

THREATENED SPECIES

Mexican Spotted Owl (*Strix occidentalis lucida*)

The Mexican spotted owl was listed as threatened in 1993 (USFWS 1993a) under the Endangered Species Act, and the species is managed under the Mexican Spotted Owl Recovery Plan (USFWS 1995b). Also, according to Parrish et al. (2002), the Mexican spotted owl is listed as a Utah Partners in Flight priority species due to a number of criteria including relative abundance, population trend uncertainty, and breeding distribution. Critical habitat has not been designated on the Fishlake National Forest.

Mixed-conifer forests are commonly used throughout the range, and owls occur at higher densities within mixed-conifer forests (USFWS 1995b). However, in the absence of suitable forest habitat, Mexican spotted owls can occupy steep canyon terrain for roosting and nesting (Willey and Willey 1990). The sites are characterized by steep vertical and overhanging walls, nearly all with mixed-conifer or pinyon-juniper stands along the steep north slopes (Willey 1992). Humidity was found to be higher in owl-use canyons than in otherwise available canyons (Rinkevich 1991). During winter months, the owls tend to move out of the canyons and onto mesa-tops, benches, and warmer slopes (Willey 1992).

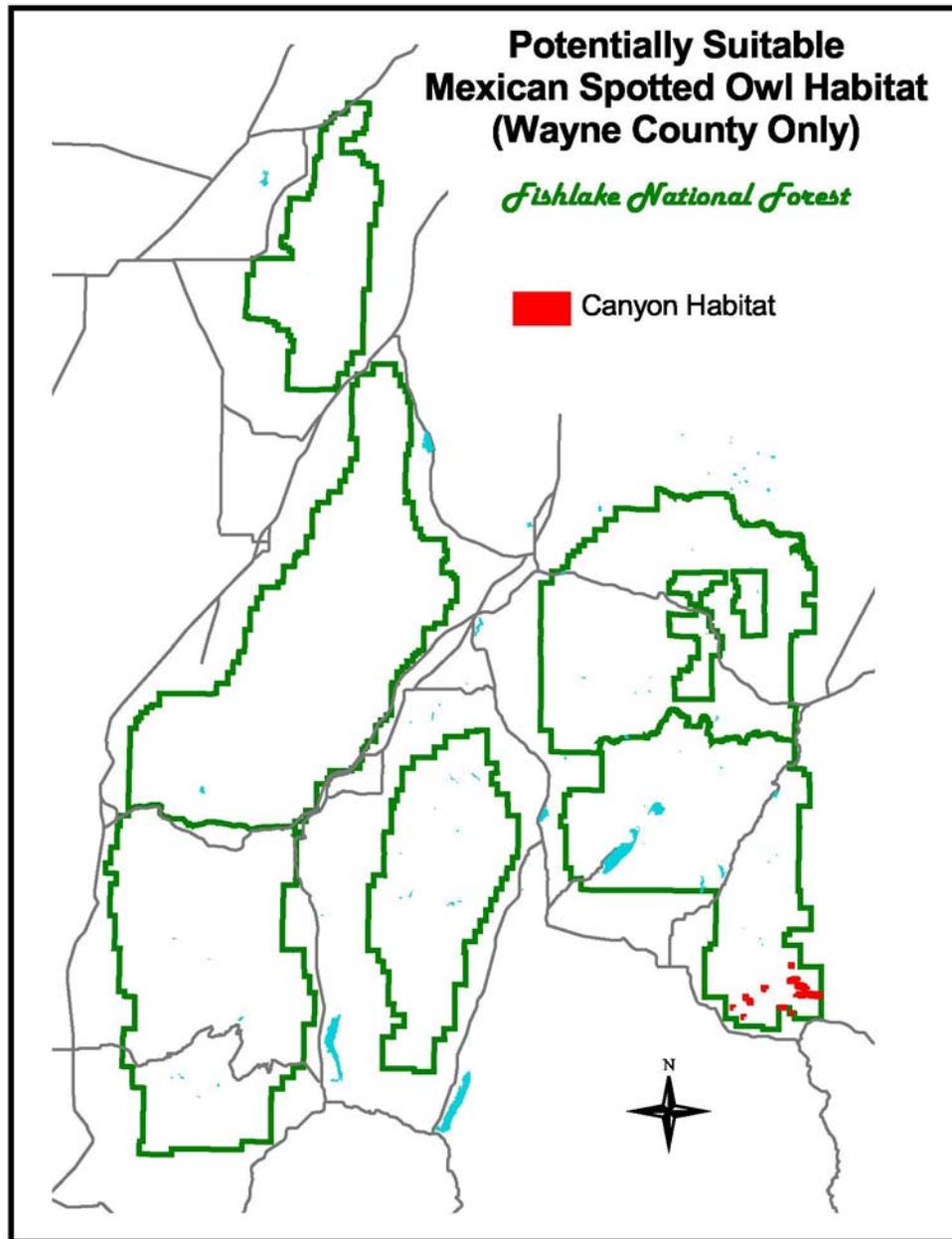
Structural characteristics associated with forested Mexican spotted owl habitat vary depending on the behavioral function the habitat supports. Spotted owls apparently use a wider array of habitat types for foraging than for nesting and roosting, since they feed on a diversity of prey that inhabit a diversity of habitats (USFWS 1995b). Research in Zion National Park showed that mammals made up 80% of the diet of spotted owls (Rinkevich 1991). Little is known about the habitat requirements for dispersal.

Mexican spotted owls are mostly solitary outside of the breeding season. They have a low reproductive success of 0.5 young per pair. Age at first breeding is usually two years old. The reproductive season begins in early March, when pair formation occurs. 2-4 eggs are laid in mid-April, incubated for thirty days, and hatch mid-May. Owlets are fledged in early to mid-June. Mexican spotted owls show high nest site fidelity (Spahr et al. 1991, USFWS 1995b). The presence of suitable caves and nest ledges could be a primary limiting factor in the distribution of spotted owls in the canyon lands (Willey 1992).

The earliest recorded spotted owl in Utah was found in Zion National Park in June of 1928, and the most northerly occurrence was in 1958 in the Book Cliffs of northeast Utah (Hayward et al. 1976). In 1992, the largest population of Mexican spotted owls in Utah occurred in and around Zion National Park, where MSO had been located at over seventeen sites (Willey 1992). Mexican spotted owls are generally absent from elevations above 8,000 feet, with only two sightings in high elevations in Utah having been recorded. The first was the same Book Cliffs occurrence noted above, and was observed in September of 1958, in an aspen grove near 8,200 feet (Behle 1981), The second was a response on the Manti-LaSal National Forest near the Colorado border in 1990 (Willey and Willey 1990). Current records indicate that there are approximately 131 locations of pairs of Mexican spotted owls in Utah (Howe 2003, unpublished data).

No nesting spotted owls have been located on the Fishlake National Forest. All survey efforts have followed the USFS Region 3 (Southwestern Region, Arizona and New Mexico) protocol, Interim Directive Number 2 (USDA Forest Service 1990). Survey efforts on the Loa Ranger District have included being air lifted by helicopter into remote canyons and following calling protocol. No Mexican spotted owls were detected during these survey conducted in 2004.

The map below displays the potential suitable nesting habitat on the Fishlake National Forest. There are approximately 2,208 acres of potential nesting habitat on the forest, which only includes the Loa Ranger District



Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was listed as an endangered species in 1978 (USFWS 1978a), and reclassified as threatened in 1995 (USFWS 1995a). The bald eagle is managed under the Northern States Bald Eagle Recovery Plan (USFWS 1983). Parrish et al. (2002) found that the bald eagle did not rank high enough to be on the Utah Partners in Flight priority list; however, they state that the bald eagle is a very rare species that might not be encountered, except by chance, in several days of searching. No critical habitat has been designated for the bald eagle on the Fishlake National Forest.

Bald eagles range across North America, breeding from south of the Arctic tundra to the southern United States and Baja, California. They generally move south to open water during winter. Bald eagles can be found in every state for all or part of the year (Spahr et al. 1991).

The breeding range of the bald eagle has receded throughout the 19th and 20th centuries. Historic records indicate that bald eagles formerly nested in at least 45 of the contiguous 48 states. As of 1981, only 30 states had nesting birds, with 90% of the 1,250 known pairs occurring in just 10 states. Parts of Alaska and Canada have 10 times that number of nesting bald eagles (USFWS 1983). As of June 2004, five nesting bald eagles had been found in Utah, with three located in the southeastern part of the state (UDWR). Results of the National Wildlife Federation mid-winter bald eagle survey from 1986–2000 show an average of 547 bald eagles observed wintering in Utah.

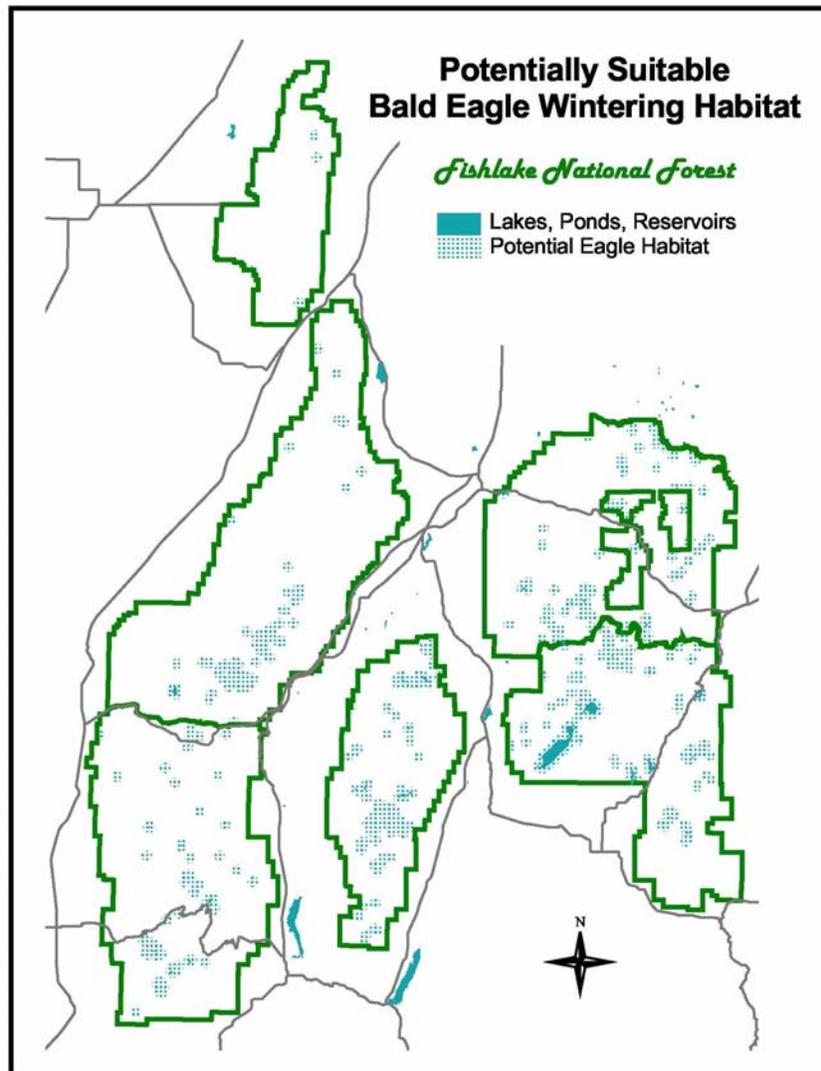
Winter habitat includes open water where fish and waterfowl can be caught throughout the fall and early winter. After the open water freezes, eagles generally move to the foothills and valleys to feed on small mammals and carrion (Spahr et al. 1991).

The Northern States Bald Eagle Recovery Plan (1983) states that the primary characteristic of winter habitat is abundant and available food supply in conjunction with one or more suitable night roost sites. At winter areas, bald eagles commonly roost in large groups. In the Pacific Northwest, these communal roosts are usually located in mature multi-layered forest stands with mean tree diameters ranging from 20-24 inches and heights between 81 and 91 feet. Predominant cover type is usually ponderosa pine, mixed-conifer, or black cottonwood (Anthony et al. 1982). According to the Recovery Plan (1983), locations that are protected from wind by vegetation or terrain provide a more favorable thermal environment. In addition to the natural features, roost sites generally are isolated from humans. It is estimated that 50% of the bald eagles in the northern states region occur in congregations; others are present in hundreds of locations that are used regularly by 1-20 birds. Collectively, these small groups and individuals are probably as important as the large concentration areas (USFWS 1983).

Sexual maturity for the bald eagle is reached at four to six years of age, but the birds may be considerably older before they breed (USFWS 1983). Bald eagles establish pair bonds in winter and initiate nesting in February or March. 1-3 eggs are laid in March or April, incubated for 35 days, and young are fledged after 8-14 weeks (Spahr et al. 1991). Bald eagles are long-lived at about 30 years (USFWS 1983) with a low reproduction rate (Spahr et al. 1991). Mortality is high in the immature age classes, but much lower after adulthood is reached at 4-6 years of age (Sherrod et al. 1976).

Bald eagles occur on Fishlake National Forest during the fall, winter, and spring months. Essential habitat defined by the Northern States Bald Eagle Recovery Plan (1983) includes those locations which; 1) are used annually for two weeks or longer by birds known to be from a nearby breeding area; 2) are used annually by 15 or more eagles for two weeks or longer; and 3) are used during periods of extremely harsh weather, when suitable feeding areas and night roost sites are limited. No bald eagle winter concentration areas have been identified by the UDWR or the Forest Service on the Fishlake National Forest. Single birds and/or pairs of bald eagles have been documented overwintering on the Fillmore, Loa, Richfield, and Beaver Ranger Districts.

Displayed below is a map of potentially suitable habitat across the Forest. There are approximately 160,000 acres of potentially suitable habitat on the Fishlake National Forest. Suitable habitat consists of lakes, ponds, and reservoirs, which may be used as wintering habitat.

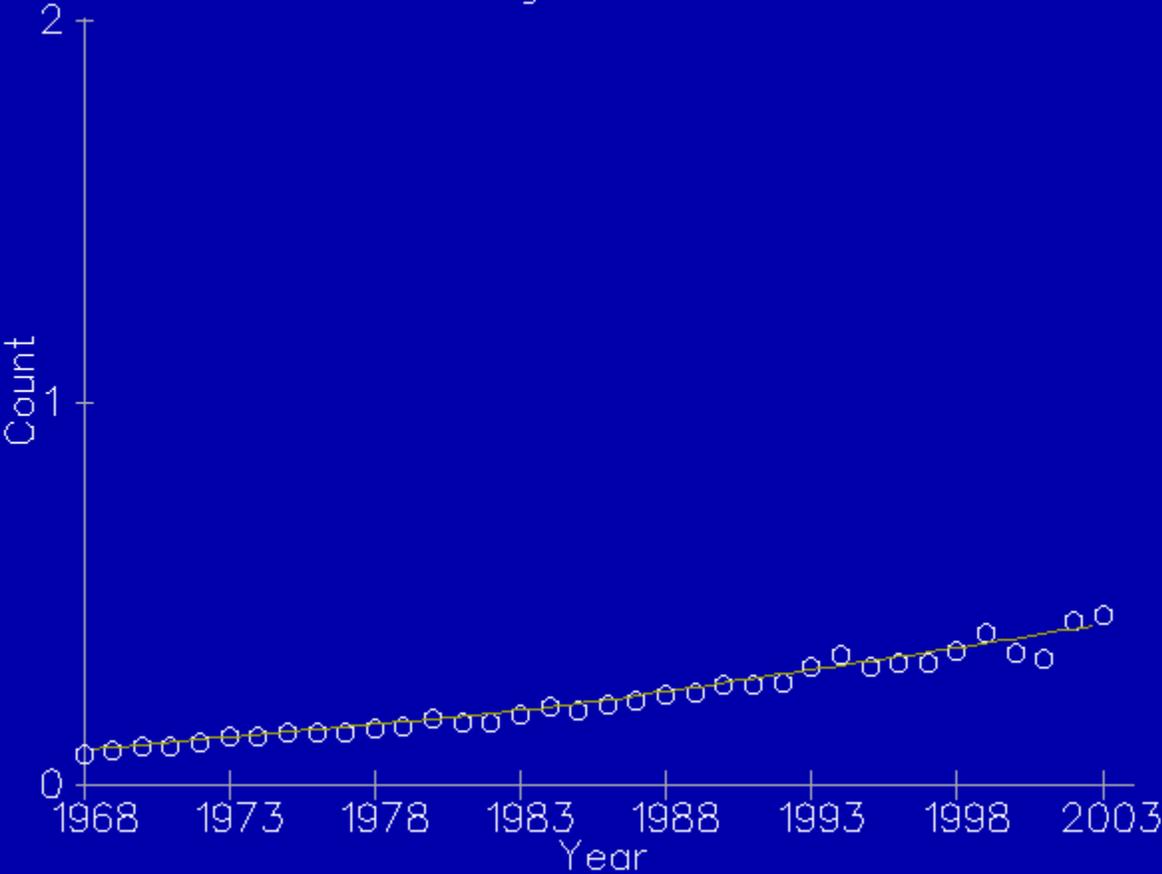


The main threats to the bald eagle population are: 1) loss of suitable habitat, 2) mortality from shooting, trauma, poisoning, disease, electrocution, and trapping, and 3) reduced reproduction caused by environmental contaminants (USFWS 1983).

The data displayed below have been obtained from the BBS database (www.mbr-pwrc.usgs.gov), which represents data collected from the western United States from 1968 through 2003. These data demonstrate that bald eagle numbers are on a steady upward trend throughout the western United States, including the Fishlake National Forest in Utah.

Bald Eagle

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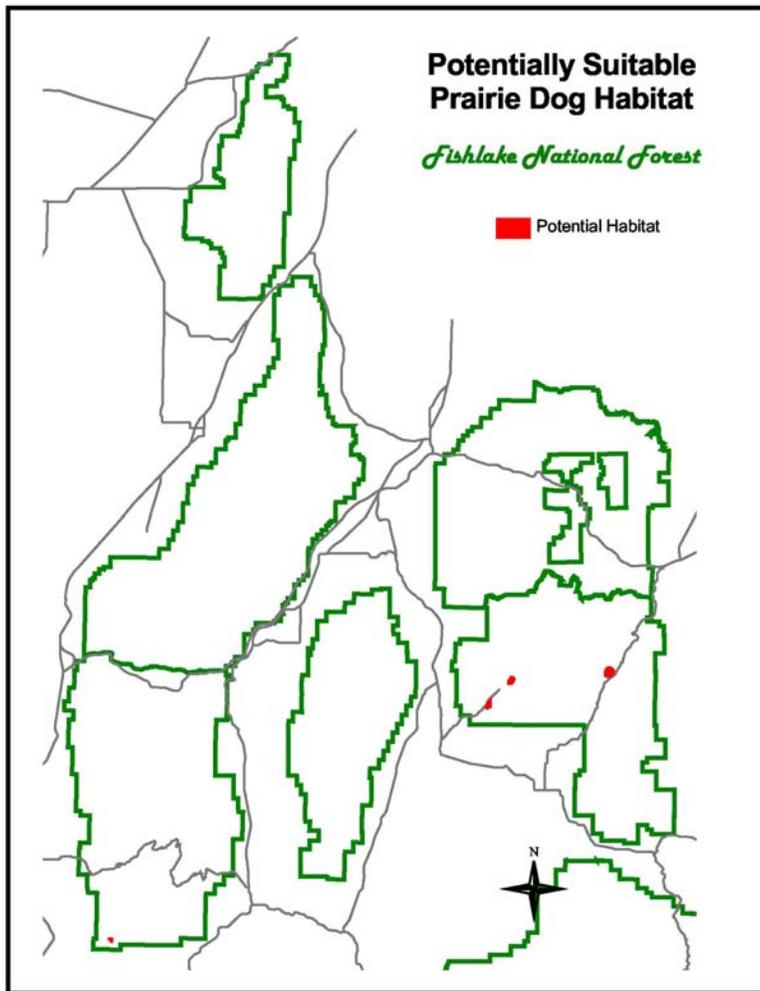
Utah Prairie Dog (*Cynomys parvidens*)

The Utah prairie dog was listed as an endangered species in June of 1973 (38 FR 14678). Because of the improved status of the species and the overwhelming increases seen on private lands since 1976, the U.S. Fish and Wildlife Service reclassified the species as threatened in May of 1984 (USFWS 1984b). Since the reclassification, population numbers have fluctuated on private and public lands, and the species still remains threatened. No critical habitat has been designated for the Utah prairie dog on the Fishlake National Forest.

The Utah prairie dog's range is limited to five counties in south-central Utah: Iron, Garfield, Piute, Wayne, and Sevier. Historically, Utah prairie dogs inhabited nine Utah counties (Spahr et al. 1991), and population numbers are estimated at 95,000 for years prior to 1920. By the 1960's, Utah prairie dog numbers and distribution were reduced due to disease, poisoning, drought, and habitat alteration due to cultivation and grazing. By 1972, there were an estimated 3,300 prairie dogs residing in 37 separate colonies (USFWS 1991).

The Utah prairie dog presently occurs in three areas: the Awapa Plateau, the Paunsaugunt region along the East Fork of the Sevier River, and the West Desert region of east Iron County (USFWS 1991).

Displayed below is a map identifying approximately 423 acres of potentially suitable habitat across the forest.



The UDWR initiated biannual census counts in 1975 and annual counts in 1978. An upward trend was indicated. The UDWR started a transplant program in 1972 to move animals from private to public lands (USFWS 1991). Translocations continued annually each summer from 1972 through 1992, were halted in 1993, and resumed in 1996. From 1972 through 2002, over 19,561 Utah prairie dogs were removed from private lands and relocated to lands managed by the BLM, USFS, NPS, and State of Utah (Bonzo and Day 2003). Overall success of this program has been poor. A Conservation Assessment, Strategy, and Agreement have been developed to aid in the management of this species. Implementation of the Strategy has been ongoing since it was signed in 1997.

The Fishlake National Forest has four transplant populations located on the Forest. Three are in the Fishlake Basin of the Loa Ranger District and one is in the Rocky Pond area of the Beaver Ranger District. To date, these transplants have been considered unsuccessful with low reproductive rates as well as no dogs currently occupying the sites. These sites are being evaluated by the UDWR, and will be addressed in a future Habitat Conservation Plan (HCP) that will be developed in Wayne County, Utah. In addition to these sites, several “towns” are located adjacent to the Forest boundary in the Koosharem area near Monroe Mountain, and on private lands in Gooseberry Valley.

Like other species of prairie dogs, the Utah prairie dog lives in organized colonies, called “towns.” Towns are distinguished by several mounds, which mark the openings to burrows. Burrows are about six inches in diameter, go straight down for about ten or fifteen feet, and then branch into two or three horizontal tunnels (Spahr et al. 1991). The size and complexity of the burrow systems may vary greatly

(Foster and Hygnstrom 1990). Smaller chambers are sometimes excavated just below the surface, where the prairie dogs sit and listen for aboveground activity. The deeper chambers are used for nesting, sleeping, and caring for their young (Foster and Hygnstrom 1990).

Each family or "coterie" of prairie dogs occupies a territory of about one acre. A coterie usually consists of a single adult male, one to four adult females, and any of their offspring less than two years old. Members of a coterie are very sociable and maintain unity through physical contact. Communication between coterie is an important social behavior in prairie dog towns, the primary purpose being to alarm others of danger and calling to one another when the danger has passed (Foster and Hygnstrom 1990).

Prairie dogs are sexually mature after their first winter and breed once a year in March or April (Foster and Hygnstrom 1990, Spahr et al. 1991). Three to five young are born in late April or early May after a gestation of about thirty days (McDonald 1993). Prairie dog adults emerge and begin foraging from mid-March to early April, and enter dormancy from mid-July to mid-August. Juveniles emerge to forage when they are about six weeks old and become dormant from early October to mid-November. These dates may vary according to elevation, with lower elevation colonies (under 7,000 feet) generally two weeks earlier than the higher elevation colonies (Spahr et al. 1991).

Basic habitat requirements considered for the Utah prairie dog are deep, well-drained soil, vegetation low enough that prairie dogs can see over or through, and suitable forage. Moist forage must also be available throughout the summer (Spahr et al. 1991).

The Utah prairie dog is classified as an herbivore; however, insects (particularly cicadas) are its preferred food. The preferred vegetative food is alfalfa. Except for a few forbs in certain growth stages (leafy aster, European glorybind, and some wild buckwheats in seed), Utah prairie dogs prefer grasses to forbs and shrubs. They usually select a plant's flowers or seeds over the leaves, and use of leaves is generally negligible (Spahr et al. 1991). Prairie dogs are most active during the day, feeding mostly in the early morning and late afternoon in the summer (Foster and Hygnstrom 1990).

Prairie dogs are also vulnerable to mortality from several diseases, the most notable being the plague. The plague is a severe infectious disease caused by the bacterium *Yersinia pestis* (Foster and Hygnstrom 1990), and is usually spread through fleas (McDonald 1993). The plague usually occurs when populations increase to high densities, causing increased stress among individuals and easier transmission of disease between individuals (McDonald 1993).

Drought is thought to be one of the most important factors influencing the distribution of the Utah prairie dog. Colonies lacking moist vegetation are decimated by drought because prairie dogs are unable to obtain sufficient water and nutrients (McDonald 1993).

Maguire Daisy (Erigeron maguirei)

Maguire daisy was listed as an endangered species in 1985 (USFWS 1985b) and reclassified as threatened in 1996 (USFWS 1996). Maguire daisy, a member of the sunflower family (Asteraceae), is an herbaceous perennial that results from a branched caudex. Caudex branches have brown to straw colored marcescent leaf bases while herbage is spreading hirsute. The stems are 7-28 cm long. The basal leaves are 2-5 cm long, 3-8 mm wide, and oblanceolate to spatulate in shape with a round apex. Cauline leaves are well developed, but somewhat reduced upward. Flowers are solitary or in clusters of 2-5, with bracts imbricate and green or yellowish. The inner bracts are often less pubescent, with scarious purple tips. The ray flowers are white or pinkish and 12-20 in number (Welsh et al. 2003). It commonly blooms from early June through late July (Clark 2002). Maguire daisy can be distinguished from the typical variety by its more numerous heads per stem, its narrower ray corollas, and shorter disk corollas (Welsh et al. 2003).

This species is found in cliff faces or sandy canyon bottoms on Navajo and Wingate sandstone. An endemic species of Wayne and Emery Counties, this daisy has been reported primarily on Bureau of Land Management (BLM) and Capitol Reef National Park lands (Clark 2002). The range of elevation is between 5,300 and 7,100 feet (Welsh et al. 2003). Common associated species are little-leaf mountain

mahogany (*Cercocarpus intricatus*), pinyon pine (*Pinus edulis*), and Utah juniper (*Juniperus osteosperma*) (Clark 2002).

Plants are protected from threats such as livestock grazing by their occurrence on cliff faces. However, erosion and recreational traffic are two potential threats to certain populations.

The 1999 field season placed two populations on the Fishlake National Forest, Loa Ranger District (Clark 2002).

Last Chance Townsendia (*Townsendia aprica*)

T. aprica was listed as a federally threatened species in September of 1985. Due to the vulnerability of this species, publication of critical habitat descriptions and maps would further endanger the species. Therefore, critical habitat has not been determined (USFWS 1985a). This species is endemic to central Utah in Emery, Wayne, and Sevier counties. It prefers salt desert shrub and pinyon-juniper communities on clay or clay-silt soils of the Mancos Shale formations between 6,100 and 8,000 feet (Welsh et al. 2003).

This member of the Sunflower family (Asteraceae) is a pulvinate caespitose perennial that is approximately 1.5-2.5 cm tall. *T. aprica* has 13-21 ray flowers that are golden yellow in color, and disk flowers of the same color. Involucres are 4-8 mm high (Welsh et al. 2003). Reproduction requires that bees native to North America carry pollen between flowers, or seeds will not be produced (Tepedino et al. 2004). Common associate plants include galleta grass (*Hilaria jamesii*), Utah juniper (*Juniperus osteosperma*), blue gramma grass (*Bouteloua gracilis*), and shadscale (*Atriplex confertifolia*) (Clark 2002).

T. aprica flowers from late April to early June. The fruit is a compressed achene that is 2-2.5 mm long. Plants overwinter underground (Spahr et al. 1991).

Threats to *T. aprica* include mineral and energy development, road development, road building, and livestock trampling (USFWS 1993b).

T. aprica has been found at nine sites on the Fishlake National Forest (Clark 2002).