

## **QUESTIONS AND ANSWERS REGARDING THE STATUS REVIEW FINDING FOR THE BLACK-TAILED PRAIRIE DOG**

### **What are the findings of the black-tailed prairie dog status review?**

The U.S. Fish and Wildlife Service has completed a status review of the black-tailed prairie dog and has determined it does not warrant protection as a threatened or endangered species under the Endangered Species Act. The Service bases its conclusion for this finding after a thorough review of all the available scientific and commercial information regarding the status of the black-tailed prairie dog and the potential impacts to the species.

### **What is a status review?**

A status review, also known as a 12-month finding, makes public the Service's decision on a petition to list a species as threatened or endangered under the Endangered Species Act. The finding is based on a thorough assessment of the available information on the species, as detailed in the species' status review. One of three possible conclusions can be reached as part of the finding: that listing is warranted, not warranted, or warranted but presently precluded by other higher-priority listing activities involving other species. In the case of black-tailed prairie dog, the Service found that the black-tailed prairie dog is not likely to become a threatened or endangered species within the foreseeable future in all or a significant portion of its range. Therefore, listing of the black-tailed prairie dog as a threatened or endangered species under the Endangered Species Act is not warranted at this time.

### **What specifically does the Service look at to determine if a species needs to be listed as threatened or endangered?**

We consider the factors specified in the Endangered Species Act to determine whether a species meets the definition of "threatened" or "endangered" per the criteria stated in the Act. In order to be considered a threat, a substantial demonstrable effect 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 (present or threatened destruction, modification or curtailment of a species habitat or range; overutilization for commercial, recreational, scientific or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting a species' continued existence) meet this standard, thus the Service does not believe the black-tailed prairie dog is a candidate for listing.

### **Where are black-tailed prairie dogs found?**

Black-tailed prairie dogs are typically found east of the continental divide in the states of Montana, Wyoming, South Dakota, North Dakota, Oklahoma, Texas, Arizona, New Mexico, Colorado, Kansas, and Nebraska.

Prairie dogs were extirpated in Arizona in the early 1960s; however, 74 prairie dogs were reintroduced into the State in October and further reintroduction efforts are anticipated.

### **What factors can potentially affect black-tailed prairie dog populations?**

Four major impacts can affect black-tailed prairie dog populations:

- (a) Conversion of prairie grasslands to cropland
- (b) Large-scale poisoning efforts
- (c) Sylvatic plague
- (d) Inadequate regulatory mechanisms

### **How do these factors affect black-tailed prairie dog populations?**

(a) Historically, the black-tailed prairie dog occupied approximately 80 to 100 million acres rangewide; currently, approximately 2.4 million acres of habitat is occupied rangewide. Occupied habitat appears to be steady to increasing since its lowpoint of 364,000 acres in 1961.

Cropland conversion, urbanization, energy development, and invasion of non-native species all occur within the historical range of the black-tailed prairie dog and will continue in the future. However, with 283 million acres of available rangeland, it appears sufficient potential habitat still occurs within the range of the species in the U.S. Additionally, increasing population trends do not suggest these impacts are limiting factors for the species.

(b) Recent range-wide data show little evidence of permanent impacts from poisoning efforts over the past several decades. Recent poisoning efforts have often been less successful than historical efforts for a variety of reasons. Historically, chemicals were applied across a much larger landscape in a coordinated federal effort. Today, chemicals are typically applied in a smaller setting such as the property of an individual landowner and require more diligent application and follow-up. However, it is difficult to obtain accurate information regarding the use of toxicants to control black-tailed prairie dogs. Although use of poisons may have caused black-tailed prairie dogs to have been extirpated from some specific areas, site specific and range-wide data indicate the species' resiliency to the impacts of chemical control.

Currently available information concludes that black-tailed prairie dog colony size increases by about 30 percent annually for several consecutive years following poisoning, and after intense but not total elimination, colony size can initially increase by as much as 70 percent. Colonies usually require three to five years to attain pre-treatment size.

With information available to the Service today, we believe that impacts on the black-tailed prairie dog due to poisoning efforts are not a threat in a significant portion of the species' range in the foreseeable future such that the species could become endangered.

(c) In recent years, plague has expanded its range to all States within the range of the black-tailed prairie dog and has caused local population declines at several sites. These declines are typically followed by partial or complete recovery. Ongoing research in the development of a plague vaccine has had encouraging results. However, field tests will be needed before its use as a management tool. Population trends and recent statewide estimates of occupied habitat indicate that populations can remain stable or increase despite the presence of plague within much of the range of the species.

(d) Inadequate regulatory mechanisms can exacerbate negative effects from all of the previously mentioned factors. In contrast, proactive management of the species can reduce or compensate for adverse impacts from other factors. The primary means by which State and Federal agencies can effectively manage black-tailed prairie dog populations are through regulation of shooting and poisoning, and practicing proactive management. All States within the range of the black-tailed prairie dog have to varying degrees incorporated black-tailed prairie dog conservation policies in their management plans.

In summary, occupied habitat appears to be steady to increasing despite the presence of plague, poisoning, and conversion of grasslands to croplands.

#### **What other factors can potentially affect black-tailed prairie dogs?**

Recreational shooting can reduce population densities at specific sites. In the case of the black-tailed prairie dog, extirpation may have occurred in isolated circumstances. However, the Service believes interest in recreational shooting is generally not high where populations are at low levels. Also black-tailed prairie dog populations can recover from very low numbers following intensive recreational shooting. Recreational shooting does not appear to have a significant impact on black-tailed prairie dogs at statewide or rangewide levels.

Climate change will likely affect black-tailed prairie dogs and their habitat; however, at this time we have no information on the direct relationship between climate change and black-tailed prairie dog population trends and cannot quantify the potential magnitude or extent that climate change may have on the species.

#### **How does the Service estimate black-tailed prairie dog population numbers?**

Estimates of prairie dog populations are typically not based on numbers of individual animals, but on estimates of the amount of occupied habitat. However, many people are interested in the estimated numbers of prairie dogs. 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 2 to 18 individuals per acre, with an average of 10 per acre. If 10 is used as an average number of black-tailed prairie dogs per acre, the estimated population of black-tailed prairie dogs in the U.S. would be nearly 24 million.

### **Why is the black-tailed prairie dog important?**

Prairie dogs are an integral part of the prairie grassland ecosystem and their presence increases both animal and plant diversity. The black-tailed prairie dog provides important habitat for and is prey for many species. The endangered black-footed ferret, mountain plover, burrowing owl, swift fox, badger, and ferruginous hawk are often found using black-tailed prairie dog habitat. Burrowing and grazing activities of prairie dogs affect many ecosystem functions and processes, including vegetation structure, plant composition, nutrients available in soil for plants, soil turnover, soil chemistry, energy flows, nutrient quality of plants, and plant succulence.

### **What protections are afforded black-tailed prairie dogs?**

Petitions to list the black-tailed prairie dog were filed in 1998. As a result of these petitions, representatives from each state wildlife agency within the historic range of the species, formed the Black-tailed Prairie Dog Conservation Team. The Team developed the Black-tailed Prairie Dog Conservation Assessment and Strategy which initiated development of a multi-state conservation plan. To date, the State agencies to varying degrees have developed plans that support the objectives of the multi-state plan.

### **What does a black-tailed prairie dog look like, and how does it live?**

The black-tailed prairie dog is approximately 14-17 inches long and weighs about 1-3 pounds. It is a small, stout ground squirrel with a short, black-tipped tail, large eyes, and a tan-brown pelt. It was named for its barking call. Although all five species of prairie dogs live in colonies, the black-tailed prairie dog is the most social of these. Within colonies, prairie dogs live in contiguous, territorial family groups called coterie. Some studies have shown that dense prairie dog colonies may be better adapted to protect against predators than sparse colonies.

### **How many species of prairie dogs are there?**

There are five species of prairie dogs in North America--Utah (listed as a threatened species in 1973); Gunnison; white-tailed, Mexican (listed as an endangered species in 1970); and the black-tailed.

### **Have the other species of prairie dogs experienced declines?**

The Mexican prairie dog is listed as endangered and the Utah prairie dog is listed as threatened on the list of Endangered and Threatened Wildlife and Plants. All species of prairie dogs have experienced declines from their historical levels.

### **How are the burrowing owl, swift fox, mountain plover, pronghorn antelope, bison, ferruginous hawk, black-footed ferret and the golden eagle associated with the black-tailed prairie dog?**

Burrowing owls are most successful as colonial breeders in portions of large, active prairie dog colonies.

In some areas, swift fox use the burrows of black-tailed prairie dogs for shelter and to escape other predators. They probably also capitalize on the increased abundance and diversity of prey on active prairie dog towns.

Because prairie dogs keep the vegetation clipped, this creates a preferred nesting habitat for the mountain plover. In Montana, mountain plovers nest almost exclusively in black-tailed prairie dog towns.

Some studies have reported that antelope, bison, and deer will often prefer to graze in some seasons on prairie dog colonies. Constant digging and clipping of grasses by prairie dogs causes soil turnover that results in changes of the composition of vegetation on the prairie. These changes actually can improve the nutritional quality of existing grasses and encourage growth of high forage quality forbs.

Golden eagles and ferruginous hawks frequent black-tailed prairie dog towns for prey, as do many other species.

Black-footed ferrets are totally dependent on prairie dogs for their food and shelter. Large complexes of prairie dog towns are key to the survival and recovery of the endangered black-footed ferret.

### **How prolific are black-tailed prairie dogs?**

Female black-tailed prairie dogs may occasionally breed in their first year, but generally do not breed until their second year and usually live 3-5 years. Prairie dogs produce a single litter annually, usually of 4-5 pups. Thus, depending on various reproductive factors such as habitat and nutritional quality, one female prairie dog produces from 3 to 20 young in its lifetime. However, in the absence of plague they can expand their colonies rapidly when overgrazing and drought provide that opportunity.

### **Do black-tailed prairie dogs migrate to other locations?**

Prairie dogs don't truly migrate like birds. However, individuals may disperse from the home colony. Typical dispersal is usually between established colonies and limited to approximately 3 miles or less, although occasional dispersal distances as high as 6 miles have been noted. Therefore, prairie dog towns isolated from other towns by great distances will not mix. As a highly social and colonial species, when separated prairie dogs are less able to depend on others for support in daily survival, such as defense against predators (both detecting them and deterring them by mobbing), cooperative rearing of young, and grooming, which removes parasites.

### **What effect do black-tailed prairie dogs have on livestock and the land? Do they compete for forage with livestock?**

Prairie dog populations can significantly alter the landscape. Their burrowing, foraging, predator avoidance and other activities affect soils, water transport, vegetation, the occurrence of associated species, and other ecological processes. Although direct dietary competition between prairie dogs and cattle for the same plants may not be significant, prairie dogs also indirectly compete with cattle by clipping vegetation without consuming it. This behavior maintains vegetation at a low height and likely improves predator detection by prairie dogs, as well as providing additional benefits for them and some other species. For example, in some instances bison, antelope and cattle have been observed to preferentially graze on prairie dog towns as compared to other areas.

In some situations clipping and forage consumption by prairie dogs may result in a smaller quantity of forage being available for livestock. However, the remaining vegetation often has a seasonally higher nutritional value than that on other areas. Some studies have found that cattle grazed in pastures occupied by black-tailed prairie dogs had no significant differences in weight gain compared to cattle grazed in pastures without prairie dogs. On the other hand drought and overgrazing may heighten competition for forage (whether consumed or clipped) between the species; these factors also encourage expansion of prairie dog colonies into new areas. Conversely, lush vegetation in wet years may mask competition between the species and restrict prairie dog expansion where dense vegetation acts as a barrier. These relationships are complex and not fully understood. Interpreting the economic impact that prairie dogs have on livestock production depends on many things, including the specific site, weather patterns, time of year and various other factors.