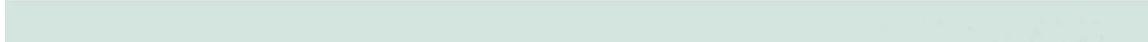


**WILDLIFE AND THREATENED AND ENDANGERED SPECIES  
TECHNICAL MEMORANDUM**



Dillon Drive Flyover  
Dillon Drive and Interstate 25 Interchange  
Pueblo, Colorado

August 29, 2010

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## **Acronyms**

<b>CDOT</b>	Colorado Department of Transportation
<b>CDOW</b>	Colorado Division of Wildlife
<b>CRS</b>	Colorado Revised Statute
<b>EA</b>	Environmental Assessment
<b>ESA</b>	Endangered Species Act
<b>FC</b>	Federally-listed as candidate
<b>FE</b>	Federally-listed as endangered
<b>FT</b>	Federally-listed as threatened
<b>I-25</b>	Interstate 25
<b>MBTA</b>	Migratory Bird Treaty Act
<b>NA</b>	Not applicable
<b>NDIS</b>	Natural Diversity Information Source
<b>PACOG</b>	Pueblo Area Council of Governments
<b>ROW</b>	Right-of-way
<b>SB</b>	Senate Bill
<b>SC</b>	State Special Concern
<b>SE</b>	State-listed as endangered
<b>ST</b>	State-listed as threatened
<b>T &amp; E</b>	Threatened and endangered
<b>USACE</b>	United States Army Corps of Engineers
<b>USC</b>	United States Code
<b>USDA</b>	United States Department of Agriculture
<b>USFWS</b>	United States Fish and Wildlife Service

## Introduction

An environmental assessment (EA) is being completed for the Pueblo Dillon Flyover project. This technical memorandum summarizes the effects of the proposed Pueblo Dillon Drive Flyover project on wildlife and federally-listed threatened and endangered species with the potential to occur in the project area. This project would provide access from Interstate (I-25) to Dillon Drive/Platteville Boulevard near the existing Eden Road and I-25 Interchange (Eden Interchange) in Pueblo County, Colorado. Exhibit 1 shows the location of the proposed project.

Several federal and state regulations are in place to protect fish and wildlife species within the study area<sup>1</sup>. The most notable regulation is the federal Endangered Species Act (ESA) of 1973, as amended (16 United States Code (USC) §1531-1543). Through the ESA, federally-listed plant and animal species are protected to ensure their long-term survival. Section 7 of the ESA charges federal agencies to aid in the conservation of listed species (Section 7 (a)(1)), and requires the agencies to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats (Section 7 (a)(2)).

The ESA is administered by the US Fish and Wildlife Service (USFWS). The USFWS is also responsible for enforcement of the the Migratory Bird Treaty Act (MBTA). Under the MBTA, a federal act that prohibits destruction or disturbance of active nests that would result in loss of eggs or young without a permit from the USFWS, construction activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges or overpasses (e.g., which may affect swallow nests on bridge girders), would be avoided. Most wild birds, including raptors, are protected under the MBTA, except for non-native species. Vegetation clearing, earth-moving, and other construction activities have the potential to destroy nests of bird species protected under the MBTA.

The Colorado Nongame, Endangered, and Threatened Species Conservation Act provides protection within the state for listed species and establishes the State's intent to protect endangered, threatened, or rare species. Under the Act, Colorado law provides for the acquisition of habitat for species listed as well as other protective measures. Colorado Senate Bill 40 (SB 40) requires that state agencies obtain certification from the Colorado Division of Wildlife (CDOW) when the agency plans construction in any stream, stream bank, or tributary (33-5-101-1973, Colorado Revised Statute (CRS) 1973).

Black-tailed prairie dog protection is based on municipal and agency policies and the most stringent policy for a given area must be followed. Current CDOT policies would be followed. In CDOT right-of-way (ROW), the applicable policies that would be followed are the CDOT *Impacted Black-tailed Prairie Dog Policy* (CDOT, 2009) and the *Black-tailed Prairie Dog Relocation Guidelines* (CDOT, 2002). The information in this technical memorandum is based on information readily available as of July 2009. This technical memorandum will not be updated. New information and data, such as impacts, may be incorporated into subsequent documents.

These include the federal Endangered Species Act of 1973, as amended (16 United States Code §1531-1543), the Migratory Bird Treaty Act of 1918, as amended (16 United States Code § 703-712), The Colorado Nongame, Endangered, and Threatened Species Conservation Act (Title 33-2-101-108), US Fish and Wildlife Coordination Act of 1934, as amended (16 United States Code 661-667e), US Fish and Wildlife Bald and Golden Eagle Protection Act (16 U.S.C. 668-668e), Colorado Senate Bill 40 (Title 33-5-101-107, Colorado Revised Statute 1973), black-tailed prairie dog protection based on municipal and agency policies

## Methods

The project area (Exhibit 2) was used as the resource-specific study area (study area). The study area was assessed for potential constraints associated with the presence of federal and state-listed threatened and endangered (T & E) species. A review of federal and state lists of species with the potential to occur in the study area was conducted (Appendix A). Species on these lists have the potential to occur in Pueblo County, and the study area, where suitable habitat is present. Information on fish, wildlife, and T & E species, was obtained from existing sources, including maps, databases, publications, and agency information; from a field survey; and from review of aerial photographs. The project team then completed a field assessment of the study area in November 23, 2008.

## Affected Environment

The study area is a narrow corridor which includes paved and unpaved roads, vegetated roadsides, undeveloped grasslands, CDOT ROW, a stormwater drainage basin and unnamed drainage ditches, and commercial and industrial properties. Project-related activities within the study area would likely include: road construction on I-25 in CDOT ROW and on auxiliary roads; grading and slope reconstruction within the I-25 corridor; mowing of shoulder, median and roadside areas; center median construction; construction of a bridge spanning the I-25 corridor; guardrail construction; landscaping; and the construction of stormwater channels and basins.

The majority of the project study area (approximately 70%) consists of highly disturbed areas with bare soil or paved surfaces with small amounts of non-native vegetation cover including field bindweed (*Convolvulus arvensis*), Russian thistle (*Salsola tragus*), and kochia (*Kochia scoparia*). There is also a small portion of the study area (approximately 30%) that consists of low quality disturbed shortgrass prairie/shrubland dominated by rabbitbrush (*Chrysothamnus viscidiflorus*) and saltbush (*Atriplex canescens*). Habitat has been highly fragmented by existing roads, mainly I-25 and Frontage Road, and commercial and industrial development, and is subject to high levels of traffic disturbance.

Soils in the project area consist of two types: Midway-Shale outcrop complex (1-9% slopes) and Razor clay loam (USDA, 2009b). The Midway-Shale outcrop complex is a well drained soil consisting silty clay formed on the plains from a clayey slope alluvium parent material. This soil type is primarily located on the east and north portions of the study area. Razor clay loam is also a well drained soil formed on the plains from a clayey slope alluvium parent material (USDA, 2009b). It generally consists of clay loam, silty clay and clay, and is generally located on the west and southern portions of the study area.

## Wildlife

The quality and connectivity of wildlife habitat within the study area has been degraded by roadway and adjacent development in the study area. As mentioned above, habitat has been highly fragmented by existing roads and commercial and industrial development, and is subject to high levels of traffic disturbance. As such, the amount of habitat is

limited, and movement or migration between different habitat areas within the study area may also be limited for some species, especially those with large ranging movement requirements. However, there exist remnants of functional grassland within the study area that may provide suitable habitat for wildlife and migratory birds that are adapted to an urban environment.

The study area does not have perennial or ephemeral water features that are capable of supporting fish and other wildlife that depend on aquatic habitat. However, Fountain Creek is located approximately 0.17 mile east of I-25 and the study area. Fountain Creek and its floodplain may provide suitable habitat for a number of mammals and birds, including raptors. Subsequently, there may be some habitat overlap for wildlife that utilize the Fountain Creek corridor for a multitude of needs (e.g., nesting, roosting, foraging) and the grasslands within the study area.

Wildlife species found in developed environments are generally considered generalists and include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and raccoon (*Procyon lotor*) (USACE, 2006). Other species common to developed areas and grassland habitat include the black-tailed prairie dog (*Cynomys ludovicianus*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), and jackrabbit (*Lepus* spp.) (Fitzgerald et al., 1994).

Grassland habitat east of I-25 represents the highest quality habitat for wildlife, migratory birds, and raptors in the study area. Species that may forage in the study area include red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), and burrowing owl (*Bubo virginianus*). The red-tailed hawk, Swainson's hawk, and great-horned owl nest primarily in trees. The study area does not have suitable perch trees to support tree-nesting species; however, grassland habitat may be suitable forage areas for these species. Potential wintering and migrating raptor species that may use the study area for foraging include bald eagles (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), red-tailed hawk and prairie falcon (*Falco mexicanus*) (Kingery, 1998). Raptor nests were not observed within 0.5 miles of the project area during the 2008 field assessment.

Burrowing owls nest mostly in prairie dog burrows and may be present in prairie dog colonies outside of the study area.

There is also a potential habitat for non-raptor migratory birds in the study area. One overpass and abundant shrub and grassland areas exist in the project area, and all may be used as nest sites for smaller migratory birds.

### **Threatened, Endangered and Sensitive Species**

The USFWS identified five T & E species with the potential to occur in, or be impacted by, projects in Pueblo County (USFWS, 2008). The project study area is within a developed environment, where there is either no habitat or low-quality habitat within the study area. Federal and state-listed T & E and sensitive species, and their potential to

occur in the project study area, are summarized in Appendix A. Species with the highest potential to occur in the study area are discussed below.

Potential habitat for the black-tailed prairie dog (prairie dog) exists within the disturbed and shortgrass prairie communities of the study area. Prairie dogs are listed as a CDOW state-sensitive species (CDOW, 2009). Prairie dogs were not observed in the study area; however, a colony was observed adjacent to the southern project boundary, east of I-25. This colony has the potential to expand into the study area by the time project construction begins. Additional regulatory guidance includes the CDOT *Impacted Black-tailed Prairie Dog Policy* (CDOT, 2009) and the CDOT *Black-tailed Prairie Dog Relocation Guidelines* (CDOT, 2002).

The burrowing owl is a state-sensitive species with known occurrences in Pueblo County (CDOW, 2009; NDIS, 2009). Prairie dog colonies are potential habitat for the burrowing owl. The CDOW has implemented procedures to avoid impacts to burrowing owl habitat in *Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls* (CDOW, 2007).

The shortgrass prairie, shrubland/grassland and adjacent agricultural areas also provide potential habitat for several other state-sensitive mammal species: Botta's pocket gopher (*Thomomys bottae*), northern pocket gopher (*Thomomys talpoides macrotis*), swift fox (*Vulpes velox*) and the Townsend's big-eared bat (*Plecotus townsendii*). Botta's pocket gopher and the northern pocket gopher have the potential to utilize grassland and roadsides within the project area and adjacent agricultural areas. The swift fox also has the potential to utilize shortgrass prairie habitat within the project area. The Townsend's big-eared bat is potentially present while foraging in grassland and shrubland communities within the project area.

The shortgrass prairie, grasslands and arroyos also provide potential habitat for three reptile species: massasauga (*Sistrurus catenatus*), Texas horned lizard (*Phrynosoma cornutum*) and Triploid checkered whiptail (*Cnemidophorus neotesselatus*). The massasauga and the Texas horned lizard have the potential to utilize the grasslands and sandy areas in the project area. There are also two arroyos that traverse the project area. These arroyos could provide habitat for the Triploid checkered whiptail.

In addition to the above-mentioned wildlife species, there are five rare plant species that are identified in CDOT's Shortgrass Prairie Initiative that have the potential to occur in shortgrass prairie/grassland habitats in Pueblo County. These species and their potential to occur in the project area are also listed in Appendix A, and include the Arkansas River feverfew (*Bolophyta tetraeuris*), Arkansas valley evening primrose (*Oenothera harringtonii*), golden blazing star (*Nuttallia chrysantha*), Pueblo goldenweed (*Oonopsis puebloensis*), and round-leaf four-o'clock (*Oxybaphus rotundifolia*). These species were not observed during the site visit.

## **Impact Evaluation**

### **No-Action Alternative**

Regardless of whether the Dillon Drive flyover is constructed or not, growth and development would continue to occur in the Pueblo region (Pueblo Area Council of Governments (PACOG), 2002). Under the No-Action Alternative, the study area would not remain as is. Urban expansion would continue to occur throughout the study area and undeveloped land, where zoned, would likely be developed for commercial and residential purposes.

### ***Wildlife and Threatened, Endangered and Sensitive Species***

#### **Direct Impacts**

The No-Action Alternative would change habitat for wildlife in the long term, which would impact migratory birds and T & E species. Current grassland communities that may provide suitable habitat for a number of species, including migratory birds, would be converted to commercial and residential development, parking lots, and associated infrastructure as part of PACOG's build-out scenario.

Those areas not converted have the potential to become prairie dog colonies, as neighboring prairie dogs would likely move or expand their colony. Commercial, residential, and transportation-related development would continue with increased population growth, further fragmenting the study area for migrating wildlife.

#### **Indirect Impacts**

Indirect impacts to wildlife, T & E species, and sensitive species may occur from the No-Action Alternative. With continued development, vehicle traffic, construction, and noise would continue to occur in the study area and displace species utilizing the study area.

#### **Temporary Construction Impacts**

Temporary construction impacts to wildlife and T & E species as a result of the No-Action Alternative would include temporary displacement in areas where vehicle and equipment would be stored for future commercial, residential, and transportation projects.

### **Preferred Alternative**

The Preferred Alternative for this project generally runs parallel to I-25, north and south of the proposed Dillon Drive/I-25 flyover, on the west side of the project area (Exhibit 2). Improvements to approximately 800 feet of the existing Frontage Road, west of I-25 and north of the proposed interchange, and 1,000 feet of the existing Platteville Boulevard/Dillon Drive, west of the Dillon Drive and Frontage Road intersection at I-25, are included in the Preferred Alternative. Additionally, construction of an I-25 northbound exit/bridge to Dillon Drive, on the east side of I-25, and northbound Frontage Road east of I-25 between the proposed Dillon Drive Bridge and the existing Eden interchange, is included in the proposed Preferred Alternative.

## ***Wildlife***

### **Direct Impacts**

Several types of impacts may be associated with the Preferred Alternative, including habitat loss, habitat degradation, disturbance (avoidance and displacement), and direct mortality.

There would be limited effects to wildlife because there is minimal habitat in the majority of the construction area and the animals in the area are more than likely to be accustomed to the fragmented environment already found in the study area. The Preferred Alternative would not cause a new division of previously contiguous habitat. Increased traffic could also discourage wildlife movement.

Direct wildlife mortality of small terrestrial and burrowing animals could occur during construction-related ground clearing and earth-movement, as well as from traffic (road kill) during both construction and operation.

### **Indirect Impacts**

Indirect impacts from the Preferred Alternative include increased development within the study area with the increased access created by the construction of the new exit. Increased development would decrease existing open space, including land used for wildlife movement within, and adjacent to, the study area. The impacts resulting from this activity would be consistent with that outlined in the No Action Alternative.

### **Temporary Construction Impacts**

Construction activity is likely to temporarily displace animals from the construction zone due to noise, human presence, and heavy equipment. Wildlife mortality could increase as a result of increased construction traffic. Impacts would be temporary and would not affect long-term use of the study area by wildlife.

### ***Threatened, Endangered and Sensitive Species***

Limited habitat for federally-listed T & E species and the majority of state-listed species of concern, including the five rare plant species, exists within the study area for the Preferred Alternative. Suitable nesting habitat for small migratory birds and potential forage habitat for raptors could be impacted by construction of the Preferred Alternative. Federal and state-listed species and their potential to occur in the project area are summarized in Appendix A.

### **Direct Impacts**

#### **a. Migratory Birds**

The project would not affect trees suitable for tree-nesting raptors.

An increase in traffic and noise could affect the use of adjacent habitats, although the raptor species that nest in developed areas are likely to become habituated to this environment and no raptor nests were observed within 0.5 mile of the project area. Direct loss of foraging habitat would decrease the availability of important prey species,

but reduction in prey populations would be localized and is unlikely to affect raptor population.

The impacts to smaller migratory birds from construction and operation would include direct loss of habitat, displacement during construction, and mortality from vehicle collisions. Most wild birds, including raptors, are protected under the MBTA, except for non-native species that include house sparrow, rock dove, and European starling. Vegetation clearing, earth-moving, and other construction activities have the potential to destroy nests of bird species protected under the MBTA. The grassland community and the current I-25 overpass over Frontage Road in the study area are likely to provide nesting habitat for a number of smaller bird species.

Burrowing owls are not known to occur in the study area, but could occupy portions of the prairie dog colonies south of the study area. Construction activities in close proximity to potential nests may deter burrowing owls from nesting in the area.

#### **b. Black-tailed Prairie Dogs**

The black-tailed prairie dog is a state species of special concern, and is also the subject of the CDOT *Impacted Black-tailed Prairie Dog Policy* (CDOT, 2009). Prairie dogs and prairie dog colonies were not observed during the 2008 survey; however, a colony was observed adjacent to the southern boundary of the study area. This colony has the potential to expand to within the current study area, and possibly the project impact area.

In the event that prairie dogs have expanded their colony within the study area or project impact area, there would be temporary and permanent impacts to prairie dogs. Temporary impacts would occur in construction areas that would be revegetated and prairie dogs may repopulate. Temporary impacts would occur mostly on roadside areas adjacent to I-25 and the Frontage Road, and in grassland habitat east of I-25. Permanent impacts would occur in areas that would be covered by an impervious surface such as concrete. These impacts would result in a decrease in size of prairie dog habitat and colonies that are within the project area.

#### **c. Shortgrass Prairie Rare Plant Species**

A small portion of the project study area consists of low quality disturbed shortgrass prairie/shrubland dominated by rabbitbrush and saltbush, and is unlikely to support populations of five rare plant species common to this habitat. Moreover, rare plant species were not observed in the project area during the site visit.

### **Indirect Impacts**

#### **a. Migratory Birds**

The Preferred Alternative may indirectly affect foraging raptors and smaller migratory birds primarily due to construction noise, and human activity. However, due to the developed nature of the study area, raptors using the study area are likely already accustomed to human activity.

### **b. Black-tailed Prairie Dogs**

The Preferred Alternative would result in minimal indirect impacts to prairie dog habitat or populations. Populations were identified adjacent to the project area. Oftentimes prairie dogs colonize disturbed areas and upon completion of the project, adjacent colonies may move into the newly disturbed areas created by the project.

### **c. Shortgrass Prairie Rare Plant Species**

The Preferred Alternative is unlikely to indirectly impact rare plant species or populations in the disturbed shortgrass prairie habitats.

## **Mitigation**

### **Wildlife**

Mitigation for wildlife is not anticipated for the Preferred Alternative because wildlife using the study area is likely accustomed to the urban environment and the project would not fragment previously contiguous habitat; however, consultation with the CDOW should be completed for the suitable habitat mentioned for state-sensitive species. Also, the project would require consultation and clearance through the USFWS for federally listed T & E species.

## **Threatened, Endangered and Sensitive Species**

### **a. Migratory Birds**

Under the MBTA, construction activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges and/or overpasses (e.g., which may affect swallow nests on girders) that would otherwise result in the take of migratory birds, eggs, young, and/or active nests would be avoided during the nesting season.

Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in eastern Colorado occurs during the period of April 1 to August 31. However, some migratory birds are known to nest outside of the aforementioned primary nesting season period. For example, raptors can be expected to nest in woodland habitats during February 1 through July 15.

If the proposed construction project would occur during the primary nesting season or at any other time which may result in the take of nesting migratory birds, the USFWS recommends that the project proponent (or construction contractor) arrange to have a qualified biologist conduct a field survey of the affected habitats and structures to determine the absence or presence of nesting migratory birds.

Surveys would be conducted during the nesting season. In some cases, such as on overpasses or other similar structures, nesting can be prevented until construction is complete. It is further recommended that the results of field surveys for nesting birds, along with information regarding the qualification some of the biologists(s) performing the surveys, be thoroughly documented and that such documentation be maintained on file by the project proponent (and/or construction contractor) for potential review by the

USFWS (if requested) until such time as construction on the proposed project has been completed.

The USFWS Colorado field office would be contacted immediately for further guidance if a field survey identifies the existence of one or more active bird nests that cannot be avoided by the planned construction activities. Adherence to these guidelines would help avoid the unnecessary take of migratory birds and the possible need for law enforcement action.

Impacts to nesting migratory birds, including raptors, would be avoided using the following mitigation strategies:

- Raptor nest surveys would be conducted during an appropriate season (generally March 1 through June 1) to evaluate the presence of active raptor nests within 0.5 mile of the project footprint. If an active nest is located in or near the project area, CDOW would be contacted regarding use of seasonal buffers to prevent disturbance to nesting birds during construction.
- Land-clearing activities in natural habitats would be timed to avoid the breeding season (primarily April through August, but differs according to species) and therefore avoid impacts to active bird nests. If needed, shrubs in the construction footprint would be cleared prior to March 1 or after August 31 to prevent smaller migratory birds from nesting on site and to avoid the taking of, or disturbance to, active nests during the breeding season.
- If present, swallow nests on the overpass would be removed outside of the breeding season. If this is not possible, measures would be taken to prevent establishment of nests.

If no active nests are present, construction may proceed. If active nests are found that cannot be avoided during the period when eggs or young birds are present, construction would be suspended until the USFWS is contacted with the results of the survey and a plan of action is developed.

#### **b. Black-tailed Prairie Dog**

CDOT has implemented the following policy for addressing prairie dogs that would be impacted by CDOT projects. This policy would be applicable if there are prairie dogs present within the project area when construction begins. These guidelines would be applied to all activities that affect prairie dogs (CDOT, 2009).

1. CDOT projects would be designed and constructed to avoid and minimize impacts to prairie dog colonies greater than two acres in area;
2. If a colony is less than two acres, but has the potential to expand into areas that are currently inactive (i.e., not constrained), the available and accessible habitat would be the determining size of the area to be considered;
3. In order to foster a heightened sense of CDOT's ecological stewardship by the public, projects involving towns less than two acres in area would be designed and constructed to avoid and minimize impacts, which may include the relocation of

prairie dogs, so long as doing so would not increase the impacts to other resources (e.g., wetlands, historical properties, environmental justice issues, archeological sites, etc.) and is not cost prohibitive;

4. The area of prairie dog towns that would be affected by a project would be calculated before construction begins;
5. Relocation efforts for prairie dog towns greater than two acres shall be conducted in accordance with CRS 35-7-203, as well as any other applicable laws or regulations;
6. If a relocation site cannot be located for towns larger than two acres, the prairie dogs would be captured and donated to raptor rehabilitation facilities, or turned over to the CDOW for the black-footed ferret reintroduction program;
7. At no time would CDOT authorize earth-moving activities that result in the burying of living prairie dogs. If needed, humane techniques for the killing of prairie dogs within a town less than two acres in size would be obtained from CDOW; and
8. Coordination with the CDOW District Wildlife Manager whose area the project is in would be initiated before any manipulation of prairie dogs or their colonies begins.

### **c. Shortgrass Prairie Rare Plant Species**

A small portion of the project study area consists of low quality disturbed shortgrass prairie/shrubland, and is unlikely to support populations of five rare plant species common to this habitat. Rare plant species were not observed in the project area during the site visit; however, the site visit was not performed during the normal flowering period for these species. A site visit by a qualified botanist during the flowering period for each species would need to be performed no more than one year prior to construction to confirm that rare plant species are not located in the project study area.

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## Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area

Common Name	Species	Status <sup>1,2,3</sup>	Habitat <sup>2</sup>	Potential for Occurrence in Project Area <sup>4</sup>
<b>Amphibians</b>				
Northern leopard frog	<i>Rana pipiens</i>	SC	Wet meadows and the banks and shallows of marshes, ponds, lakes, reservoirs, streams, and irrigation ditches.	None; no suitable habitat in project area.
Plains leopard frog	<i>Rana blairi</i>	SC	Margins of streams, natural and artificial ponds, reservoirs, creek pools, irrigation ditches, and other bodies of water in plains grassland, sandhills, stream valleys, or canyon bottoms.	Unlikely; lack of suitable habitat in project area.
<b>Birds</b>				
American peregrine falcon	<i>Falco peregrinus anatum</i>	SC	Cliffs and adjacent coniferous and riparian forests; also reservoirs, rivers and marshes.	Unlikely; there is poor habitat in the project study area and minimal habitat along Fountain Creek.
Bald eagle	<i>Haliaeetus leucocephalus</i>	ST	Riparian habitat with tall trees. Usually along waterways with and abundant food source nearby.	Potentially present during winter foraging; no suitable habitat in project outside of foraging. Nearest habitat is Fountain Creek.
Ferruginous hawk	<i>Buteo regalis</i>	SC	Grasslands and shrublands; wintering birds prey on prairie dogs.	Potentially present during winter foraging.
Greater sandhill crane	<i>Grus canadensis tabida</i>	SC	Reservoirs, moist meadows, parks with grassy hummocks, watercourses, and ponds with aspen and willows.	None; no suitable habitat in project area.

**Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area**

<b>Common Name</b>	<b>Species</b>	<b>Status<sup>1,2,3</sup></b>	<b>Habitat<sup>2</sup></b>	<b>Potential for Occurrence in Project Area<sup>4</sup></b>
Long-billed curlew	<i>Numenius americanus</i>	SC	Short-grass grasslands; nests near standing water	Unlikely; marginal habitat exists within project area; however, there is no standing water.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	FT, ST	Forested, steep canyons	None; no suitable habitat in project area.
Mountain plover	<i>Charadrius montanus</i>	SC	Short-grass prairie.	Unlikely; poor nesting habitat within the project area due to terrain features and tall vegetation.
Western snowy plover	<i>Charadrius alexandrinus</i>	SC	Sandy beaches and alkali flats.	Unlikely; lack of suitable habitat in project area.
<b>Fish</b>				
Arkansas darter	<i>Etheostoma cragini</i>	FC, ST	In clear waters of low current with sandy bottoms and abundant rooted aquatic vegetation.	None; no suitable habitat in project area. Known to occur in nearby Arkansas River and its tributaries. Sedimentation from the project will be controlled through a Stormwater Management Plan; therefore this species should not be impacted.
Greenback cutthroat	<i>Onchorhynchus clarki stomias</i>	FT, ST	Cold, clear, oxygenated streams of moderate gradient.	None; no suitable habitat in the project area.
<b>Mammals</b>				

**Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area**

Common Name	Species	Status <sup>1,2,3</sup>	Habitat <sup>2</sup>	Potential for Occurrence in Project Area <sup>4</sup>
Black-footed ferret	<i>Mustela nigripes</i>	FE, SE	Shortgrass and midgrass prairie to semidesert shrublands.	None; They have been reintroduced into several states, including Colorado; however, the USFWS has issued a block clearance for this species for all of Eastern Colorado.
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	SC	Grasslands and urban/disturbed areas throughout eastern Colorado.	Habitat is present in grassland and shrubland communities within the project area. Prairie dogs observed south and east of project boundary, on east side of I-25.
Botta's pocket gopher	<i>Thomomys bottae</i>	SC	Agricultural land, grasslands, roadsides, open parklands, piñon-juniper woodlands, open montane forest, montane shrublands, and semidesert shrublands.	Potentially present in grassland and shrubland communities within the project area.
Lynx	<i>Lynx canadensis</i>	FT, SE	Northern coniferous forests are the preferred habitat of the lynx. Uneven-aged stands with relatively open canopies and well-developed understories are ideal.	None; no suitable habitat in project area.

**Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area**

<b>Common Name</b>	<b>Species</b>	<b>Status<sup>1,2,3</sup></b>	<b>Habitat<sup>2</sup></b>	<b>Potential for Occurrence in Project Area<sup>4</sup></b>
Northern pocket gopher	<i>Thomomys talpoides macrotis</i>	SC	Agricultural and pasture lands, semidesert shrublands, and grasslands up to alpine tundra.	Potentially present in grassland and shrubland communities within the project area.
Swift fox	<i>Vulpes velox</i>	SC	Shortgrass and midgrass prairies.	Potentially present in grassland and shrubland communities within the project area.
Townsend's big-eared bat	<i>Plecotus townsendii</i>	SC	Semidesert shrublands, pinon-juniper woodlands, and open montane forests.	Potentially present while foraging in grassland and shrubland communities within the project area.
Wolverine	<i>Gulo gulo</i>	SE	Boreal forests and tundra.	None; no suitable habitat in project area.
<b>Plants</b>				
Arkansas River feverfew	<i>Bolophyta tetraeuris</i>	G3	Tops of cliffs and bluffs of a variety of rock types; in open pinyon-juniper stands between 4,800 and 5,600 feet.	None; no suitable habitat in project area.
Arkansas valley evening primrose	<i>Oenothera harringtonii</i>	G2/S2	On compacted silty clays to looser rocky and sandy soils in open grasslands between 4,700 and 6,100 feet.	Potentially present in grassland and shrubland communities within the project area.

## Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area

Common Name	Species	Status <sup>1,2,3</sup>	Habitat <sup>2</sup>	Potential for Occurrence in Project Area <sup>4</sup>
Golden blazing star	<i>Nuttallia chrysantha</i>	G1G2/S1/S2	Barren slopes of limestone, shale, or clay between 5,120 and 5,700 feet.	Potentially present in grassland and shrubland communities within the project area.
Pueblo goldenweed	<i>Oonopsis puebloensis</i>	G1G2/S1/S2	Barren shale outcrops of the Smoky Hill Member of the Niobrara Formation in sparse shrublands or pinyon-juniper woodlands between 4,800 and 5,500 feet.	None; no suitable habitat in project area.
Round-leaf four-o'clock	<i>Oxybaphus rotundifolia</i>	G1G2/S1/S2	Restricted to barren shale outcrops of the Smoky Hill Member of the Niobrara Formation in sparse shrublands or woodlands between 4,800 and 5,600 feet.	None; no suitable habitat in project area.
<b>Reptiles</b>				
Massasauga	<i>Sistrurus catenatus</i>	SC	Habitat in Colorado consists of dry plains grassland and sandhill areas.	Potentially present in grassland and shrubland communities within the project area.
Texas horned lizard	<i>Phrynosoma cornutum</i>	SC	Plains grassland in Colorado, especially where there are large patches of bare ground. The soil may be sandy, gravelly, or loamy.	Potentially present in grassland and shrubland communities within the project area.
Triploid checkered whiptail	<i>Cnemidophorus neotesselatus</i>	SC	Hillsides, arroyos, and canyons associated with the Arkansas River valley.	Potentially present. Marginal habitat within the project area and suitable habitat is nearby.

As indicated in federal and state databases July, 2009.

Status:

## Appendix A. Federal and State-listed Threatened, Endangered and Sensitive Species and Their Potential to Occur in the Project Area

Common Name	Species	Status <sup>1,2,3</sup>	Habitat <sup>2</sup>	Potential for Occurrence in Project Area <sup>4</sup>
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FC = federally listed as candidate species

FE = federally listed as endangered

FT = federally listed as threatened

SC = State species of concern (CDOW)

SE = State Endangered

ST = State Threatened

Plant Status Listings (based on the Nature Conservancy Natural Heritage Global (G) and State (S) rankings):

G1= Especially vulnerable to extinction

G2 = Very vulnerable to extinction throughout its range

G3 = Vulnerable throughout its range

S1= Especially vulnerable in state

S2 = Very vulnerable to extirpation in state

Source:

<sup>1</sup> CDOW, 2009. <http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/>

USFWS, 2009. <http://www.fws.gov/mountain-prairie/endspp/CountyLists/Colorado.pdf>

<sup>2</sup> Natural Diversity Information Source in cooperation with CDOW, 2009. <http://ndis.nrel.colostate.edu/index.html>

<sup>3</sup> CNHP, 2009. Colorado Natural Heritage Program, Rare Plant Field Guide

<sup>4</sup> Field observations November 23, 2008