft). Therefore, we continue to conclude that effects due to recreational shooting do not rise to the level of a threat pursuant to the definitions of the Act. Recent Statewide and range-wide estimates of occupied habitat further reinforce this conclusion.

C. Disease or Predation

In the 2000 12-month finding, we concluded that predation was not a threat. This conclusion was reaffirmed in our 2001 and 2002 Candidate Assessments. We continue to believe this factor is not a threat pursuant to the definitions of the Act.

The 2000 12-month finding concluded that disease was a moderate, imminent threat. No changes regarding the magnitude or immediacy of threat from disease were made in our 2001 or 2002 assessments.

Although plague is likely the most important factor adversely influencing black-tailed prairie dogs, recent information indicates the populations are not as vulnerable to the disease as previously thought. Plague is an exotic disease foreign to the evolutionary history of North American species. It is caused by the bacterium *Yersinia pestis*, which fleas acquire from biting infected animals and can then transmit via a bite to other animals. The disease also can be transmitted pneumonically directly among infected animals. Some rodent species may act as carriers of the disease or infected fleas with little or no symptoms. Black-tailed prairie dogs cannot be considered carriers because of their high mortality rate (Barnes 1993, Cully and Williams 2001).

Plague was first observed in wild rodents in North America near San Francisco, California, in 1908 (Eskey and Haas 1940). The first reported incidences of plague in black-tailed prairie dogs occurred in the 1940s (Gage, Center for Disease Control, pers. comm. 1999, Miles *et al.* 1952). Evidently, plague spread from the west coast to its present easterly limit in about 50 years. Plague is currently limited to the western two-thirds of the black-tailed prairie dog range (perhaps due to some unknown ecological limitations) (Barnes 1993). Black-tailed prairie dog habitat in all of Montana, Wyoming, Colorado, New Mexico, and Arizona is impacted by plague. Portions of western North Dakota, Nebraska, Kansas, Oklahoma, and Texas have records of plague in black-tailed prairie dogs. Black-tailed prairie dog habitat in the eastern portions of these same States and all of South Dakota are free of plague.

The major effects of plague on black-tailed prairie dogs are to reduce colony size, increase variance in colony populations, and increase inter-colony distances within complexes (Brand 2002). Recently documented plague outbreaks include Bent County, Fort Carson, Pinon Canyon, and Rocky Mountain Arsenal in Colorado; Crow

and Fort Belknap Reservations in Montana; Kiowa NG and Rita Blanca NG in Texas and Oklahoma; and Thunder Basin NG in Wyoming. The plague epizootic at Thunder Basin was particularly notable because the location was one of the few remaining complexes greater than 4,000 hectares (10,000 acres), and the epizootic brought plague close to some of the last remaining large plague-free complexes found in South Dakota.

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.

Recent data indicate that, in some portions of the species' range, some colonies recover and may approach pre-plague population levels following plague epizootics. At Comanche NG in Colorado, approximately 1,820 hectares (4,500 acres) of black-tailed prairie dog occupied habitat were estimated to exist on the Carrizo Unit of Comanche NG in 1995. In 1996, all of the towns inspected had experienced total or near total extirpation. No fleas were collected to facilitate plague surveillance, but the pattern of widespread elimination of prairie dog colonies was the pattern expected from sylvatic plague. Plague was documented the following year in a nearby colony. In 1998, approximately 200 hectares (500 acres) of occupied habitat were found on the grassland's Carrizo Unit (Cully 1998). Data are not available from the Carrizo Unit for subsequent years, but throughout the entire Comanche NG, 560 hectares (1,374 acres) of occupied habitat were present in 1998 (Sidle, USFS, in litt. 1999). Occupied habitat at Comanche NG increased to 800 hectares (1,974 acres) in 1999 (Thompson, USFS, in litt. 2002), 1,760 hectares (4,342 acres) in 2001 (Cully and Johnson 2002), and 2,380 hectares (5,886 acres) in 2002 (Cully and Johnson 2002). Cully and Johnson (2002) noted that "colony area on the Comanche NG is similar to what was present before the die-off there in 1994–95."

At Cimarron NG in Kansas, plague was documented in 1949, 1997, and 1999 (Cully and Williams 2001). Nevertheless, populations appear to be increasing in recent years, with occupied habitat estimates of 520 hectares (1,287 acres) in 1998 (Sidle, USFS, in litt. 1999), 680 hectares (1,688 acres) in 1999 (Thompson, USFS, in litt. 2002), 1,070 hectares (2,639 acres) in 2001 (Thompson, USFS, in litt. 2002) and 1,345 hectares (3,321 acres) in 2002 (Cully and Johnson 2002). Cully and Johnson (2002) noted that "colony area on the Cimarron NG is the highest ever recorded." Other examples of population recovery are discussed in the Distribution, Abundance, and Trends section of this document. The severity of plague outbreaks may vary, with severe outbreaks and limited recovery occurring at some complexes (Rocky Mountain Arsenal, Colorado, and Ft. Belknap and Northern Cheyenne Reservations in Montana) and less severe outbreaks with apparently complete or near complete recovery at other sites (Cimarron NG and Comanche NG).

Recent laboratory research indicates that at low levels of exposure a small percentage of black-tailed prairie dogs show some immune response and consequently some resistance to plague (Rocke, U.S. Geological Survey (USGS), pers. comm. 2002), similar to what has been reported in Gunnison's (Cully *et al.* 1997) and white-tailed prairie dogs (Biggins, USGS, pers. comm. 2002). The Center for Disease Control recently reported that seroconversion (evidence of some immune response) occurred in 2 out of 65 black-tailed prairie dogs collected following a plague event at Pawnee NG in Colorado (Antolin, Colorado State University, pers. comm. 2002). Nevertheless, an individual black-tailed prairie dog exposed to plague is at high risk due to a combination of low resistance and high sociality (Biggins and Kosoy 2001).

It has been suggested that the responses of black-tailed prairie dog populations to plague may vary based on their population density (Cully, USGS, pers. comm. 2002). The likelihood of plague transmission in prairie dogs from flea bites versus pneumonically from other prairie dogs already infected is unknown, but is being investigated. It may be that survival of some individuals in low-density or isolated populations is facilitated by the necessity of high exposure rates for individuals to contract the disease. Single or even multiple flea bites do not always have a high enough dose for infection to occur (Rocke, USGS, pers. comm. 2002). In contrast, if plague is spread pneumonically from animal to animal, a much larger dose is transferred than from a flea bite. In such situations, the impact on a large, densely populated complex could be substantial. A population dynamic may have developed that somewhat protects low density, isolated black-tailed prairie dog populations from extirpation, even with infected fleas resident in the habitat of surviving prairie dogs.

Lomolino *et al.* (2003) postulated that habitat fragmentation may benefit some prairie dog populations by protecting them from plague through isolation. Historically, black-tailed prairie dogs were typically found in large complexes that consisted of many colonies that were close enough to each other to allow frequent dispersal between colonies. Currently, due to a combination of factors including habitat fragmentation, plague, and poisoning, many prairie dogs exist in much smaller complexes or in isolated colonies where the possibility for interchange is reduced. Smaller populations also may be protected by limiting exposure via direct animal-to-animal contact (Cully and Williams 2001, Roach *et al.* 2001). Influences other than plague likely will still adversely affect small black-tailed prairie dog populations, but they have not been demonstrated to be as serious as plague.

Trudeau (2002) noted that "sylvatic plague epizootics have the potential to cause severe population bottlenecks in black-tailed prairie dog colonies contributing to losses of alleles and decreases in heterozygosity. Plague could potentially devastate genetic variability in affected prairie dog colonies, causing inbreeding depression in the short-term and inability to adapt to environmental change in the long-term." However, the author also noted that "even though a significant reduction in heterozygosity was observed in plagued colonies, gene flow may balance the effects of the sylvatic plague by reintroducing levels of variation in genetically depauperate post-plague colonies. * * * Given time, gene flow should erase the effects of plague on genetic variability assuming that colonies receive an adequate number of migrants to reintroduce genetic variability and population size is stable following recovery." Roach *et al.* (2001) noted that extinction and

recolonization by black-tailed prairie dogs in the presence of plague has not increased genetic differentiation among prairie dog colonies in north-central Colorado. Dispersal has been adequate to prevent genetic isolation.

In 2003, monkeypox was detected in pet prairie dogs in Wisconsin, Illinois, and Indiana. The source of the infection was a shipment of rodents from Africa. The disease was never found in any wild prairie dogs or other wild rodents (Center for Disease Control 2003). Consequently, we do not consider this disease to be a threat to black-tailed prairie dogs.

We continue to conclude that effects on black-tailed prairie dog populations due to predation are not a threat to the persistence of the species. 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. We predict that plague will continue to influence black-tailed prairie dog population dynamics to a degree. However, we now conclude that plague in combination with other factors is not likely to cause the black-tailed prairie dog to become an endangered species within the foreseeable future.

D. The Inadequacy of Existing Regulatory Mechanisms

In the 2000 12-month finding, we concluded that the inadequacy of existing regulatory mechanisms was a moderate, imminent threat. No changes regarding the magnitude or immediacy of threat from this factor were made in our 2001 Candidate Assessment. In our 2002 Candidate Assessment, the threats due to inadequate regulatory mechanisms were addressed separately as they related to habitat curtailment, recreational shooting, disease, and chemical control. The regulatory concerns as they pertained to recreational shooting were not considered a threat (since regulatory shooting was not considered a threat). The regulatory concerns as they pertained to chemical control were considered low, non-imminent threats. The regulatory concerns as they pertained to disease were considered a moderate, non-imminent threat.

In this finding we have addressed the regulatory concerns as they relate to disease in factor C. We have discussed chemical control under factor E, and we have dealt with recreational shooting under factor B. We have found disease to be a low-level, non-imminent threat, chemical control not to be a threat, and recreational shooting not to be a significant threat. 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.

We have considered the current status of State, Tribal, and Federal regulatory mechanisms, as well as any proposed changes. A description of these regulatory measures with a specific focus on recreational shooting, chemical control, and management goals designed to ameliorate the influences of plague and other lesser impacts is included in the revised candidate assessment.

During the past few years some States and Tribes have made substantial progress in initiating management efforts for the black-tailed prairie dog, including completing surveys to provide more accurate estimates of occupied habitat, drafting management plans, enacting laws that change the status of the species from pest to a designation that recognizes the need for management, establishing regulations that allow for better management of recreational shooting, and setting future goals for occupied habitat that will address population management needs for disease and other threats. While these efforts are important to black-tailed prairie dog management, the distribution, abundance, and trends data indicate that inadequate regulatory mechanisms are not limiting black-tailed prairie dog populations at present, nor are they likely to within the foreseeable future. Therefore, we now conclude that these concerns do not rise to the level of a threat.

E. Other Natural or Manmade Factors Affecting the Continued Existence of the Species

We consider chemical control of black-tailed prairie dogs and synergistic effects from all threats under this factor. Chemical control also is influenced by adequacy of regulatory mechanisms.

In the 2000 12-month finding we concluded that both chemical control and synergistic effects were moderate, imminent threats. No changes regarding the magnitude or immediacy of threat from this factor were made in the 2001 Candidate Assessment. In the 2002 Candidate Assessment we concluded that chemical control was a moderate, non-imminent threat. 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.

Organized prairie dog control from 1916 to 1920 included the poisoning of tens of millions of acres of western rangeland (Bell 1921). From 1937 to 1968, 12,331,178 hectares (30,447,355 acres) of prairie dog occupied habitat were controlled (Cain *et al.* 1972). Of the lands controlled from 1937 to 1968, 75 percent were treated by 1950, with an average of more than 650,000 hectares (1.6 million acres) treated annually. From 1951 to 1968, the average amount of prairie dog occupied habitat controlled annually decreased to approximately 174,000 hectares (430,000 acres) per year. In the 1960s, several States reached their lowest estimates of black-tailed prairie dog occupied habitat. According to Cain *et al.* (1972), in the late 1960s the public became interested in Federal animal control programs, including prairie dog control, and this interest resulted in increased attention to ecological considerations. Several toxicants previously used for pest or predator control were banned. In 1972, Compound 1080, which was used extensively in early prairie dog control efforts, was banned by Presidential Executive Order 11643 for use on Federal lands, in Federal programs, or on private lands (Barko 1997). Although prairie dog control continued via other toxicants (zinc phosphide), it was at a reduced rate and with less effective poisons that required pre-baiting.

The last large-scale chemical control effort for black-tailed prairie dogs occurred on the Pine Ridge/Oglala Sioux Reservation in South Dakota in the 1980s. This effort resulted in the eradication of most prairie dogs on approximately 185,740 hectares (458,618 acres) of occupied habitat from 1980 to 1984. From 1985 to 1986, 97,000 hectares (240,000 acres) were re-treated (Roemer and Forrest 1996). Estimates of occupied habitat have increased at Pine Ridge/Oglala Sioux Reservation from approximately 8,000 to 12,000 hectares (20,000 to 30,000 acres) in 1999 (Yellowhair, Pine Ridge Sioux Tribe, pers. comm. 1999) to approximately 36,000 to 40,000 hectares (89,000 to 100,000 acres) in 2003 (South Dakota

Department of Agriculture and SDDGFP 2004; Miller 2004). Following control efforts on Pine Ridge, three additional extensive control efforts targeted for the Cheyenne River Sioux and Rosebud Sioux Reservations in South Dakota and Fort Belknap Reservation in Montana were halted due to concerns regarding the lack of available black-footed ferret reintroduction sites.

The potential for future large-scale control efforts on Tribal lands may affect the black-tailed prairie dog in South Dakota. The BIA is currently considering some chemical control of rapidly expanding colonies on Tribal lands. Black-tailed prairie dog populations at several of these sites are the last remaining large complexes (greater than 4,000 hectares/10,000 acres) that have not experienced plague. The suggested intent of these proposed efforts would be to control some prairie dogs, particularly where they encroach on private lands, but allow core areas that are suitable for potential black-footed ferret reintroduction efforts to remain intact. This approach is more flexible and much less problematic than historic attempts to completely extirpate populations. As noted earlier, the most recent estimate of occupied habitat for South Dakota for 2003 was 165,000 hectares (407,000 acres) with approximately 87,000 hectares (215,000 acres) occurring on tribal lands.

Recent chemical control efforts have often been less successful than historic efforts for a variety of reasons. Early chemical control efforts were well-funded, federally-directed efforts that utilized efficient toxicants. Many current control efforts are small-scale, privately funded and privately directed efforts. The result is localized effects without significant impacts on population dynamics range wide. Available chemicals also are less effective than early toxicants that are now banned.

It is difficult to obtain accurate information regarding the use of toxicants to control black-tailed prairie dogs. The Environmental Protection Agency, the Federal agency responsible for establishing labeling requirements on all pesticides, has been unable to provide any information regarding distribution or use. They have noted that distribution and sale of a proprietary pesticide is considered confidential trade information and cannot be disclosed except in unusual circumstances. They also note that their offices do not have information on the amount of bait sold or the acreage controlled. Applicators are required to keep records for 3 years; however, they are not required to submit these records to a central location (Roybal, U.S. Environmental Protection Agency, in litt. 2002). We received limited information regarding sales of toxicants from APHIS and from some State agencies. This information is provided below.

APHIS provides technical assistance and conducts operational work in several States within the historic range of the black-tailed prairie dog. While APHIS is only one avenue available to landowners seeking chemical control and provides only a partial picture of control activities, some perspective regarding general trends can be gained from their records. For example, sales of zinc phosphide oats in Colorado, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Texas, and Wyoming totaled 2,062 kilograms (4,545 pounds) in 1998, 3,445 kilograms (7,595 pounds) in 1999, 3,647 kilograms (8,040 pounds) in 2000, 3,223 kilograms (7,105 pounds) in 2001, and 5,933 kilograms (13,080 pounds) in 2002 (Green, APHIS, in litt. 2002). APHIS has no operational programs in Kansas or South Dakota.

Statewide estimates of toxicant sales are available for Nebraska, South Dakota, and Wyoming. The South Dakota Department of Agriculture sold approximately 12,247 kilograms (27,000 pounds) of zinc phosphide oat bait to South Dakota and Nebraska in 2000, 19,505 kilograms (43,000 pounds) in 2001, 44,452 kilograms (98,000 pounds) in 2002, and 61,235 kilograms (135,000 pounds) in 2003 (Fridley, South Dakota Department of Agriculture, in litt. 2004). At least 7,343 kilograms (16,189 pounds) of zinc phosphide bait was purchased from South Dakota and applied in Nebraska in 2002 (Hobbs, APHIS, pers. comm. 2003). In addition to legal control, numerous anecdotal reports have been received regarding illegal control activities; however, no data are available to evaluate the scope of these activities (Fritz, NGPC, in litt. 2002). In Wyoming, sales of toxicants were reported as "greatly increased between 2000 and 2001, especially in counties such as Campbell, Weston, and Niobrara." Statewide sales of zinc phosphide increased from 3,643 to 28,579 kilograms (8,031 to 63,007 pounds). Aluminum phosphide fumotoxin sales increased from 126 to 713 flasks over the same period. Sales trends for 2002 also appeared to be on the increase for most counties (Wichers, WGFD, in litt. 2002).

Little information regarding the extent of chemical control is available for other States. In Texas, it was reported that in 2002, 20,500 aluminum phosphide tablets and 295 kilograms (650 pounds) of zinc phosphide oat bait were used by APHIS to treat an estimated 1,000 hectares (2,463 acres) (Leland, APHIS, in litt. 2002). APHIS was not the only source of toxicants in Texas (Young, TPWD, in litt. 2002). Green (APHIS, in litt. 2002) reported that in 2002, APHIS sold 127 kilograms (280 pounds) of zinc phosphide in North Dakota, 331 kilograms (730 pounds) in New Mexico, and 590 kilograms (1,300 pounds) in Montana. APHIS was not the only source of zinc phosphide in these States. In Oklahoma, the ODWC has issued permits to control approximately 28 hectares (70 acres) (Duffy, ODWC, in litt. 2003). Rosmarino (Forest Guardians *et al.* in litt. 2003a) reported on numbers of prairie dogs poisoned in urban areas along the Front Range of Colorado in 2001 and 2002. If a density of 10 prairie dogs per acre is assumed for this report and a number of 500 individuals is assumed where a quantity of "hundreds" is given, approximately 570 hectares (1,400 acres) were poisoned in 2001 and 900 hectares (2,200 acres) in 2002. Both of these estimates equate to less than 0.5 percent of the Statewide population of the species in Colorado at that time.

When grain zinc phosphide bait is applied according to directions, it can result in an 80 to 90 percent reduction in prairie dog numbers. The recommended application rate is 0.15 kilogram/0.4 hectare (0.33 pound/1 acre) (Hygnstrom *et al.* 1994). When applied properly, aluminum phosphide can provide greater than 90 percent control. Thus, some of the above numbers may indicate the potential for significant impacts to the species. For example, if all of the product were applied within the year of purchase at the recommended application rate, approximately 164,000 hectares (405,000 acres) would have been treated in South Dakota and Nebraska in 2003. In Wyoming, approximately 76,486 hectares (189,000 acres) would have been treated in Wyoming in 2001 if all of the oat bait were applied within the year of purchase at the recommended application rate. It is unclear to what extent consumers are effectively applying the toxicant they have available.

Furthermore, site-specific and range-wide data indicate the species' resiliency to the impacts of chemical control. In the Pine Ridge/Oglala Sioux Reservation example discussed above, estimates occupied habitat increased from approximately 8,000 to 12,000 hectares (20,000 to 30,000 acres) in 1999 to approximately 36,000 to 40,000 hectares (89,000 to 100,000 acres) in 2003. Other site-specific examples of populations rebounding are discussed

in the distribution, abundance, and trends section of this document. Recent range-wide data also show little evidence of permanent impacts from chemical control. It is possible that population densities may have been reduced on some lands due to chemical control. Additionally, black-tailed prairie dogs may have been extirpated from some specific sites. Although we acknowledge extant and potentially significant local effects on some populations, based on the new information above and recent State-by-State range-wide estimates of occupied habitat, we now conclude that impacts on the black-tailed prairie dog due to chemical control are not a threat to the extent that the species could become endangered in the foreseeable future.

We believe that synergistic effects likely impact the black-tailed prairie dog; however, we are unable to adequately describe and quantify these effects. Additionally, we are unaware of data from similar species in similar ecological circumstances that would infer that similar influences would cause the status of the black-tailed prairie dog to meet the Act's definition of a threatened species.

Revised Petition Finding

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species. We reviewed the petition, information available in our files, other published and unpublished information, and information submitted to us following our 90-day petition finding (64 FR 14425, March 25, 1999)), the original 12-month finding (65 FR 5476, February 4, 2000), and the 2001 and 2002 candidate assessments and resubmitted petition findings (66 FR 54808, October 30, 2001, and 67 FR 40657, June 13, 2002, respectively). On the basis of the best scientific and commercial information available, we find that the petitioned action to list the black-tailed prairie dog under the provisions of the Endangered Species Act is not warranted.

State agencies now estimate approximately 745,400 hectares (1,842,000 acres) of occupied habitat across 10 western States. This estimate of the occupied habitat of black-tailed prairie dog has played a substantial role in this decision. Previously, 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 the updated distribution, abundance, and trends data, it appears that these extrapolations were not correct. Dramatic fluctuations in the amount of black-tailed prairie dog occupied habitat at specific large complexes may occur due to plague epizootics or chemical control, but they do not appear to influence range-wide species persistence.

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. Thus, the species does not meet the Act's definition of a threatened species. As a result we find that the species is not in danger of extinction in the foreseeable future and, therefore, the petitioned action is not warranted. Thus we also no longer consider the species to be a candidate for listing.

We will continue to monitor the status of the species, and to accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any other interested party concerning this finding. We will reconsider this determination in the event that new information indicates that the threats to the species are of a considerably greater magnitude or imminence than identified here.

References

A complete list of all references cited herein is available upon request from the South Dakota Fish and Wildlife Office, U.S. Fish and Wildlife Service (*see* **ADDRESSES**).

Author

The primary author of this finding is the South Dakota Fish and Wildlife Office, U.S. Fish and Wildlife Service staff (*see* **ADDRESSES**).

Authority

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

Dated: August 12, 2004.

Marshall P. Jones, Jr.,

Acting Director, Fish and Wildlife Service.

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