

## 5.13 Biological Resources

*This section provides a summary of the biological resources in the study area and explains why they are important. The impacts of the project alternatives on the biological resources also are evaluated, then proposed mitigation measures are discussed to offset any potential adverse effects.*

### 5.13.1 What are biological resources and why are they important to this project?

Biological resources collectively define the types of animal and plant species that may be found within the study area. Animal species (wildlife)—both native and exotic—include mammals, birds, reptiles, amphibians, and fish. Plant or vegetation communities are classified as distinct groupings of individual species that occur in areas with similar physical environmental characteristics.

Special-status species (both wildlife and vegetation) are those that are listed or are candidates for listing as threatened or endangered under the federal Endangered Species Act of 1973 by the U.S. Fish and Wildlife Service (USFWS), and species in Colorado designated as endangered, threatened, or of special concern by Colorado Parks and Wildlife (CPW), formerly the Colorado Division of Wildlife.

The existence and preservation of animals and plants are intrinsically valuable; these resources provide aesthetic, recreational, and economic value to the community. This analysis focuses on species that typically occupy the habitats of the project area, those that may be important to the function of the ecosystem, and those that are of special societal importance.

### 5.13.2 Have there been changes to biological resources in the study area or to the analysis process since the release of the 2008 Draft EIS?

The extent of riparian and wetland habitats has changed somewhat since the 2008 Draft EIS, as has the extent of white-tailed deer habitat in the study area. This is based on the natural fluctuation of these resources over time, as well as changes to the boundaries of the study area because of modifications to the project alternatives. Other than adding the Iowa darter (*Etheostoma exile*), the same special-status species that were evaluated for the 2008 Draft EIS also are evaluated for the Supplemental Draft EIS, though reference information was updated as needed. The evaluation of Platte River species has changed simply because FHWA and CDOT developed a

#### What species does the Programmatic Biological Assessment (PBA) address?

The PBA addresses the following species: Least Tern (interior population) (*Sternula antillarum*), pallid sturgeon (*Scaphirhynchus albus*), Piping Plover (*Charadrius melodus*), western prairie fringed orchid (*Platanthera praeclara*), and the Whooping Crane (*Grus americana*), as well as designated critical habitat for the Whooping Crane.

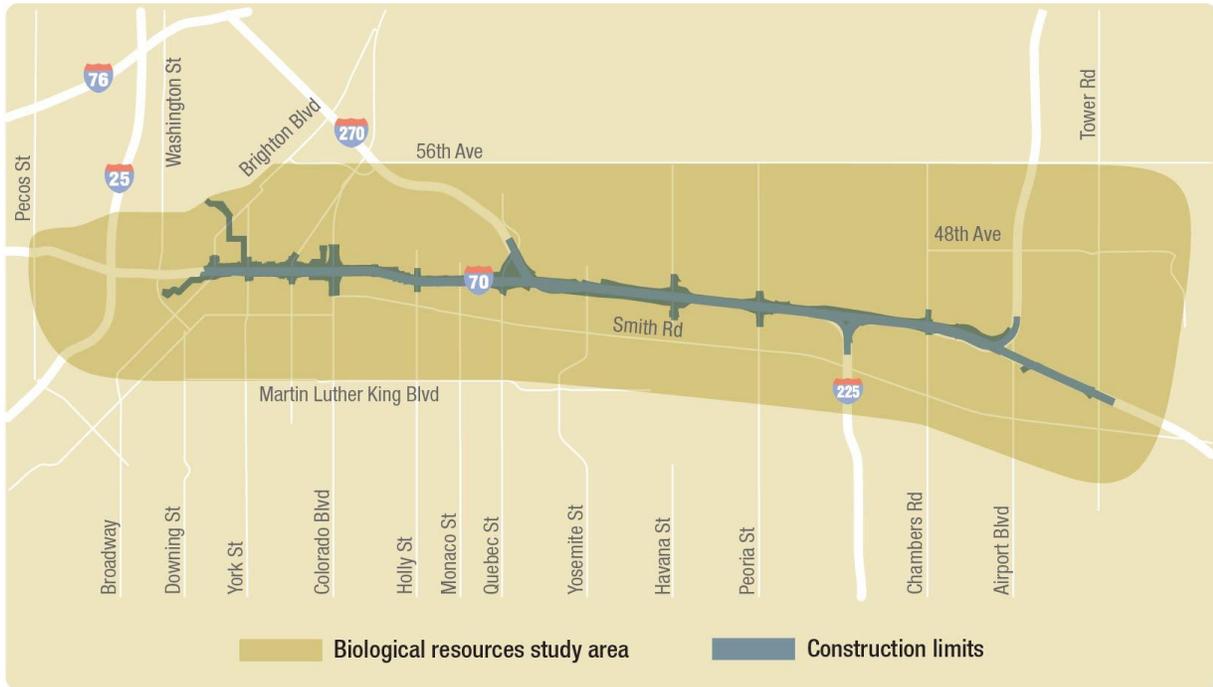
programmatic biological assessment (PBA) to evaluate water depletions to the Platte River from 2012 to 2019. Platte River species occur in Nebraska—well away from the I-70 East project area—but may be affected by water uses for the project, so they must be evaluated to comply with Section 7 of the Endangered Species Act.

In accordance with the PBA and the Biological Opinion issued by USFWS (USFWS, 2012), water usage for this and other CDOT and FHWA projects in the South Platte River Basin specifically covered by the PBA will be reported to the USFWS on an annual basis by CDOT.

**5.13.3 What study area and evaluation process were used to analyze biological resources?**

Biologists from CDOT, CPW, USFWS, and various nonprofit agencies—including Sand Creek Regional Greenway, Bluff Lake Nature Center, and the Rocky Mountain Bird Observatory—were contacted to help describe wildlife use in the study area (see Exhibit 5.13-1).

**Exhibit 5.13-1. Biological resources study area**



Although no formal surveying or sampling for wildlife was conducted for this project, observations of wildlife and signs of wildlife use were noted during field visits. Field visits were conducted in August 2005, September 2012, and November 2012. A literature and records review was conducted, including a

review of the Natural Diversity Information Source (NDIS) (2006a, 2012), to determine species habitat needs and records of species presence in Denver and Adams counties. Species activity maps from CPW also were used to document seasonal activity of deer within the study area.

Vegetation and cover types were identified within the study area from NDIS, Gap Analysis Program data, riparian mapping data, and field visits.

#### **5.13.4 What are the existing conditions of biological resources analyzed in the study area?**

In general, the existing conditions described in the 2008 Draft EIS remain accurate for this analysis. The entire study area is a highly urban environment that offers little habitat for wildlife. Vegetation observed during field visits includes medusahead (*Taeniatherum caput-medusae*), lambsquarter (*Chenopodium album*), perennial pepperweed (*Lepidium latifolium*), kochia (*Kochia scoparia*), giant ragweed (*Artemisia trifida*), pigweed (*Amaranthus albus*), curly dock (*Rumex crispus*), and several species of thistle. Roadside areas may provide limited opportunities for foraging wildlife, but, in general, these areas are highly disturbed and of little to no value to resident wildlife.

The most natural segment in the study area is along Sand Creek, which contains upland, riparian, wetland, and aquatic habitats. While still highly impacted by the surrounding urban environment, it does provide habitat to a number of species.

The South Platte River also flows through the study area. It provides extremely limited habitat, and what is available is highly degraded. Both the South Platte River and Sand Creek provide movement corridors for wildlife and bird species, and are considered to contain appropriate numbers and diversity of fish for metropolitan rivers.

Stormwater detention basins also provide some habitat to waterfowl and other wildlife, but are highly impacted by trash and poor water quality.



Sand Creek immediately north of I-70

Wetland habitats, Sand Creek, and the South Platte River are discussed in more detail in Sections 5.15, Wetlands and Other Waters of the U.S., and 5.16, Water Quality.

One item that was not sufficiently discussed in the 2008 Draft EIS is that a substantial population of Burrowing Owls migrates to and nests in the prairie dog complexes found on the Rocky Mountain Arsenal National Wildlife Refuge (USFWS, 2009; M. Hetrick, personal communication, December 19, 2012). Burrowing Owls also were observed nesting in the area between I-70 and the Rocky Mountain Arsenal National Wildlife Refuge before the development of the shopping mall in that area (M. Hetrick, personal communication, December 19, 2012). If their nest burrow is destroyed, they will seek to build a nest at a nearby location (M. Hetrick, personal communication, December 19, 2012). For this reason, and the high degree of fragmentation of existing prairie dog colonies, it is difficult to predict where Burrowing Owls may attempt to nest in the future.

The Iowa darter is a fish species of special concern in Colorado. It occurs in the South Platte River and Sand Creek (P. Winkle, personal communication, January 3, 2013). Iowa darters prefer cool, clear water over a sand or vegetative substrate (NDIS, 2012). In streams, they are only found in areas with undercut banks (NDIS, 2012).

### 5.13.5 How do the project alternatives potentially affect biological resources?

Effects to biological resources—including wildlife, vegetation, and special-status species—are summarized in the following subsections.

#### Wildlife

##### No-Action Alternative

This alternative will replace the existing viaduct between Brighton Boulevard and Colorado Boulevard, which requires additional right-of-way. The reconstructed bridge increases the width by 50 feet to 140 feet. No improvements, aside from existing maintenance practices, are proposed between Colorado Boulevard and Tower Road. Because of the lack of habitat where any project-related activities will take place, the No-Action Alternative is not expected to cause direct or indirect impacts to wildlife.

##### Build Alternatives

Between Brighton Boulevard and Colorado Boulevard, the Build Alternatives either consist of replacing the existing viaduct

#### Burrowing Owls in the project corridor

Burrowing Owl nests observed between I-70 and the Rocky Mountain Arsenal National Wildlife Refuge are relevant to improvements along the I-70 East project corridor because male Burrowing Owls have relatively high nest fidelity and return to their nest burrows year after year.

(Revised Viaduct Alternative) or removing the viaduct and lowering the highway (Partial Cover Lowered Alternative). Between Colorado Boulevard and Tower Road, the Build Alternatives will add two lanes in each direction, which increases the highway width from approximately 25 feet to 105 feet and will result in some habitat loss (as discussed further below). The I-70 bridge over Sand Creek also will be widened.

The improvements proposed under the Build Alternatives are anticipated to have minimal, direct impacts to large- or medium-sized mammals, water birds, reptiles, amphibians, or fish within the study area. This is mainly because of the species' mobility, avoidance of human activities, and the general degraded condition of the habitat in the potentially impacted areas. Impacts to wildlife can be expected through reductions in the habitat available to them. These types of impacts will occur to mule deer activity areas, white-tailed deer activity areas, black-tailed prairie dog colonies, and Bald Eagle winter range, as shown in Exhibit 5.13-2 through Exhibit 5.13-5.

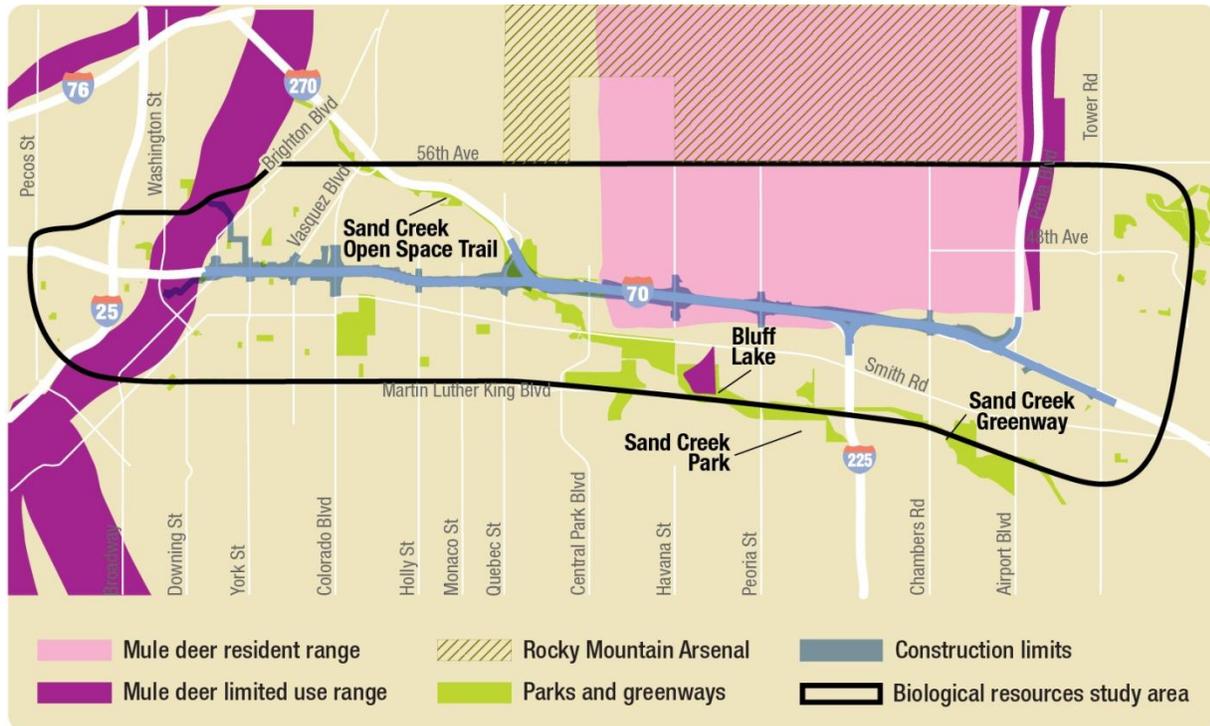
Depending on the Build Alternative option (General-Purpose Lanes or Managed Lanes), direct impacts are expected to range from 11.4 acres to 13.5 acres of black-tailed prairie dog colonies (see Exhibit 5.13-6), which will slightly reduce the prey base for resident and migrant raptors, including Bald Eagles.

Because of the urban nature of the study area, and the location of the impacts adjacent to an established transportation corridor, these impacts to wildlife are considered minor to negligible. The Build Alternatives do not cause new habitat fragmentation, and existing connections along the South Platte River and Sand Creek will be maintained. Specifically, the proposed bridge structure at Sand Creek likely will not affect the wildlife crossing at this location because of its substantial height, which is more favorable for deer use than lower heights. Usage by other species—such as fox, coyotes, skunk, and raccoons—will not be impeded.

**What is a  
“prey base”?**

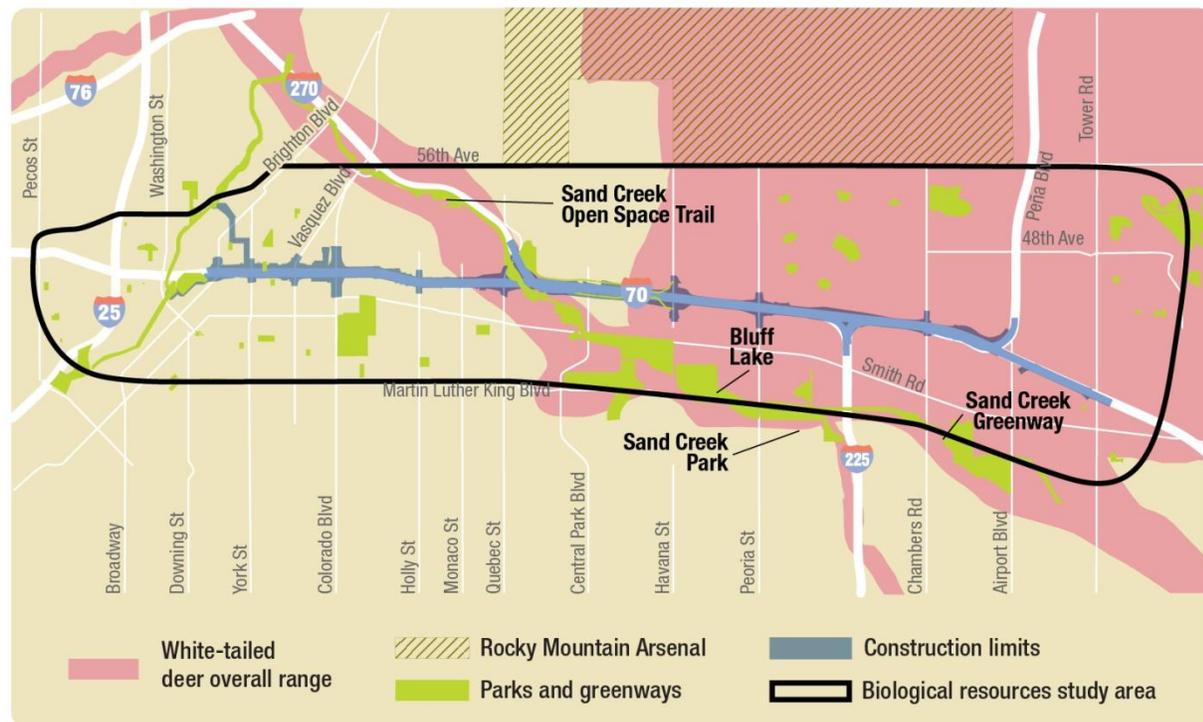
The term “prey base” refers to all of the animals that comprise a predator’s diet.

**Exhibit 5.13-2. Mule deer activity areas**



Source: NDIS, 2012

**Exhibit 5.13-3. White-tailed deer activity areas**



Source: NDIS, 2012

**Exhibit 5.13-4. Black-tailed prairie dog colonies**



Source: NDIS, 2008

**Exhibit 5.13-5. Designated Bald Eagle winter range**



Source: NDIS, 2012

**Exhibit 5.13-6. Projected direct impacts to deer, Bald Eagle, and black-tailed prairie dog habitats**

Alternative <sup>1</sup>	Mule deer limited use area (acres)	Mule deer resident population area (acres)	White-tailed deer overall range (acres)	Black-tailed prairie dog colonies (acres)	Bald Eagle winter range (acres)	Total impacts to wildlife habitat (acres)
Revised Viaduct Alternative	3.2	195.9	347.4	11.4	36.2	594.1
Partial Cover Lowered Alternative	5.2	195.9	347.4	11.4	36.2	596.1
Managed Lanes Option (Option to Build Alternative) <sup>2</sup>	—	+5.3	+79.1	+2.1	—	+84.4

<sup>1</sup>The No-Action Alternative has no direct habitat impacts.

<sup>2</sup>The impacts associated with the Managed Lanes Option are in addition to the impacts listed for each Build Alternative.

Temporary effects from construction are anticipated for small mammals and other local wildlife. Wildlife that currently occupy the study area or use the area for foraging or as a source of prey are likely accustomed to noise and movement due to the urban nature of the study area, and so generally will be minimally affected by impacts associated with construction.

**Vegetation****No-Action Alternative**

Due to the urbanized nature of the study area between Brighton Boulevard and Colorado Boulevard, replacement of the existing viaduct and construction of an offsite drainage system north of I-70 is expected to have negligible impacts to roadside vegetation. East of Colorado Boulevard, the No-Action Alternative consists of standard maintenance practices and also is expected to have negligible vegetation impacts. No wetland or riparian areas will be impacted by the No-Action Alternative.

**Build Alternatives**

Similar to the No-Action Alternative, the western end of the corridor (Brighton Boulevard to I-270) is more urbanized, so both Build Alternatives are expected to have negligible impacts to vegetation in this area. From I-270 to Tower Road, roadway widening will directly impact roadside vegetation. Impacts to roadside vegetation are expected to be greater under the Managed Lanes Option compared to the General-Purpose Lanes

Option because the overall footprint of this option is wider on the eastern portion of the project.

Riparian and wetland areas will be affected by construction of the Build Alternatives (see Exhibit 5.13-7). Wetland areas are discussed in Section 5.15. Total permanent impacts to riparian areas range from 1.05 acres to 1.16 acres depending on the build alternative and associated options (see Exhibit 5.13-7). The difference in impacts between the Build Alternatives is as a result of the offsite drainage system south of I-70, which will be constructed with the Partial Cover Lowered Alternative and result in an additional 0.01 acre of permanent impact to riparian habitat along the South Platte River.

Most permanent impacts to riparian areas occur along Sand Creek (1.05 acres) and will be caused by on/off ramps over Sand Creek and roadway widening. An additional 0.1 acre (total of 1.15 acres) of permanent impact will occur to Sand Creek riparian areas with the Managed Lanes Option. Temporary riparian impacts in the Sand Creek area can be expected to be an additional 0.1 acre. Permanent impacts will occur through the addition of new bridge piers, as well as through direct shading of vegetation. Direct fill-related impacts from bridge piers are minimal. Fill-related impacts from bridge piers total roughly 0.001 acre to wetlands, 0.002 acre to riparian areas, and 0.0001 acre of impact to the creek channel.

**Exhibit 5.13-7. Projected impacts to riparian areas caused by the Build Alternatives<sup>1</sup>**

Impact type	Revised Viaduct Alternative (acres)	Partial Cover Lowered Alternative (acres)	Managed Lanes Option <sup>2</sup> (acres)
Permanent	1.05	1.06	+0.10
Temporary	0.10	0.10	—

<sup>1</sup>The No-Action Alternative has no riparian impacts.

<sup>2</sup>The impacts associated with the Managed Lanes Option are in addition to the impacts listed for each Build Alternative.

Indirect, permanent impacts at Sand Creek will result from interception of precipitation and shading, both of which affect vegetation growth. Temporary, construction-related impacts (such as site disturbance) to riparian areas from the No-Action Alternative and the Build Alternatives are similar.

### **Special-status species**

Impacts to the majority of the special-status species evaluated in the 2008 Draft EIS, as well as the conclusions of the effects of the proposed Build Alternatives to special-status species, has not changed. Any changes in effect determinations are addressed under individual species discussions below. Platte River species were discussed previously in Section 5.13.2. In addition, as previously discussed, the No-Action Alternative is expected to have negligible impacts to vegetation and will have no direct or indirect effects to wildlife; therefore, the following discussion is focused on the Build Alternatives.

#### **Black-tailed prairie dogs and Burrowing Owls**

As depicted in Exhibit 5.13-4 and Exhibit 5.13-6, approximately 11.4 acres to 13.5 acres of direct impact will occur to black-tailed prairie dog colonies in the study area from the Build Alternatives and the Managed Lanes Option, respectively.

It is important to note that black-tailed prairie dog mapping has not been updated by the CPW since the 2008 Draft EIS, and that the size and distribution of active black-tailed prairie dog towns are similar to any small rodent population in that they can fluctuate dramatically from year to year in response to food availability, predation, and disease. For these reasons, the projected impacts to black-tailed prairie dogs from the Build Alternatives provide an estimate of the relative amount of impact that can be expected, but actual impacts (location and extent) will vary because future population levels and distributions are unpredictable.

Impacts to the Burrowing Owl are not anticipated, but cannot be completely excluded because of their occurrence at the nearby Rocky Mountain Arsenal National Wildlife Refuge. These impacts will be minimized to the extent practicable by following current CDOT and CPW guidance on Burrowing Owl nest surveys and seasonal restrictions and guidance if a nest is located.

#### **Bald Eagle**

As discussed in the 2008 Draft EIS, Bald Eagles nest and have communal roosts at the Rocky Mountain Arsenal National Wildlife Refuge, located roughly 1.3 miles north of the study area. They also have a roost at the Bluff Lake Nature Center located about 0.9 mile south of the study area. There is a long, narrow section of land designated as Bald Eagle winter range that extends southward from the Rocky Mountain Arsenal National Wildlife Refuge to Sand Creek and crosses I-70 (see

Exhibit 5.13-5). Roughly 36.2 acres of this winter range will be directly impacted by the Build Alternatives from I-270 to I-225 (see Exhibit 5.13-6).

In addition, impacts to black-tailed prairie dogs represent a potential loss in prey base for Bald Eagles. From I-270 to I-225, roughly 11.4 acres to 13.5 acres of impact to roadside black-tailed prairie dog colonies will occur as a result of adding two lanes in each direction. The degree to which eagles use these areas for foraging is unknown; however, these colonies generally occur outside of the mapped winter range for Bald Eagles in this area, are small in size and population numbers, and are surrounded by development and human activity, making these areas marginal foraging habitat at best. Based on this information, no take to Bald Eagles is anticipated.

#### Colorado butterfly plant and Ute ladies'-tresses orchid

Within the study area, two federally threatened plant species may occur: (1) the Ute ladies'-tresses orchid, and (2) the Colorado butterfly plant. A review of potentially suitable habitat in the study area has resulted in a "May Affect, Not Likely to Adversely Affect" determination, rather than the previous determination of "No Effect." This revised determination is based on a more conservative interpretation of where these species can potentially occur. To further ensure that these plants are not adversely impacted by either of the Build Alternatives, botanical surveys of the study area along Sand Creek must be conducted during the summer months before starting construction. If either species is identified, CDOT will complete formal consultation with the USFWS prior to construction.

#### Common garter snake and northern leopard frog

Construction activities at Sand Creek under the Build Alternatives, including the Managed Lanes Option, will directly impact the common garter snake (*Thamnophis sirtalis*) and/or the northern leopard frog (*Rana pipiens*), which are species of special concern in Colorado. These direct impacts result from the destruction of potentially suitable riparian and wetland habitat along Sand Creek as a result of bridge widening; however, it is currently not known if the common garter snake and/or the northern leopard frog inhabit the study area. No specific surveys have been conducted, but both species have been documented as occurring in Denver and Adams Counties (NDIS, 2012). No indirect impacts are expected to these species with any of the alternatives.

## Iowa darter

Direct impacts to Iowa darters (*Etheostoma exile*), which is a species of special concern in Colorado, are not expected from the Build Alternatives. Though unlikely, indirect impacts from increased turbidity and stormwater runoff may temporarily impact Iowa darters near Sand Creek.

## Noxious weeds

Noxious weed species that occur or potentially occur in the study area have not changed substantively since the 2008 Draft EIS. One addition to the list of noxious weeds in the project area is common teasel (*Dipsacus fullonum*), which has been documented in Denver County.

From I-25 to I-270, the area is so highly urbanized that the overall risk of noxious weed infestation is relatively low because much of the area affected by the project is already paved or built upon. The area east of I-270 is still a highly urban environment, but is slightly less built up, and so is slightly more susceptible to noxious weeds than the west. Within the area east of I-270, the Managed Lanes Option disturbs more land than the General-Purpose Lanes Option, so it is expected to pose a slightly higher risk for noxious weed establishment in the study area.

### 5.13.6 How are the negative effects from the project alternatives mitigated for biological resources?

The majority of the mitigation measures included in the 2008 Draft EIS continue to be relevant and valid for biological resources in the study area.

#### Mitigation measures included in the 2008 Draft EIS

There are no direct effects anticipated to hoofed and other large mammals, water birds, reptiles, amphibians, or fish within the project area due to the project alternatives, so no mitigation is currently planned for these resources. Impacts to riparian areas will be mitigated in accordance with Senate Bill 40, will be limited to the area necessary for construction, and will be replaced upon completion.

Mitigation measures are outlined to prevent or minimize potential indirect effects to migrating birds, Bald Eagles, prairie dogs, and Burrowing Owls. Mitigation for effects to black-tailed prairie dogs will be conducted in accordance with the CDOT Impacted Black-Tailed Prairie Dog Policy (2005b).

- In the case of prairie dog colonies less than two acres, CDOT will avoid and minimize effects to the extent

possible. This includes relocating prairie dogs, as long as the relocation will not affect other resources—such as wetlands or historic properties—and is not cost prohibitive. Relocation of colonies larger than two acres will be conducted in accordance with CRS 35-7-203. If an adequate site cannot be located for colonies larger than two acres, the prairie dogs will be captured and donated to a raptor rehabilitation facility or black-footed ferret reintroduction program. CDOT will not, at any time, authorize any earth-moving activities that result in the burying of living prairie dogs. If necessary, CDOT will coordinate with CPW to facilitate the humane killing of prairie dogs within a town less than two acres in size. Due to the potential for disease proliferation, the Food and Drug Administration will be contacted prior to the relocation of prairie dogs. CDOT will coordinate with CPW before the manipulation of prairie dogs or their colonies.

- If construction in prairie dog colonies occurs during Burrowing Owl nesting season (February 1 to August 31), a survey will be conducted no more than 30 days prior to construction. If a nesting pair is discovered, no construction activity will occur within 75 yards of the nest.

#### **Construction mitigation measures included in the 2008 Draft EIS**

Mitigation for Bald Eagles and all migratory birds will be conducted in accordance with the Migratory Bird Treaty Act of 1918. Measures will be taken to ensure that effects are minimized.

To manage and minimize the proliferation of noxious weeds and preserve existing vegetation within the project area, the following measures will be taken:

- Monitoring of disturbed sites will be required during the construction periods to identify and treat any noxious weed invasion.
- Contractor's vehicles and equipment will be inspected before they are used for construction to ensure that they are free of soil and debris capable of transporting noxious weeds, seeds, or roots.
- Equipment will be cleaned prior to entering the construction site to prevent the spread of noxious weeds

by wind, water, or accidental transport on construction vehicles.

- Topsoil will consist of loose, friable loam free of subsoil, refuse, stumps, roots, rocks, brush, noxious weed seed, and reproductive vegetative plant parts, such as, but not limited to, knapweed, purple loosestrife, Canadian thistle, heavy clay, hard clods, toxic substances, or other material that will be detrimental to its use on the project.
- No importation of topsoil will be allowed onsite.
- Disturbed areas will be reclaimed in phases throughout construction with native grasses and forbs.
- In accordance with the Colorado Weed Free Forage Crop Certification Act, mulches or straw bales used for erosion control purposes will be certified weed free.
- All seed mixes, soil, and nursery material used for reclamation will be free of noxious weed seeds, roots, and rhizomes.
- No fertilizer will be used onsite.
- Herbicides will be applied by use of wicks or sponges to avoid off-target injury.
- Broadcast herbicide spraying will only be approved through written consent of the engineer.
- In compliance with Senate Bill 40, each riparian tree removed during construction will be replaced at a 1:1 ratio. All riparian shrubs removed during construction will be replaced at a 1:1 square foot ratio.

### **Mitigation measures that have changed since the 2008 Draft EIS**

A revision was made to the mitigation measure for Burrowing Owls:

- If construction in prairie dog colonies will occur during the Burrowing Owl nesting season (February 1 to August 31), a survey following CPW protocols will be conducted no more than 30 days prior to construction. If a nesting pair is discovered, no construction activity will occur within 150 feet of the nest between March 15 and October 31.

A new mitigation measure was added to require botanical surveys:

- Botanical surveys of riparian and wetland habitat in projected impact areas at Sand Creek will be conducted by a qualified biologist during the appropriate summer months (when the plants are blooming) prior to construction initiation for the Ute ladies'-tresses orchid and the Colorado butterfly plant. If either species is identified, formal consultation will be completed with the USFWS prior to construction.

The following mitigation measures for the protection of migratory birds also will be adhered to (see CDOT Standard Specifications, Section 240):

- A qualified wildlife biologist will be retained for the project.
- Vegetation removal or trimming activities will be timed to avoid the migratory bird-breeding season, which begins on April 1 and runs to August 31.
- All areas scheduled for clearing and grubbing, and within 50 feet of such areas, between April 1 and August 31, will first be surveyed for active migratory bird nests within 7 days of the work being performed. The contractor's wildlife biologist also will survey for active migratory bird nests within 50 feet outside work limits.
- The contractor will avoid all active migratory bird nests. The contractor will avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive.
- On structures, the contractor will remove existing nests after August 31 and prior to April 1.
- During the time that the birds are trying to build or occupy their nests, between April 1 and August 31, the contractor will monitor the structures at least once every three days for any nesting activity.
- If the birds have started to build any nests, they will be removed before the nest is completed. Water will not be used to remove the nests if nests are located within 50 feet of any surface waters.

- The taking of a migratory bird will be reported to the engineer. The contractor will be responsible for all penalties levied by the USFWS for the taking of a migratory bird.

Exhibit 5.13-8 lists the impacts and mitigation measures associated with biological resources.

**Exhibit 5.13-8. Summary of biological resources impacts and mitigation measures**

Alternative/Option	Impacts and/or Benefits	Mitigation Measures Applicable to All Alternatives
No-Action Alternative	No permanent or temporary impacts to wildlife habitat or riparian areas	<ul style="list-style-type: none"> <li>• Comply with Senate Bill 40, CDOT Impacted Black-Tailed Prairie Dog Policy, and CDOT Standard Specifications for protection of migratory birds</li> </ul>
Revised Viaduct Alternative	<ul style="list-style-type: none"> <li>• 594.1 acres of permanent, direct impact to wildlife habitat</li> <li>• 1.05 acres of permanent and 0.10 acre of temporary impacts to riparian areas</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor disturbed sites during construction to identify and treat any noxious weed invasion</li> <li>• Do not import topsoil onsite</li> <li>• Reclaim disturbed areas in phases throughout construction with native grasses and forbs</li> <li>• Replace riparian trees at a 1:1 ratio and riparian shrubs at a 1:1 square foot ratio</li> </ul>
Partial Cover Lowered Alternative	<ul style="list-style-type: none"> <li>• 596.1 acres of permanent, direct impact to wildlife habitat</li> <li>• 1.06 acres of permanent and 0.10 acre of temporary impacts to riparian areas</li> </ul>	<ul style="list-style-type: none"> <li>• If construction in prairie dog colonies will occur between February 1 and August 31, conduct a Burrowing Owl survey following CPW protocols no more than 30 days prior to construction; if a nesting pair is discovered, no construction activity will occur within 150 feet of the nest between March 15 and October 31</li> <li>• Remove or trim vegetation outside of the April 1 to August 31 migratory bird-breeding season</li> </ul>
Managed Lanes Option (Option to Build Alternatives)	<ul style="list-style-type: none"> <li>• Additional 84.4 acres of permanent, direct impact to wildlife habitat</li> <li>• Additional 0.10 acre of permanent impact to riparian areas</li> </ul>	<ul style="list-style-type: none"> <li>• Survey areas to be cleared and grubbed, as well as areas within 50 feet of such areas, between April 1 and August 31 for active migratory bird nests within 7 days of the work being performed</li> <li>• Remove existing nests from structures after August 31 and prior to April 1</li> <li>• Monitor structures at least once every three days for any nesting activity between August 31 and April 1</li> </ul>