

2010 Wildlife Surveys

Introduction

During 2010, wildlife surveys at the Rocky Flats Site (Site) consisted of observing black-tailed prairie dogs (*Cynomys ludovicianus*), monitoring mountain bluebird (*Sialia currucoides*) boxes, and observing active raptor nests. 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 (RFNWR).

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 in the lower-elevation, deeper-soil areas on the eastern half of the POU and in 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 of 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 relocation programs to avoid or 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 monitor 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 the birds travel 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).

Nesting raptors are not uncommon at the Site. In 2010, two great horned owl (*Bubo virginianus*) pairs and one Swainson's hawk (*Buteo swainsoni*) pair nested in trees in the COU. These species are protected under the Migratory Bird Treaty Act and monitoring the location and nesting habits of the raptors (and other birds) at the Site is important for project planning activities.

Methods

In 2010, 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 boxes were surveyed for nesting activity on May 13, June 9, and July 7, 2010, by visual observations of the nest box from a distance or by approaching the box on foot. On September 28, inspections were made of each nest box by opening the door and inspecting the contents, if any, for evidence of nesting (e.g., nest materials, feathers, eggshells).

Fortuitous observations were made of the great horned owl and Swainson's hawk nests to document the approximate time frames of nesting at the Site and their success of the nesting. General observations of the elk at the Site were also noted.

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 July 2009, 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 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.

Throughout the remainder of 2009, no prairie dogs were observed within the COU. In 2010, observations of the towns throughout the year have shown that no prairie dogs have returned to the two southern locations shown, and only a few individuals have been seen at the northern location on the RFNWR. In spring of 2010, three individual prairie dogs were observed roaming along the roads at the Site (Figure 2). They typically travel beyond their existing towns in search of other potential burrow locations at this time of year. However, except for the sightings at the north town, observations throughout the remainder of the year across the COU and at the previously occupied prairie dog towns have shown no presence of the animals. Fortuitous monitoring of these locations will continue throughout the year to determine whether the prairie dogs have returned.

Mountain Bluebird Nest Box Monitoring

Table 1 summarizes the observations. All eight of the functioning nest boxes (one was destroyed when the tree fell over), showed evidence of nesting activity in 2010. Five boxes were used by house wrens (*Troglodytes aedon*), two with active nests (birds were observed entering and exiting the nest box, so it was presumed active) and three filled with twigs. The male house wrens fill nesting cavities with twigs and the female then selects which ones are suitable for nesting. The other three nest boxes had active tree swallow (*Tachycineta bicolor*) nests in them. No mountain bluebirds were observed nesting in any of the nest boxes in 2010. General observations at the Site in spring 2010 did not note any mountain bluebirds migrating through this year. However, in October, some mountain bluebirds were observed at the Site, evidently starting their migration south.

Raptor Nesting Observations

Figure 3 shows the locations of three active raptor nests within the COU and one outside the COU on the RFNWR. Two great horned owl (*Bubo virginianus*) nests were present in the COU this year—one in North Walnut Creek and one in Woman Creek. Each nest had a pair of young birds that fledged. The owls in North Walnut Creek nested in an abandoned red-tailed hawk (*Buteo jamaicensis*) nest in the top of a plains cottonwood (*Populus deltoides*) tree. This nest is approximately 200 feet from the Solar Ponds Plume Treatment System (SPPTS), where work is conducted daily during the work week. This nest even had a nesting deterrent in the tree, which consisted of a rope tossed over a branch (just beneath the nest) with large trash bags tied into it and pulled into the top of the tree. In the past, the flapping of the trash bags had created enough noise and disturbance to prevent hawks from nesting there. However, it did not work as a deterrent for the owls, as they did not seem to mind the flapping bags or constant activity at the SPPTS. The owls were often observed watching the activities at the SPPTS or sleeping. The owl nest in Woman Creek was west of the C-2 Pond along the road in a peachleaf willow (*Salix amygdaloides*) tree. The young owls at both locations left their nests during the week of May 24, 2010.

A pair of Swainson's hawks (*Buteo swainsoni*) built a nest in the top of a plains cottonwood tree near the center of the COU along a road. The nest was first observed being built the week of May 10. A single bird fledged and it left the nest by the end of August.

A red-tailed hawk nest was also observed north of the COU fence on the RFNWR in the No Name Gulch drainage downstream of the Present Landfill. It is not known if any young fledged from this nest.

Elk

Over the past decade, elk (*Cervus elaphus*) have continued to increase at the Site. Throughout the final few years of site closure activities, elk were observed coming on Site during the spring to calve in the upper drainages of Rock Creek, where abundant cover is available in the shrublands and riparian woodlands. Since site closure, fewer people are working at the Site, and the elk population continues to increase each year. No census data are available, but fortuitous observations of the elk herd continues to suggest a general increase in the number of individuals present at the Site. Additionally, they tend to be staying longer during the year. In the early years, they stayed only during the spring and early summer months then left the Site. In 2010, elk were observed throughout most of the year. Observations of 20 to 40 elk in a herd are not

uncommon at the Site, with 7 to 9 young of the year running with the group. Bull elk with large racks and occasional bugling in the fall have also been observed.

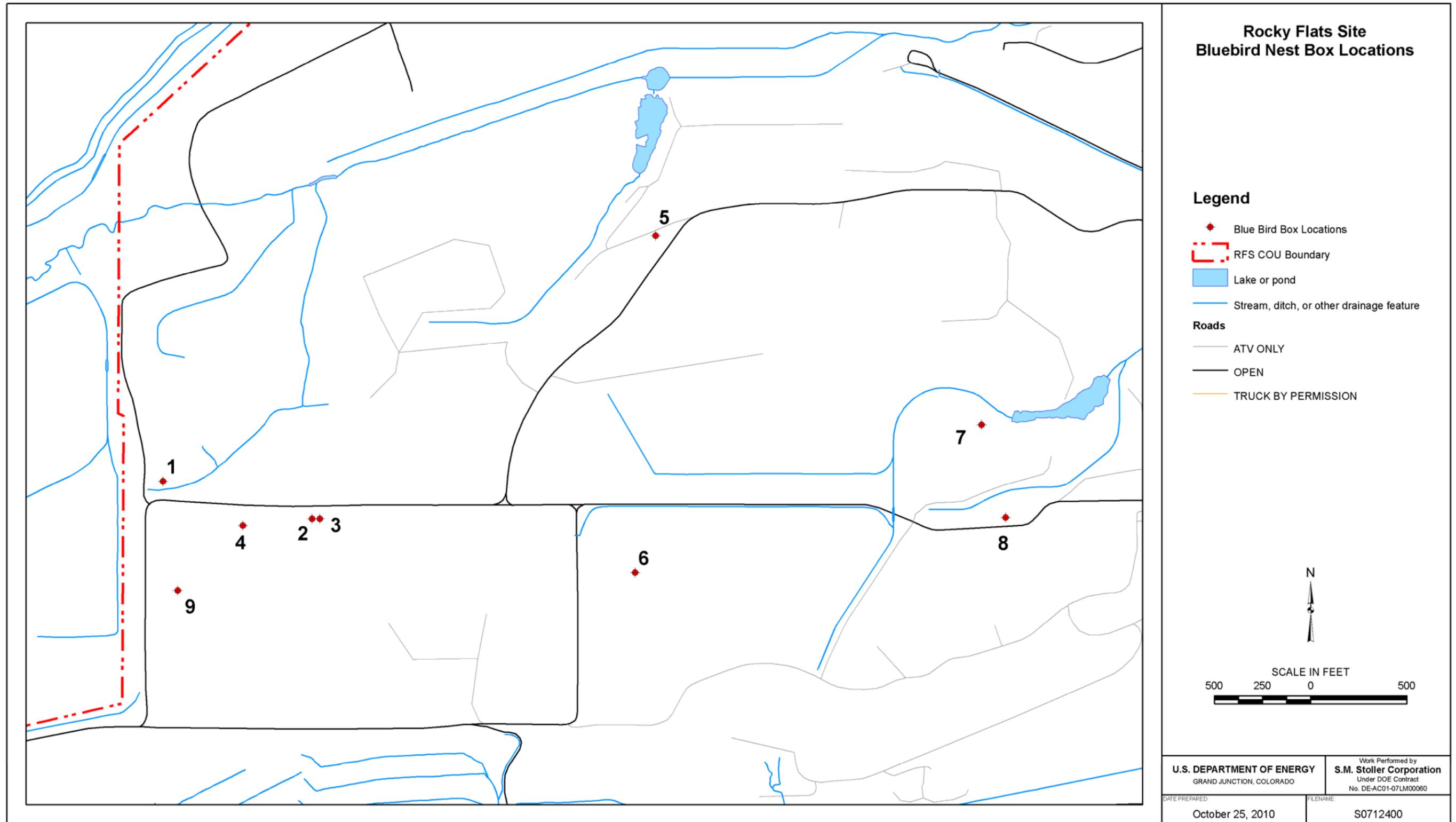
Summary

Black-tailed prairie dog populations at the Site were largely exterminated by an outbreak of the plague in 2009. No active prairie dog towns were present within the COU, and only a few animals were present at the northern town in the POU in 2010. Tree swallows and house wrens utilized the mountain bluebird nest boxes this year. Five of the eight boxes (63 percent) had active nests in 2010. Three active raptor nests were observed within the COU this year. Four young owls and one Swainson's hawk were raised in the nests on Site this year.

References

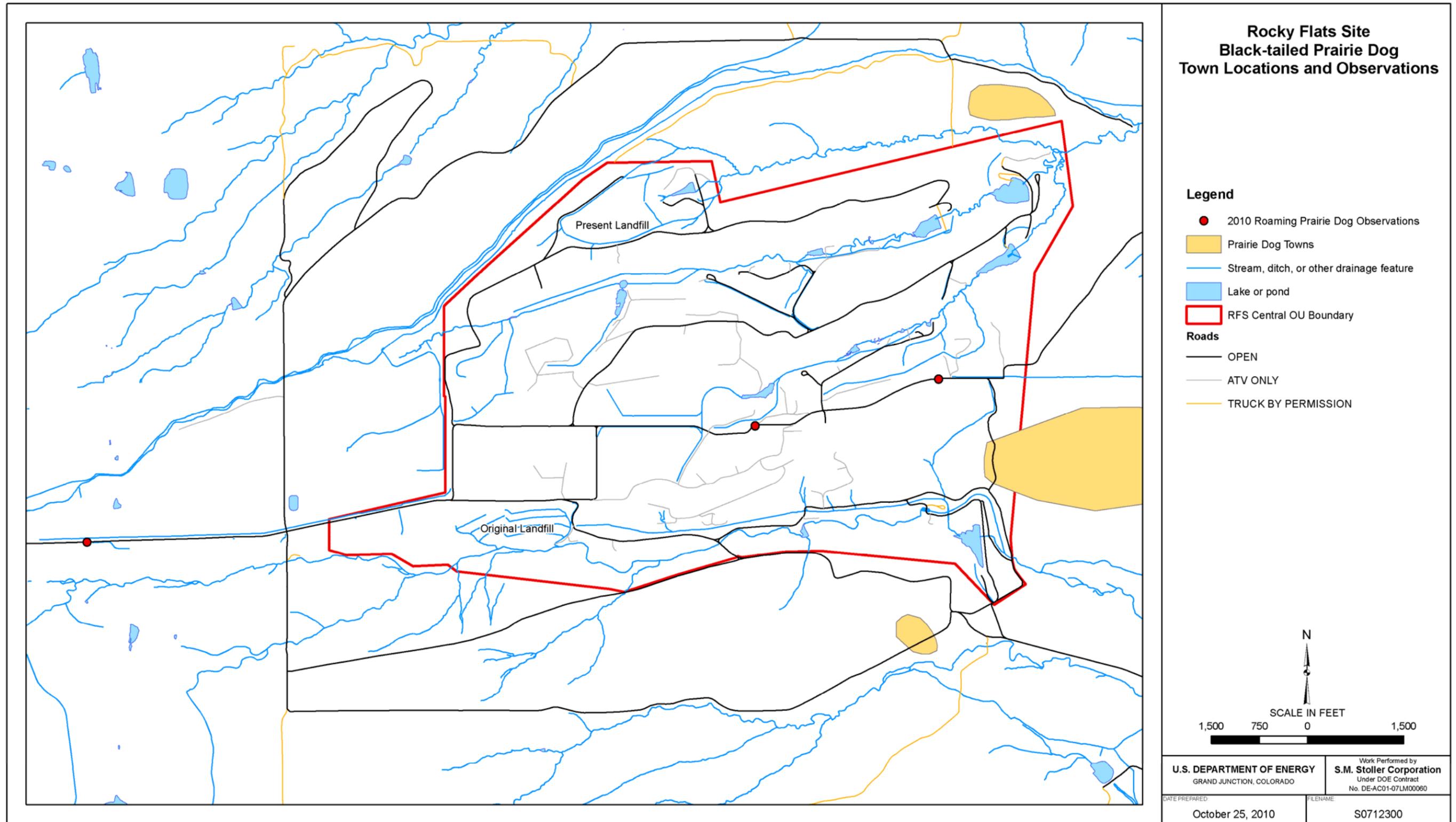
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National Geographic, 1999. *Field Guide to the Birds of North America*, National Geographic Society, Washington, DC.



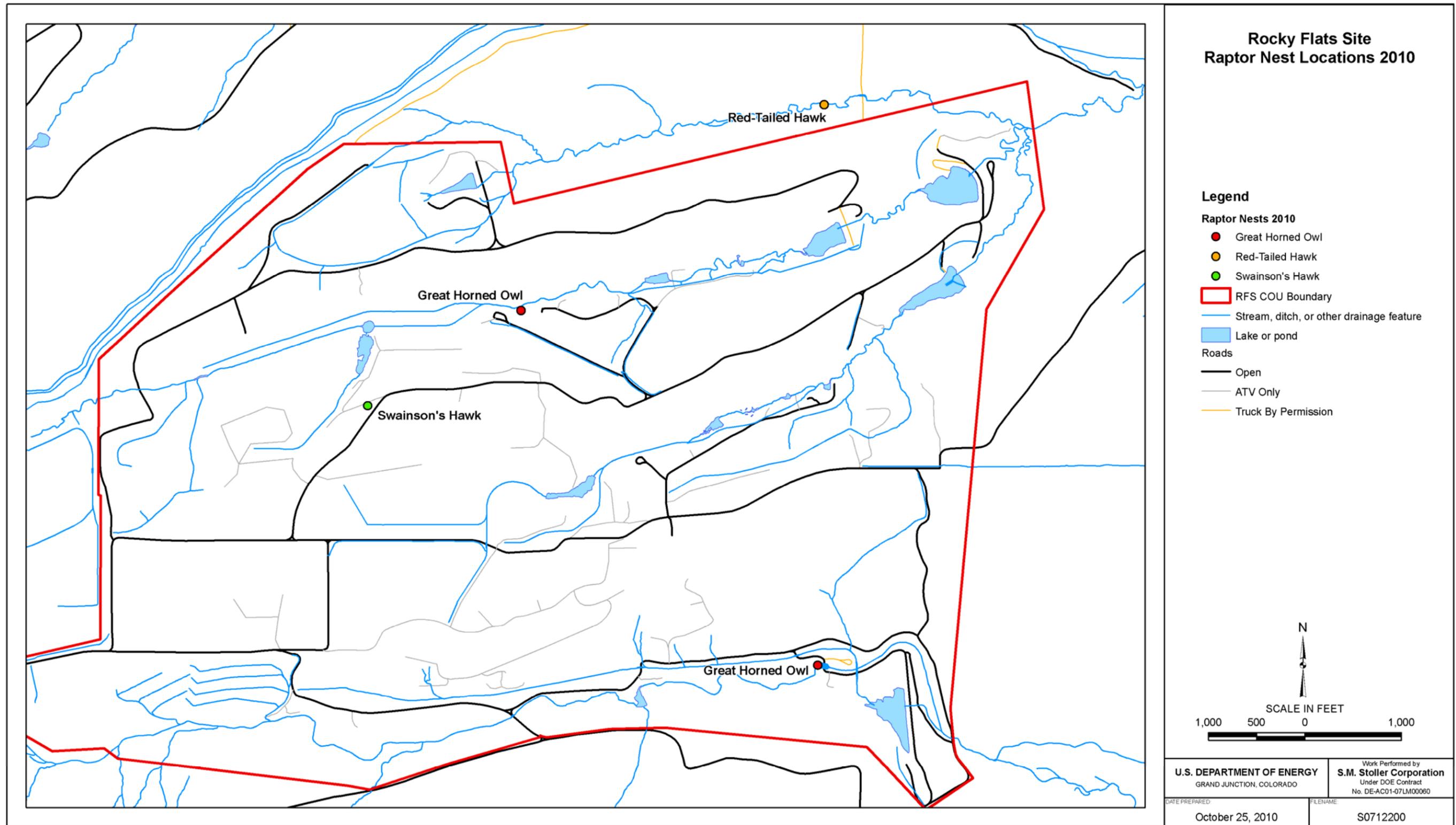
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Figure 1. Rocky Flats Site Bluebird Nest Box Locations.



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Figure 2. Rocky Flats Site Black-tailed Prairie Dog Town Locations and Observations.



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Figure 3. Rocky Flats Site Raptor Nest Locations 2010.

Table 1. Bluebird Nest Box Summary 2010

Nest Box Number	Birds Observed Using Nest	Active Nest Yes/No	Comments
1	House Wren	Yes	Bird flew out of nest box on 6/9/10 - presumed active
2	House Wren	No	Full of twigs - house wren activity
3	House Wren	No	Full of twigs - house wren activity
4		NA	Destroyed when tree fell down
5	House Wren	Yes	Saw house wren enter nest box on 7/7/10 - presumed active
6	Tree Swallow	Yes	Tree swallow in nest box with head out door on 6/9/10; young heard calling in nest box on 7/7/10; dead dried up baby tree swallow in nest on 9/28/10
7	House Wren	No	Full of twigs - house wren activity
8	Tree Swallow	Yes	Tree swallow sitting in nest box with head out door on 6/9/10
9	Tree Swallow	Yes	Tree swallow flew out of nest box on 6/9/10; young heard calling in nest box on 7/7/10; dead adult tree swallow sitting in nest with an abandoned old egg on 9/28/10