

2009 Wildlife Surveys

Introduction

During 2009, wildlife surveys at the Rocky Flats Site (Site) consisted of observing black-tailed prairie dogs (*Cynomys ludovicianus*) and monitoring mountain bluebird (*Sialia currucoides*) boxes that were installed in the spring of 2009. The Site consists of the Central Operable Unit (COU), which comprises the lands retained by the U.S. Department of Energy, and the Peripheral Operable Unit (POU), most of which was transferred to the U.S. Fish and Wildlife Service to become the Rocky Flats National Wildlife Refuge.

Black-tailed prairie dogs are not uncommon at the Site. Prairie dog towns in the upper elevations of the COU and POU are scarce due to the abundance of rocks in the pediment soils. However, they are common the lower-elevation, deeper-soil areas on the eastern half of the POU and one upper-elevation surface in the northeast corner of the POU where the soils are less rocky. Several prairie dog towns have existed for many years at these locations. From an ecological standpoint, the prairie dogs are an important component of the ecosystem, providing food for raptors and coyotes, and also a source natural disturbance to the vegetation communities where the prairie dog towns are located. In recent years, conflicts between people and prairie dogs have increased along the Front Range. Prairie dogs are perceived as hindering recreational use and harming the quality of habitat on public lands. Numerous municipalities along the Front Range have instituted prairie dog relocation programs in attempts to limit the outright killing of the prairie dogs. Several of these programs have resulted in prairie dogs being moved just outside the boundaries of the POU on the Site's eastern and northern boundaries. At some off-Site locations, the increase in prairie dog populations has denuded the landscape and created bare soil areas that become sources of large dust clouds during high winds.

The primary concern with the prairie dog colonies at the Site is the potential for the prairie dogs to create an erosional surface by removing vegetation cover. Two landfills are present at the Site, the Original Landfill and Present Landfill. The Monitoring and Maintenance Plans for both landfills prohibit the presence of burrowing animals on the landfill covers. Additionally, infrastructure is buried at some locations in the former Industrial Area (within the COU), and the prairie dogs' natural tendency to dig makes them undesirable at these locations. Thus, from a management standpoint, it is important to observe the locations and abundance of prairie dogs at the Site.

Mountain bluebirds are migratory songbirds that typically visit the Site during their migration in the spring and fall. The species winters south of Colorado in New Mexico, Arizona, west Texas, and northern Mexico but travels as far north as northern Canada and southeastern Alaska to breed in the spring and summer (National Geographic 1999). In Colorado, mountain bluebirds commonly inhabit the foothills and mountains. Their typical habitat is open meadows and rangeland above 5,000 feet, though they also nest in tree cavities, buildings, and birdhouses. Both open prairie and elevations of approximately 6,000 feet on the upper pediment (mesa) tops are present at the Site. In an effort to increase wildlife use of the Site, and as an activity for Bring Your Child to Work Day in 2009, children painted nine bluebird boxes which were installed at selected locations throughout the COU (Figure 1).

Methods

In 2009, the following were observed during prairie dog surveys:

- The locations of prairie dog towns within the COU and adjacent to the COU fence on POU property.
- The locations of individual prairie dogs observed in the spring when they are roaming in search of potential locations for new prairie dog holes.

The findings from these observations were documented.

Mountain bluebird nest box monitoring was conducted at the end of the field season (October 27, 2009) by opening the door of each nest box and inspecting the contents, if any, for evidence of nesting (e.g., nest materials, feathers, eggshells).

Results and Discussion

Prairie Dog Surveys

Figure 2 shows the locations of prairie dog towns in the COU and on the adjacent POU property as of 2008. In early May 2009, fortuitous observations were made at the center prairie dog town along the eastern fence line of the COU. Both adults and the young of the year were observed in the colony. However, in July, when the prairie dog monitoring was scheduled, no prairie dogs were present at either of the two southern locations, and only three or four individuals were observed at the northern location. Investigation of the prairie dogs' disappearance revealed that an outbreak of plague had occurred in the prairie dog colonies east of the POU on the adjacent Westminster Hills Open Space/Dog Park (Jefferson County 2009). Plague is an infectious disease caused by *Yersinia pestis*, a bacterium found in fleas that pass on the bacterium to wild rodents by biting them. Prairie dogs are susceptible to plague, and it is not uncommon for colonies to be wiped out by plague every few years.

At the Site, because the prairie dogs move across Indiana Street between the Westminster property and the POU and COU areas, the prairie dogs in the COU and much of the surrounding POU were infected and killed. Thus, in July 2009, observations showed that no prairie dogs were present in the colonies within the COU (central location on Figure 2), none were present in the southern colony in the POU, and only three or four individuals were at the colony north of the COU fence in the POU. No individuals were observed roaming along roads in the COU in 2009. In 2010, monitoring of the prairie dog colonies will continue. Monitoring of these locations will continue on a fortuitous basis throughout the year to determine if and when the prairie dogs return.

Mountain Bluebird Nest Box Monitoring

In 2009, nine mountain bluebird nest boxes were installed at selected locations throughout the COU (Figure 1). On October 27, 2009, the nest boxes were surveyed for nesting activity. Table 1 summarizes the observations. Seventy-eight percent of the boxes (seven boxes) had evidence of some type of nesting activity. Evidence of nesting activity included the presence of nest materials and feathers. No eggshells were found in any of the boxes. Several of the boxes had been filled with sticks (usually from the species of tree the box was attached to; Figure 3). It was not determined what species used the boxes except for nest box #4. Observations at this box

indicated it was being used by a tree swallow (*Tachycineta bicolor*). In 2010, the boxes may be observed throughout the nesting season to identify what species of birds are using them.

The apparent lack of use by mountain bluebirds in 2009 was probably due to the fact that the boxes were installed near the end of the spring migration, so the birds were not aware of the boxes and continued north or into the mountains. In 2010, additional nest boxes will probably be installed, with the help of the children who participate in Take Your Child to Work Day, in the hope that mountain bluebirds will begin to use them.

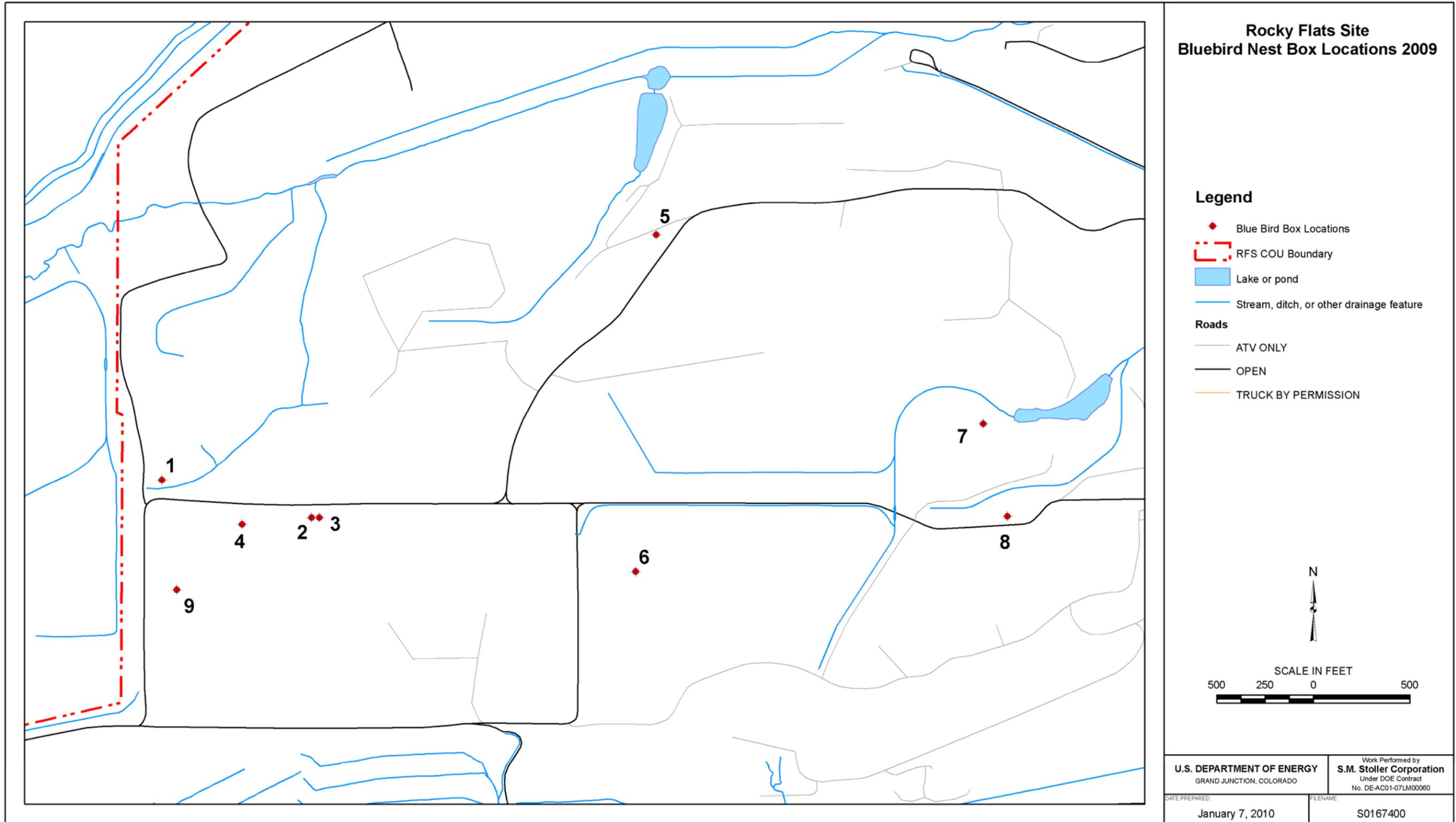
Summary

Black-tailed prairie dog populations at the Site were largely exterminated by an outbreak of the plague in 2009. Monitoring in 2010 will document whether the prairie dog populations return to the Site. Mountain bluebird nest boxes were installed at several locations and monitored. Evidence of nesting activity was documented in 78 percent of the nest boxes; however, no mountain bluebirds were observed using the boxes in 2009.

References

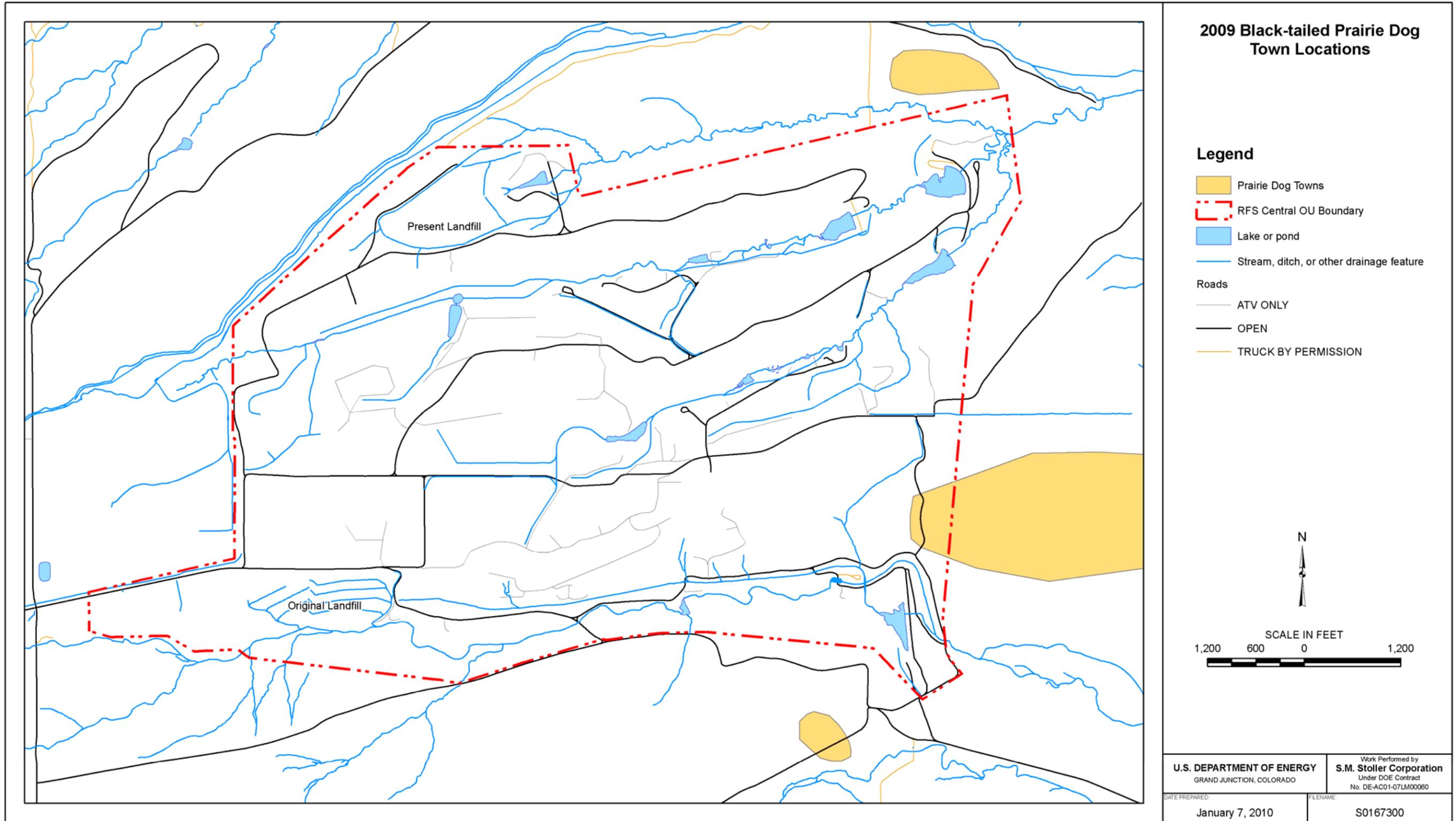
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National Geographic, 1999. *Field Guide to the Birds of North America*, National Geographic Society, Washington, DC.



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Figure 1. Rocky Flats. Bluebird Nest Box Locations in 2009.



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Figure 2. 2009 Black-tailed Prairie Dog Town Locations at Rocky Flats.



Figure 3. Mountain bluebird nest box filled with sticks and twigs in 2009.

Table 1. Bluebird Nest Box Summary 2009

Nest Box Number	Birds Observed Using Nest	Nest Materials Present	Comments
1		No	Only a few dead wasps in the box.
2		Yes	Box crammed with spruce twigs. No feathers or egg shells.
3		Yes	Box crammed with spruce twigs. No feathers or egg shells.
4	Tree Swallows	Yes	Nest in box. Made of grass and a few twigs. Some feathers present. No eggshells.
5		Yes	Box crammed with cottonwood twigs. No feathers or egg shells.
6		No	Box empty - nothing in it.
7		Yes	Nest in box. Made of grass and a few twigs. Lined with feathers. No eggshells.
8		Yes	Box crammed with spruce twigs. No feathers or egg shells.
9		Yes	Nest materials present - pine needles, grass, one feather. No eggshells.