

## 3.6 Riparian Ecosystem Wildlife

### 3.6.1 Introduction and Methodology

Riparian areas and associated wetlands are widely recognized for the significant and diverse roles they play in the landscape. They clean the water, recharge water supplies, and reduce flood risks. They also provide high-quality wildlife habitat because of the availability of water, shade, and high vegetative production, and diversity as a food and cover source. It is estimated that riparian areas are used for at least part of the year by 73 percent of the state's wildlife species (Colorado State Parks and Hellmund Associates 1998). Numerous wildlife species rely on riparian and wetland habitats within the project area, including mammals, birds, reptiles, amphibians, and fish. Methods used to evaluate the riparian ecosystem included:

- Site visits between 2000 and 2002 to observe the presence of species;
- Assessment of the wildlife habitat types, conditions, and noting disturbances to natural landscapes;
- Coordination with regulatory agencies; and
- Analyses of potential impacts to wildlife resources using aerial photography and Geographic Information System (GIS) mapping.

Refer to Table 3.6-1 for a summary of the No Action and Proposed Action alternatives' impacts and mitigation measures for the Proposed Action.

### 3.6.2 Affected Environment

Riparian areas are of primary importance for wildlife, since they provide habitat for a variety of mammals, birds, amphibians, reptiles, and invertebrates. Riparian portions of the project area have been altered by agricultural uses and urban development. Most of the adverse impacts to riparian and wetland habitats will occur from commercial and residential development already approved in the project area that will increase erosion runoff rates, sedimentation, soil losses, and contaminants entering the streams. Cottonwood Creek has been substantially degraded by development upstream, and high runoff has excised the creek to bedrock. Residential development included lawns directly next to the banks of Black Squirrel Creek. Sand Creek, which has relatively high wildlife habitat value, will be impacted by dense residential and commercial development proposed in the Banning-Lewis development.

#### Riparian Ecosystems

Wetlands and riparian areas (vegetation at the waters' edge), especially those with permanent or running water and those with tree and shrub components, are particularly important for contributing to habitat diversity and associated numbers of species.

#### Limited Impacts

Only 0.76 acre of the riparian habitat type would be directly impacted by the Proposed Action and will be mitigated.



Several small mammals were captured in a live-trapping survey conducted along Sand Creek, which included deer mouse, meadow vole, and short-tailed weasel (Bonar 2000) (see report in Chapter 4, *Agency Correspondence*). These species are also expected to occur in other less disturbed portions of the project corridor.

**Table 3.6-1  
Potential Impacts to Riparian Habitat Dependent Wildlife and Proposed Mitigation**

Topic	No Action Alternative Impacts	Proposed Action Impacts	Proposed Action Mitigation
Mammals (small rodents and possibly raccoons, foxes, and other small predators)	An increased potential for road kill incidents and limited loss of habitat from intersection impacts	Temporary loss of willows along Sand Creek for bridge improvements; an increased potential for road kill incidents.	Replant disturbed areas with a diverse array of native plants to enhance riparian habitats; Riparian planting at Cottonwood Meadows and Falcon Trail Head (See Section 6 <i>Wetland Finding</i> ); Review wildlife road kill data along Woodmen Road to select mitigation strategies if warranted.
Birds (mostly small birds associated with willows and narrow bands of cottonwood)	Limited loss of habitat from intersection impacts	Impacts to riparian plant species near Sand Creek bridge crossings.  Potential impacts to nesting birds from land-clearing activities.	Replant disturbed areas with a diverse array of native plants to enhance riparian habitats; Riparian planting at Cottonwood Meadows and Falcon Trail Head (See Section 6 <i>Wetland Finding</i> ). In accordance with the Migratory Bird Treaty Act, surveys of nest locations prior to construction activities, timing of land-clearing activities, and protection measures for active nests.
Reptiles and amphibians (frogs, toads, snakes, including State listed sensitive species in Cottonwood and Sand Creek)	None	Temporary disturbance of riparian area near bridge crossings.	Replant disturbed areas with a diverse array of native plants to enhance riparian habitats; Riparian Planting at Cottonwood Meadows and Falcon Trail Head (See Section 6 <i>Wetland Finding</i> ).
Fisheries/Aquatic Resources (limited potential during periods of permanent water in Sand and Cottonwood Creek)	None	Increased turbidity and sedimentation of Sand and Cottonwood Creeks from soil erosion during road construction; however, no fish habitat currently occurs in either creek due to temporary drought conditions.	Replant disturbed areas with a diverse array of native plants to enhance riparian habitats; Riparian planting at Cottonwood Meadows and Falcon Trail Head (See Section 6 <i>Wetland Finding</i> ). Implementation of Best Management Practices for water quality.



Mammals that can adapt to more urban landscapes may continue to use localized areas of the project corridor. For instance, raccoons commonly occur in riparian areas, irrigated croplands, and urbanized areas of the eastern plains and foothills. Red fox commonly occur in pasturelands, woodlands, riparian, and agricultural lands in Colorado, and may occur in the project area. These species would feed on small mammals and other prey found within the riparian areas and use the vegetative cover for security and travel corridors between habitats. Other examples of urban-adapted wildlife are discussed in Section 3.11.4.



*An urban-adapted raccoon.*

A dense stand of willows with some sedges, rushes, beeplant, sunflowers, and other herbaceous species are present along Sand Creek. Birds may use the willows for nesting and feed on aerial and ground insects. The additional vegetative structural component of cottonwood trees along Cottonwood Creek provides more biodiversity, but no larger bird species, such as great horned owls or other raptors, are known within the study area. The closest great horned owl nest is near the Falcon Trailhead (i.e. at the intersection of Woodmen Road and US 24) mitigation site, approximately 0.5 mile south of the study area, along Black Squirrel Creek.

Typical Front Range prairie reptiles expected to inhabit less urbanized portions of the study area include bullsnake, prairie rattlesnake, and plains garter snake. A trapping study for amphibians conducted on Sand Creek captured a Woodhouse toad (Bonar 2000). In addition, other amphibians, such as tiger salamander and short-horned lizard, may occur in areas with adequate water within the project area, but this is unlikely due to the lack of permanent water in the major creeks and wetlands.

Special status species associated with riparian areas are the northern leopard frog and plains leopard frog (see Section 3.11.3). According to the Colorado Division of Wildlife (CDOW), the northern leopard frog does not occur in the project area. The plains leopard frog, however, may inhabit the riparian areas along Cottonwood Creek. No plains leopard frogs were observed during field visits.

## **Development and Habitat**

For most development projects, loss of habitat is the most substantial impact to wildlife because the amount and quality of habitat is the main factor controlling the diversity and abundance of wildlife in an area. Within the project vicinity, on-going commercial and residential development is consuming wildlife habitat. The development and the resulting loss of habitat has the most significant impact on the riparian ecosystem and wildlife in the project area.

Woodmen Road crosses Cottonwood Creek, Sand Creek, three Black Squirrel Creek tributaries, and several small drainages that convey runoff to Sand Creek and the East Fork of Sand Creek. This drainage can provide habitat for several fish species, including fathead minnow, black bullhead, green sunfish, and central stoneroller (CDOW 2003b). Cottonwood Creek is a shallow stream with widely fluctuating, seasonal flows.

Both Cottonwood and Sand Creeks are currently carrying very low flows, reflecting recent drought conditions (CDOW 2003b), which preclude the occurrence of fish and the permanent establishment of viable aquatic communities.

However, during non-drought periods, these drainages provide suitable aquatic habitat for organisms including small and benthic invertebrates (such as dragonflies) to recolonize these streams. Several small ponds (presumably stock ponds) have been established adjacent to Sand Creek, immediately downstream from Woodmen Road, and would be expected to support fishes, amphibians, and benthic invertebrates when they contain adequate water levels in non-drought periods.



### 3.6.3 Environmental Impacts

#### No Action Alternative

As described in the Affected Environment, riparian areas have been altered by agricultural practices and urban development. The intersection improvements associated with the No Action Alternative would have minimal, if any, direct impacts to riparian resources. Increased traffic volumes, however, may indirectly affect wildlife by increasing the potential for road kill incidents.

#### Proposed Action

Like the No Action Alternative, most of the adverse impacts to riparian dependent wildlife species from land development within the study area have already occurred or will continue to occur. The contribution of the Proposed Action to the loss of riparian habitat and associated effect on wildlife would be very small (i.e. approximately 0.76 acre) by comparison.

Direct impacts to riparian wildlife habitats from widening Woodmen Road would include the removal of vegetation for nesting birds and displacement of individuals and/or populations in adjacent areas due to habitat loss or adverse habitat alteration. However, these areas within the right-of-way (ROW) are already of limited value for wildlife use because of the heavy traffic along the road and other adjacent human activity. Species tolerant of human activity, such as some raptors, common songbirds, small- to medium-sized mammals and reptiles, would be expected to continue to use the undeveloped areas following construction of road improvements and revegetation. Other than Cottonwood Creek, which would not be impacted by the Proposed Action, Sand Creek has the highest value for riparian habitat because of the diverse vegetation and intermittent water flows.



### **Construction Disturbance**

Mitigation efforts will focus on avoiding and minimizing construction disturbances to riparian habitats and re-establishing appropriate native plant species in areas that are temporarily disturbed during construction.

### **CDOW Consultation**

Under Colorado Senate Bill 40, CDOT is required to consult with CDOW on any project affecting streams, their banks, or tributaries. Implementation of the Proposed Action will require Wildlife Certification from CDOW 60 days before planned construction activities. CDOW will ensure that the project plans and specifications are technically adequate to protect and preserve fish and wildlife resources.

Any taking of shrub and herbaceous vegetation from widening the bridge over Sand Creek, though small in acreage (0.73 acre), would disproportionately affect the higher value riparian habitat available to animals within the study area, such as small mammals and their predators, small birds, and reptiles, which use the Sand Creek drainage for travel, cover, breeding, and foraging for food.

Between I-25 and Powers Boulevard, other riparian areas that would be impacted by the Proposed Action occur primarily at the intersection of Woodmen Road with Academy Boulevard. The impact to this riparian area would be very small (0.03 acre) and, has minimal wildlife value. Increased noise and human activities associated with construction in these areas could further restrict any wildlife use temporarily.

Between Powers Boulevard and US 24, a majority of the land disturbance would be confined to within the road and intersection ROW. Riparian areas adjacent to the existing Woodmen Road in the ROW already have limited value due to proximity to traffic and associated activities. Wildlife that are tolerant of increased traffic are expected to resume normal activities and movement after construction activities end.

### **3.6.4 Cumulative Impacts**

Within the Pikes Peak region, riparian areas are being converted to non-riparian habitat or are being severely altered. This trend, is especially evident in the tributaries to Monument Creek, as noted in the study *Sustaining Nature and Community in the Pikes Peak Region*, a regional cumulative effects analysis (RCEA). Throughout the region, the conversion of natural landscapes to urban uses has eliminated vast quantities of wildlife habitat, gradually displacing species. With the increase in development, stormwater runoff has also increased, contributing to the down-cutting of streams, lowered ground water levels, bank erosion, sedimentation, and infestations of weedy species.



Riparian habitat has been a diminishing resource in the Pikes Peak region for more than one hundred years and is now only about 2% of the vegetation cover examined in the RCEA. Over the last century, riparian habitat has been heavily grazed because of the high forage value and the availability of water. The seeps and drainage within these areas were dammed to provide water for cattle, and stock ponds remain in non-developed areas within the corridor. Over time, heavy grazing and the damage from livestock trampling have decreased vegetation cover, plant and wildlife diversity, and water quality, and have increased erosion and sedimentation. Consequently, the function and value of the remaining riparian habitat has been severely impaired.

Development has also encroached upon many riparian areas, changing the composition of species, the natural water regime, the size of riparian areas, and their function. Along the western portion of Woodmen Road, the area is largely developed, while residential growth is quickly increasing east of Powers Boulevard. As development has occurred, and is continuing to occur along the Woodmen Road corridor, much of the native riparian ecosystem has been or will be lost, changed, or converted to other uses.

Added to this loss are the 0.76 acre that will be taken due to construction of the Proposed Action -- approximately 0.03 acre that remain in the highly urbanized section west of Powers, and 0.73 acre located in the Sand Creek drainage east of Powers. In the foreseeable future, any remaining riparian habitat will likely be very small, isolated, and preserved as “open space” within an urban context.

To partially offset this riparian loss, regional policy-level strategies as well as avoidance, minimization, and mitigation at the project level will be required. As pointed out in the RCEA, measures to avoid and protect riparian habitat will require policy-makers to pursue development patterns that preserve habitat and connect them to similar habitats with riparian systems. Whenever possible, riparian corridors would need to be maintained in a natural state. At the project level, measures must be taken to avoid and minimize impacts to the maximum extent practicable. When avoidance and minimization have been maximized but impacts remain, as is the case with the Proposed Action, riparian mitigation must be considered. The mitigation plan for the Proposed Action provides 10.6 acres of riparian habitat in association with wetland mitigation at Cottonwood Meadows.



### 3.6.5 Mitigation for the Proposed Action

Mitigation measures aimed at maintaining and enhancing riparian areas in the project corridor include reseeding with native plant species and other species, removing invasive plants, and planting a variety of herbaceous and woody vegetation. The appropriate density and diversity of tree, shrub, forb, and grass species will be planted in riparian areas to provide resources to wildlife that travel and inhabit riparian areas within the project corridor.

Destruction or disturbance of nests that results in loss of eggs or young would be a violation of the MBTA. To prevent impacts to active nests, land-clearing activities, including the removal of structures as well as vegetation, will be performed prior to the breeding season of birds (primarily April 1<sup>st</sup> to Aug. 15<sup>th</sup>). If land-clearing can not be avoided during the breeding season, surveys for nesting birds will be conducted before land-clearing begins. All active nests will be protected. Since each bird species has a different tolerance to disturbance, appropriate buffer zones around any active nest will be established by qualified biologists prior to the resumption of activities in the area.

Wildlife mortality data will be reviewed prior to construction activities to determine appropriate mitigation strategies, such as additional signage or improved fencing.

See Chapter 6 *Wetland Finding* for a detailed discussion of proposed mitigation measures in riparian areas.

