



Fact Sheet #3 Decline of the Shortgrass Prairie

Once considered North America's "Serengeti" for its abundance and variety of wildlife, the Great Plains has been almost entirely converted to farming, ranching, or real estate development. Globally, temperate grasslands are now considered to be the most altered and imperiled ecosystem (Ceballos et al. 2010; Henwood 2010; Savage 2011). Shortsighted land management policies led to aggressive human settlement, conversion to cropland, and over-grazing of the shortgrass prairie. The result was the Great Dust Bowl of the 1930s (e.g., Flores 1996; Savage 2011). Conservation biologists describe prairie conservation as, "perhaps the highest priority," in conserving North American agricultural and natural resources (Sampson and Knopf 1996: xi). Despite some reform, the government still expends significant time, money, and energy maintaining land uses that are largely incompatible with the regional ecology.

As a result, dozens of Great Plains species are imperiled and some wider-ranging species occur at low levels or have been extirpated in the region. Many grasslands species are currently listed as threatened or endangered under the U.S. Endangered Species Act (ESA) or are well on their way to such status. Important examples include the black-footed ferret (*Mustela nigripes*), listed as endangered (50 C.F.R. § 17.11); the lesser prairie-chicken (*Tympanuchus pallidicinctus*), a candidate for ESA listing since June 1998 (63 Fed. Reg. 31400-06); and the Sprague's pipit (*Anthus spragueii*), a candidate for ESA listing since September 2010 (75 Fed. Reg. 56028-50). Wolves (*Canis lupus*), grizzly bears (*Ursus arctos horribilis*), and large elk herds (*Cervus elaphus*) have long been extirpated from the shortgrass region.

The black-tailed prairie dog (*Cynomys ludovicianus*) has declined by as much as 98% in the last century due to extermination campaigns, non-native disease, and habitat destruction (e.g., Miller et al. 1994, 2007; Hoogland 2006). Gone from the Southern Plains are extensive prairie dog complexes—large mosaics of colonized and uncolonized areas that supported black-footed ferrets, seemingly endless herds of bison, and at least 150 other vertebrate wildlife species. Indeed, the dramatic decline in prairie dogs is directly linked to the imperilment of other prairie natives: the swift fox (*Vulpes velox*), mountain plover (*Charadrius montanus*), burrowing owl (*Athene cunicularia*), and ferruginous hawk (*Buteo regalis*) among the most notable. States Savage (2011: 23), "Over the last two hundred years, human beings have hit the prairies with the force of a major geological crisis..."

While ecosystems in the Great Plains continue to be degraded by extractive land uses, scientists are recording tremendously important biological and ecological values in the region. Researchers have shown that black-tailed prairie dogs play inordinately influential

ecological roles, earning them recognition as a keystone and strongly interactive species (e.g., Barko et al. 1999; Manzano-Fischer et al. 1999; Kotliar et al. 1999; Kotliar 2000; Miller et al. 2000). Scientists have also demonstrated that the historic and continued persecution of prairie dogs is not economically or ecologically sound (Miller et al. 2007). Bison are likewise increasingly being recognized for their strong ecological functions and are a species of conservation concern (Callenbach 1996; Lott 2002; Freilich 2003; Gates et al. 2010).

The southeastern Colorado region where SPLT primarily works is increasingly recognized as a “biodiversity hotspot” (Rondeau et al. 2010). The Colorado Division of Parks and Wildlife classifies shortgrass prairie in eastern Colorado as a priority habitat for conservation and includes several southeast portions of the state as crucial private land conservation focus areas. Scientists have reported that the Central Shortgrass Prairie Ecoregion, of which eastern Colorado is part, requires greatly increased conservation efforts (Neely et al. 2006).

Despite the growing body of knowledge about shortgrass prairie ecosystems and the values in our region, along with acknowledgement of the need to escalate conservation efforts, grasslands species continue to suffer from neglect. The black-tailed prairie dog, despite being a candidate for ESA listing from 2000-2004 (69 Fed. Reg. 51217-26), now enjoys no federal status. Sylvatic plague has since expanded to all states within its range. Prairie dogs have virtually no immunity to this disease, which most recently swept through the Southern Plains in 2005-2007, depleting and extirpating prairie dog colonies throughout the region (Augustine et al. 2008; Johnson et al. 2011).

The Solution: A New Model for Prairie Restoration

The problems illustrated above necessitate land reserves where prairie wildlife and plants and native ecosystems are prioritized. The reserve network should be sufficiently large to support the full array of prairie species. Moreover, SPLT’s major goal is to create an adequate and suitable land area to restore a functional shortgrass prairie ecosystem that includes all natural processes. Our geographic scope is land in close proximity to national grasslands in the Southern Plains, as a means of providing more contiguous blocks of habitat versus their present checkerboard of public and private holdings. A key objective is to establish wildlife corridors between public holdings and maximize area unobstructed by fences and roads.



Prairie Dog Ecosystem © Jim Morris

The Southern Plains Land Trust is working hard toward this solution. Our work was featured in “Wildlands Philanthropy: the Great American Tradition,” an impressive volume of 40 private land conservation success stories nationwide (wildlandsphilanthropy.org). We are eager to grow our network of protected lands.

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