

## *Prairie Dogs and the Prairie Ecosystem*

*By Sue Kenney*

Prairie dogs reside in some of Fort Collins remnant shortgrass prairies. The barking of these rodents prompted early explorers to call them "dogs." Prairie dogs are mammals that form family groups, establish boundaries, build underground living quarters, and live in family groups in well-established, highly regulated towns.



### **Keystone Species**

Prairie dogs are a "keystone" species and play a major role in maintaining the prairie ecosystem. If prairie dogs go, many other species go with them. Deer mice, kangaroo rats, grasshopper beetles, lark bunting and mountain plovers are attracted to prairie dog towns. Black-footed ferrets (now highly endangered), eagles, hawks, coyotes, rattlesnakes, foxes, weasels and badgers eat prairie dogs.



Prairie dog burrows can provide homes for other species such as rabbits, snakes, and small rodents. Burrowing owls nest only in prairie dog burrows. Coyotes, foxes, and badgers enlarge and move into the burrows.

Plants also benefit from the activities of prairie dogs. Prairie dogs keep the soil from becoming compacted, and they constantly bring buried seeds to the surface. Prairie dogs like to see long distances, so they clip off tall vegetation, improving the nutrient value of native grasses. They create patches of bare soil which are excellent sites for annual grasses and wildflowers to become established.

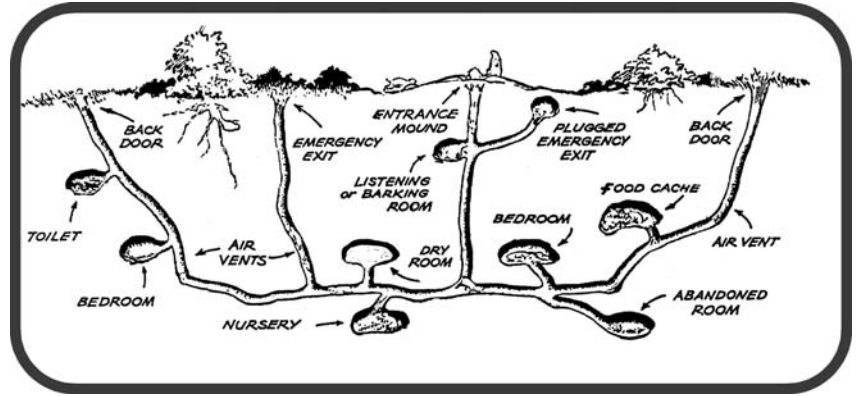
### **Communication**

Prairie dogs communicate through a variety of calls, postures, and displays. At least 11 different calls have been identified. When a prairie dog detects danger from a predator on the ground it gives a certain warning "bark". Others nearby retreat to their burrow entrances and join in the barking chorus. A flying predator elicits a different warning call so nearby prairie dogs know that danger approaches from above. Another type of call is given for the "all clear" signal.



### Active Hidden Life Underground

Prairie dogs construct an elaborate, comfortable burrow. A vertical shaft extends about 7-10 feet underground, but sometimes as much as 15-20 feet. "L" or "T" shaped tunnels with many chambers extend from the vertical shaft. Nesting and sleeping chambers are typically the deepest. Just below the surface is a chamber for turning around and listening to activities on the surface.



Each family has several entrances to its burrow. They have at least one entrance with a high mound. These serve several purposes: prairie dogs sit up on the mounds and look out over the prairie to watch for predators; the configuration of high and low mounds creates a air pressure differential in the burrow which causes air to enter one entrance and exit from another; and the high mound entrance helps prevent water from entering the burrow during heavy rainfall.



### Prairie Dogs and Raptors

The black-tailed prairie dog does not hibernate. It will remain underground during severe weather but on sunny days emerge to feed. This is extremely important to wintering raptors (birds of prey) such as bald eagles that may be seen catching prairie dogs as well as stealing or "pirating" freshly caught prey from other hawks. At various times of year, golden eagles and Swainson's, rough-legged, red-tailed, and ferruginous hawks hunt on the towns.

### Prairie Dogs and Plague

Plague is a bacterial infection carried by fleas. Fleas live on prairie dogs. When fleas bite an infected animal, the fleas become infected, and then they transmit the disease to other healthy animals. The infection kills the rodent and the flea searches for another host. Normally, people do not come into direct contact with prairie dogs or their fleas. Unleashed pets, however, can bring plague to humans. A domestic cat infected with plague will have swelling and sores around the mouth, head, and neck and will cough. Domestic dogs rarely exhibit signs of infection. Both dogs and cats can carry the bacteria in their mouths and infect their owners. Both also can carry the fleas into the neighborhood. The best protection is to keep pets at home or on a leash, and never allow them to investigate prairie dog towns.

When plague is found on City of Fort Collins natural areas, signs are posted along the trails in accordance with Larimer County Health Department guidelines.



## The Future of Prairie Dogs

Naturalist Ernest Thompson Seton estimated that there were five billion black-tailed prairie dogs in North America at the turn of this century. Before European expansion, prairie dogs occupied 700,000,000 acres of land. Less than one percent of the original habitat for prairie dogs exists today.

The City of Fort Collins Natural Areas Program manages 11 local natural areas with prairie dog colonies.

Local Natural Areas	Site Acreage*	When Acquired
Cathy Fromme Prairie	1079	1993 – 2002
Colina Mariposa	207	1998 – 2000
Coyote Ridge	1095	1994 – 2000
Eagle View	86	2002
Fossil Creek Wetlands	220	1995
Fossil Creek Reservoir Regional Open Space	470	2001-2003
Hazaleus	163	1999
McKee Farm	995	1997
Pelican Marsh	159	2002
Pineridge	230	1992 - 1998
Prairie Dog Meadow	84	1994 - 2003

**Summary: 4,788 Acres\* purchased from 1992 through 2003**

*\*Not all acreage within a site is occupied or suitable prairie dog habitat. Two regional natural areas also have some suitable prairie dog habitat.*

The City's goal is to protect and manage these sites so the endangered prairie ecosystem, including its keystone species, persists into the future. Our grassland natural areas with prairie dog colonies are critical conservation sites in the community that benefit many wildlife species and provide a high quality wildlife viewing experience for Fort Collins residents. To schedule a presentation about prairie dogs, call 416-2480.