History of Occurrence and Present Home Territory Sizes for Black-Tailed Prairie Dogs on the Standing Rock Sioux Reservation

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On the Ground

- Past management and historic occupation by black-tailed prairie dogs will affect the vegetation responses to changes in management.
- Ecological sites have different production potential and may influence colonization by black-tailed prairie dogs.
- Thin Claypan ecological sites had the largest coterie home territory size at 1.8 ha but also had coteries among the smallest at 0.5 ha.

Keywords: black-tailed prairie dogs, coterie: home territory size, ecological sites.

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Black-tailed prairie dogs (Cynomys ludovicianus) are burrowing mammals that can be present throughout much of the mixed and short-grass prairie of western North America. Prairie dogs are often cited as “ecosystem engineers” or “keystone species” within the grasslands and prairies of North America because their activities influence the organization of ecological communities. However, it is these same activities that can generate conflict with ranchers. Prairie dogs live in family groups known as coteries, which, when combined with additional coterie home territories, create prairie dog towns. Each family group defends a specific home territory, which consists of an elaborate set of burrows and tunnels, from its neighbors. The number of tunnels within a coterie differs and may be a function of coterie age and population density. The holes or tunnel entrances and exits are the cause of some concern to ranchers, who fear injury to their animals. However, it is the foraging and survival strategies of prairie dogs that draw the most criticism. Like cattle, prairie dogs prefer graminoids over forbs and are perceived as competitors for forage that would otherwise be available for livestock. Furthermore, prairie dogs depend on family, neighbors, their hearing and vision to stay safe. Prairie dogs expend great energy during the growing season clipping vegetation in an effort to facilitate greater detection of predators. The combination of foraging and clipping by prairie dogs typically reduces the quantity of biomass available for livestock and can reduce livestock weight gains. This competition has led to a large-scale eradication effort to remove prairie dogs from rangelands. However, the benefits they provide to other wildlife species and reduction in overall numbers warrant consideration during the development of alternative management options.

Many Native American Reservations are located in the mixed and short-grass prairie and provide habitat to prairie dogs. The Standing Rock Sioux Reservation is located in south central North Dakota and north central South Dakota. The reservation is approximately 1,011,700 ha, of which roughly 607,028 ha are considered grasslands. Lands within the reservation are primarily under tribal or private ownership. Ranching provides valuable jobs to a region with an extremely high unemployment rate and is considered a way of life by many on the reservation. In addition to providing forage for livestock, grasslands and rangelands are critical habitat for wildlife. Many species of wildlife are important components of the Native American culture; therefore, Native Americans may be more open to ranching with prairie dogs. Nonetheless, rangelands across the Reservation have become degraded from the prolonged presence of prairie dogs and overgrazing. Although ranching is an important economic engine in the region, its full potential may not be reached unless management actions are taken to improve rangeland conditions.