

Utah Prairie Dog

(Cynomys parvidens)

Status of the Species: August 2, 2010

U.S. Fish and Wildlife Service

Utah Field Office



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Executive Summary

The purpose of this report is to summarize the status of the Utah prairie dog, a federally threatened species. For more information regarding the species, please contact the Utah Field Office by mail at 2369 West Orton Circle, Suite 50, West Valley City, Utah 84119, or by telephone at (801) 975-3330.

Literature Citations

Literature Citations should read:

U.S. Fish and Wildlife Service. 2010. Utah Prairie Dog (*Cynomys parvidens*) Status of the Species: August 1, 2010. U.S. Fish and Wildlife Service, West Valley City, Utah. 12 pp.

Status of the Species/Critical Habitat

Species/Critical Habitat Description

The Utah prairie dog (*Cynomys parvidens*) is the smallest species of prairie dog. Individuals are typically 305 to 360 millimeters (mm) (12 to 14 inches (in)) long (Hollister 1916) and weigh about 640 to 1410 grams (1.4 to 3.1 pounds) (Wright-Smith 1978). Utah prairie dogs range in color from cinnamon to clay. The Utah prairie dog is distinguished from other prairie dog species by a relatively short (30 to 70 mm / 1.2 to 2.8 in) white- or gray-tipped tail and a black “eyebrow” above each eye (Pizzimenti and Collier 1975; Hoogland 2003).

The Utah prairie dog was listed as an endangered species on June 4, 1973 (38 FR 14678), pursuant to the Endangered Species Conservation Act of 1969. At the time of listing, the species was threatened with extinction due to habitat destruction; modification or severe curtailment of habitat; over exploitation; disease; and predation. The species was reclassified as threatened on May 29, 1984 (49 FR 22330), with a special rule to allow take of prairie dogs on agricultural lands.

Critical habitat has not been designated for this species.

Life History and Population Dynamics

Utah prairie dogs are true hibernators and spend four to six months underground each year during harsh winter months (Hoogland 2001). Adult males usually cease surface activity in September, followed by adult females several weeks later. Juvenile prairie dogs remain active as late as November. Utah prairie dogs may not be totally dormant in winter and may be observed above ground during all months of the year, depending on the weather. Temperature is thought to trigger emergence from hibernation beginning in mid-March to mid-April. Mating occurs soon after emergence.

One half to two thirds of Utah prairie dog’s adult population is female (Mackley *et al.* 1988); the skewed sex ratio is attributed to a higher mortality rate for young males due to conflicts with adult males and higher mortality rates associated with higher dispersal rates (USFWS 1991). Approximately 67 percent of females wean a litter each year (Hoogland 2001). Each female produces an average of 3.88 pups which are born in April after a 30 day gestation period (Pizzimenti and Collier 1975; Wright-Smith 1978; Mackley *et al.* 1988; Hoogland 2001). Young appear above ground at five to seven weeks of age, are full grown by October of their first year, and reach sexual maturity at one year. Less than 50 percent of both males and females survive the first year (Hoogland 2001). Only about 20 percent of females and less than 10 percent of males survive to age 4 (Hoogland 2001). Due to their limited reproductive rates, short life span

and high mortality rates, numbers of individuals counted within a colony can fluctuate greatly throughout the year with low points in the spring and peaks in the late summer when both adults and pups are above ground.

Natal dispersal (movement of first year animals away from their area of birth) and breeding dispersal (emigration of sexually mature individuals from the area where they copulated) are male-biased, leading to higher mortality rates to young males from predation (Hoogland 2003). Young male Utah prairie dogs disperse in the late summer with average dispersal events of 0.56 kilometer (0.35 mile), long-distance dispersal events of up to 1.2 kilometers (0.75 miles), and unusually long-distance dispersals of 1.7 kilometers (1.1 miles) (Mackley *et al.* 1988). We believe some dispersal events may exceed these documented distances.

Utah prairie dogs are organized in social groups, or clans, consisting of an adult male, several females, and their young (Wright-Smith 1978). Clans are loosely organized with no observable dominance hierarchy. Geographic boundaries of clans remain fairly constant within a colony, and young prairie dogs are the only ones to regularly cross boundaries. Utah prairie dogs will use common feeding grounds, but still maintain elements of territoriality in those areas (Wright-Smith 1978). The typical home range of the Utah prairie dog is 750-feet (Crocker-Bedford 1975; Wright-Smith 1978) and the distance at which disturbance affects a prairie dog's normal behavior is estimated to be 350-feet (Ashdown 1995). Social behaviors, especially socially facilitated vigilance and warning vocalizations, are important to survival of individuals in colonies and to the overall well-being of the colony. As the adult female Utah prairie dogs play the major role in caring for young, they are also the primary ones that provide warning of danger (Wright-Smith 1978).

Utah prairie dogs forage primarily on grasses and forbs, and tend to select those with higher moisture content (Crocker-Bedford 1976). They often select colony sites in swales where the vegetation can remain moist even in drought conditions (Collier 1975; Crocker-Bedford and Spillet 1981). Vegetation must be short stature to allow the prairie dogs to see approaching predators as well as have visual contact with other prairie dogs in the colony (Collier 1975; Crocker-Bedford and Spillet 1981). Prairie dogs will avoid areas where brushy species dominate, and will eventually decline or disappear in areas invaded by brush (Collier 1975; Player and Urness 1983). Well-drained soils are a habitat requirement for Utah prairie dogs to excavate burrow sites. Burrows must be deep enough to protect the prairie dogs from predators and environmental and temperature extremes.

Predators of Utah prairie dogs include: badgers (*Taxidea taxus*), coyotes (*Canis latrans*), raptors, fox, and weasels. In an established prairie dog colony, predators do not have a significant impact; conversely, they have a huge impact on translocation sites where an established social system or burrow system is not present.

Utah prairie dog populations are susceptible to sylvatic plague (*Yersinia pestis*), a bacterium introduced to the North American continent in the late 1800's (Cully *et al.* 1993). There is a limited understanding of the variables that determine when sylvatic plague will impact prairie dog populations. Fleas are the vectors that spread the disease and can be brought into the vicinity of a prairie dog colony by a suite of mammals. Plague outbreaks generally occur when populations increase to high densities causing increased stress among individuals and easier transmission of disease between individuals.

Status and Distribution

There are five species of prairie dogs native to North America (Hoogland 2003). Taxonomically, prairie dogs (*Cynomys spp.*) are divided into two subgenera: the white-tail and black-tail. The Utah prairie dog (*C. parvidens*) is a member of the white-tail group, subgenus *Leucocrossuromys*. Other members of this group, which also occur in Utah, are the white-tailed prairie dog (*C. leucurus*) and the Gunnison prairie dog (*C. gunnisoni*).

The Utah prairie dog is the westernmost member of the genus *Cynomys*. Historically, Utah prairie dog colonies were found as far west as Pine and Buckskin Valleys in Beaver and Iron Counties, and may have occurred as far north as Nephi, southeast to Bryce Canyon National Park, east to the foothills of the Aquarius Plateau, and south to the northern borders of Kane and Washington Counties (Figure 1) (Pizzimenti and Collier 1975). Factors that resulted in the historical decline of Utah prairie dogs were poisoning; drought; habitat alteration, primarily in the form of cultivation to agricultural crops; shooting; and disease (Collier and Spillet 1972).

The Utah prairie dog currently occurs in three areas within southwestern Utah, which are designated as recovery areas (figure 2):

- 1) the Awapa Plateau;
- 2) the Paunsaugunt region, along the east fork and main stem of the Sevier River; and,
- 3) the West Desert region of eastern Iron County, with a few isolated colonies existing in mountain and desert valleys in eastern Iron and Beaver Counties (Pizzimenti and Collier 1975).

Utah prairie dogs are found in elevations from 5,400-feet on valley floors up to 9,500-feet in mountain habitats. For more information on these recovery areas, refer to our recovery plan for the species (USFWS 1991).



Figure 1. Utah prairie dog historic range.

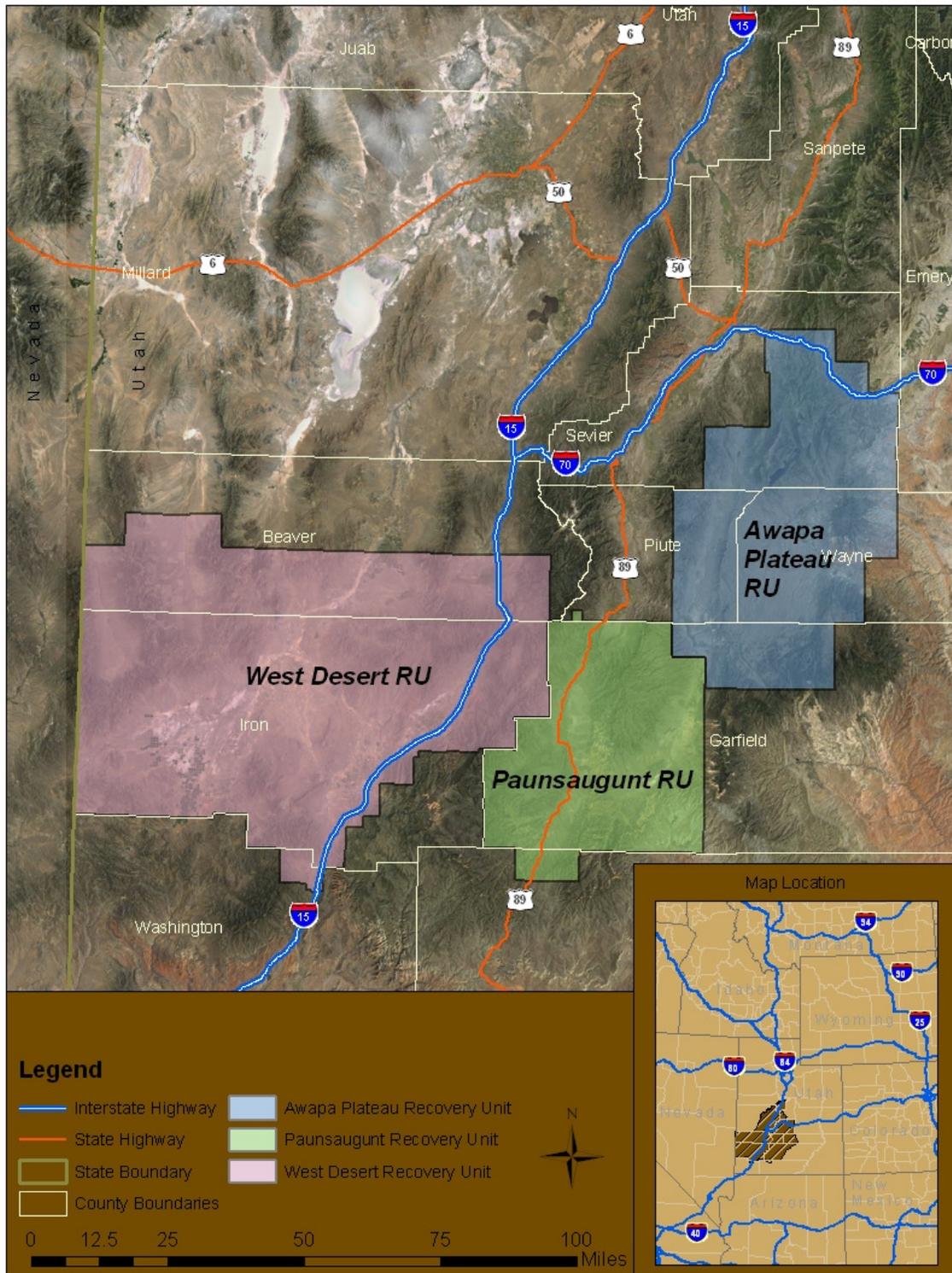


Figure 2. Utah prairie dog recovery unit boundaries.

Rangewide adult counts were as high as 7,527 in the 1989 spring census count (UDWR 2010a) with a low count of 1,291 animals in 1990, largely due to climatic and disease factors (Figure 3) (McDonald 1993). Adult numbers continue to exhibit fluctuating, but stable trends. Counts of adult Utah prairie dogs conducted by the Utah Division of Wildlife Resources (UDWR) from 2005 to 2009 are 5,375; 5,524; 5,991; 5,816; and 5,827, respectively (Figure 3) (UDWR 2010a).

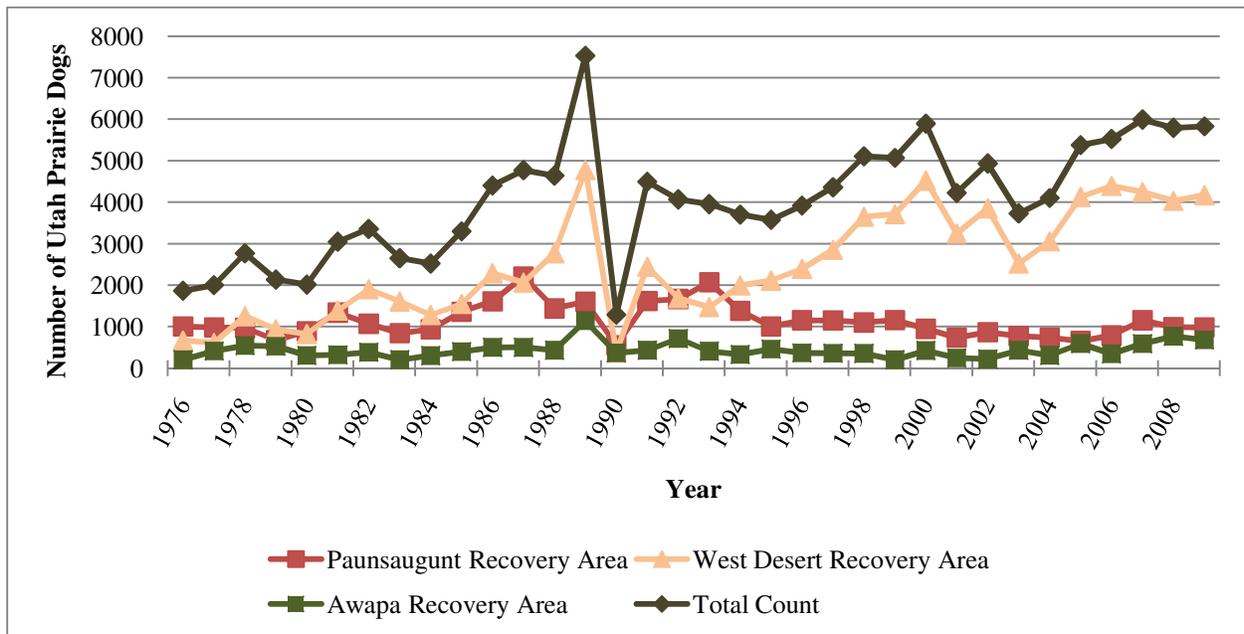


Figure 3. Graph of Adult Utah Prairie Dog Counts (1976-2009)¹.

Around 1976, the UDWR began mapping occupied Utah prairie dog habitat throughout their range (Jacobs Engineering Group 2010). The UDWR has mapped 59,656 acres as Utah prairie dog habitat (UDWR 2010b). Mapped Utah prairie dog habitat includes any area where Utah prairie dog activity has currently or historically been observed since 1976 rangewide. Occupied habitats are areas actively inhabited by Utah prairie dogs as of the previous spring. There are 10,172 acres of occupied habitat and 16,841 acres of mapped habitat in the West Desert Recovery Area; 9,670 acres of occupied habitat and 15,620 acres of mapped habitat in the Paunsaugunt Recovery Area; and 13,183 acres of occupied habitat and 27,195 acres of mapped habitat in the Awapa Recovery Area (Table 1) (UDWR 2010b).

¹ The 1990 count is artificially low because none of the private lands colonies were counted due to staffing and budget limitations.

Table 1. Mapped Utah Prairie Dog Habitat by Land Ownership (acres).

| LAND OWNERSHIP ² | RECOVERY UNITS | | |
|---|----------------|---------------|---------------|
| | West Desert | Paunsaugunt | Awapa |
| U.S. Forest Service | 140 | 3,776 | 8,591 |
| Bureau Land Management | 6,372 | 602 | 9,367 |
| National Park Service | 0 | 301 | 60 |
| Protected Habitat | 266 | 0 | 566 |
| Utah School and Institutional Trust Lands Administration Lands | 428 | 4,778 | 6,850 |
| Private | 9,969 | 6,163 | 1,761 |
| Total | 17,175 | 15,620 | 27,195 |
| Habitat Removed (Developed) | 334 | 0 | 0 |
| Total Habitat Remaining | 16,841 | 15,620 | 27,195 |

Recovery Efforts

The primary objective of the 1991 Utah prairie dog Recovery Plan (USFWS 1991) is to reestablish Utah prairie dog populations on public lands and ensure the continued existence of the species. In 1972, the UDWR initiated a transplant program to move animals from private agricultural lands to areas of historical occupancy on public lands. Over a 31-year period from 1972 to 2002, over 19,561 Utah prairie dogs were translocated to public land sites (Bonzo and Day 2003). Despite efforts to establish new Utah prairie dog colonies on federal lands, approximately 80% of Utah prairie dogs still occur on private lands in 2009 (UDWR 2010a). Efforts are now underway to encourage the conservation of existing colonies on private lands – e.g., safe harbor agreements and conservation banks. In addition, recovery actions include continued habitat improvements and research to improve success of translocations on federal lands, plague research and management, adaptive management strategies to respond to unpredictable threats such as changing climate conditions, and expanding public education and outreach efforts.

In 2006, a Recovery Team was established to oversee a revision of the 1991 Recovery Plan and implement recovery actions. We anticipate that a draft revised recovery plan will be available for public comment in 2010. All Recovery Team members are involved in efforts to conserve and recover the Utah prairie dog using the best available information and adaptive management practices. In addition, a rangewide Utah Prairie Dog Recovery Implementation Program was initiated in 2009.

² The definitions used in these tables for public, protected, and State Institutional Trust Lands Administration lands are found in the glossary.

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