



Consultants in Natural Resources and the Environment

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# Natural Features and Wildlife Habitat Assessment High Forest Estates Subdivision Colorado Springs, El Paso County, Colorado

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# **Natural Features and Wildlife Habitat Assessment**

## **High Forest Estates Subdivision**

### **Colorado Springs, El Paso County, Colorado**

**March 20, 2023**

## **Project Description**

Paula Donohoo retained ERO Resources Corporation (ERO) to provide a Natural Features Report for the High Forest Estates subdivision in Colorado Springs, El Paso County, Colorado (project area; Figure 1). A survey of the wildlife habitat and ecological conditions in the project area was conducted by Emma Clary, a biologist with ERO, on March 3, 2023 (2023 site visit). The purpose of the survey was to identify areas where wildlife resources could occur, including habitat for federally listed threatened and endangered species and other species of special concern, raptor nests, important big game habitat and movement corridors, and other significant wildlife resources that might be affected by development in the project area. The project area is an approximately 13.8-acre parcel in Colorado Springs, El Paso County, Colorado, and is planned to be subdivided into two lots (Figure 2).

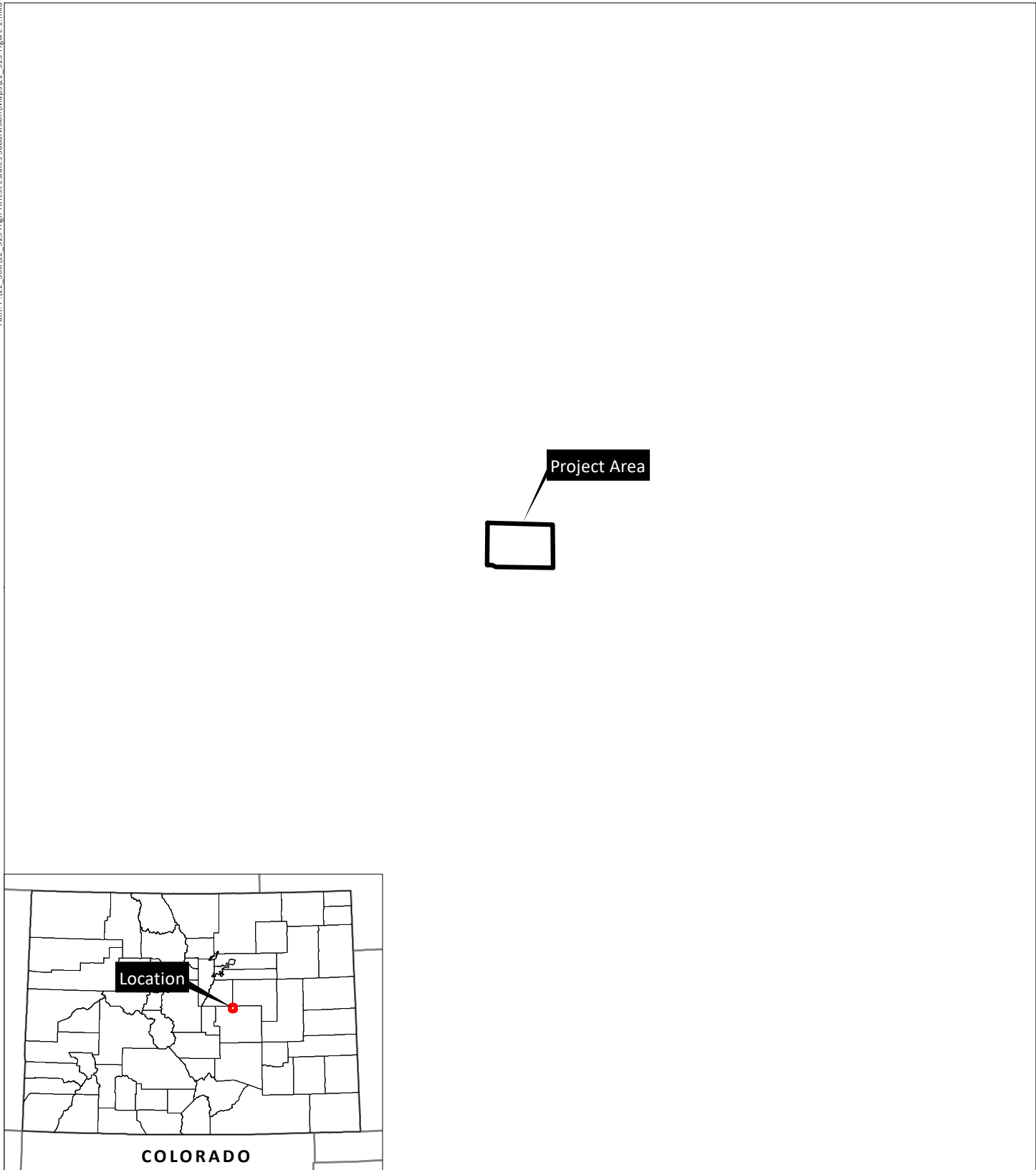
This report describes natural features and wildlife habitat identified during the survey and outlines current regulatory guidelines related to natural resources potentially occurring in the project area. It is Paula Donohoo's intent to protect and preserve wildlife corridors, habitat, and natural resources and to comply with all federal, state, and local environmental regulations.

## **Project Location and Site Description**

The project area is in Section 10, Township 11 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado (Figure 1). The UTM coordinates of the approximate center of the project area are NAD 83 529342mE, 4328056mN, Zone 13. The latitude/longitude of the project area is 39.101145°N/104.660664°W. The elevation of the project area is 7,375 feet above sea level. The project area is bounded by a low-density residential community to the north, south, and east and open area to the west (Figures 1 and 2).

## **Project Background**

The project area is being subdivided into two new plots, including one 5-acre plot and one 8.8-acre plot.



### High Forest Estates Subdivision

Section 10, T11S, R65W; 6th PM

UTM NAD 83: Zone 13N; 529342mE, 4328056mN

Longitude 104.660664°W, Latitude 39.101145°N

USGS Black Forest, CO Quadrangle

El Paso County, Colorado

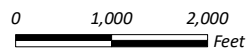
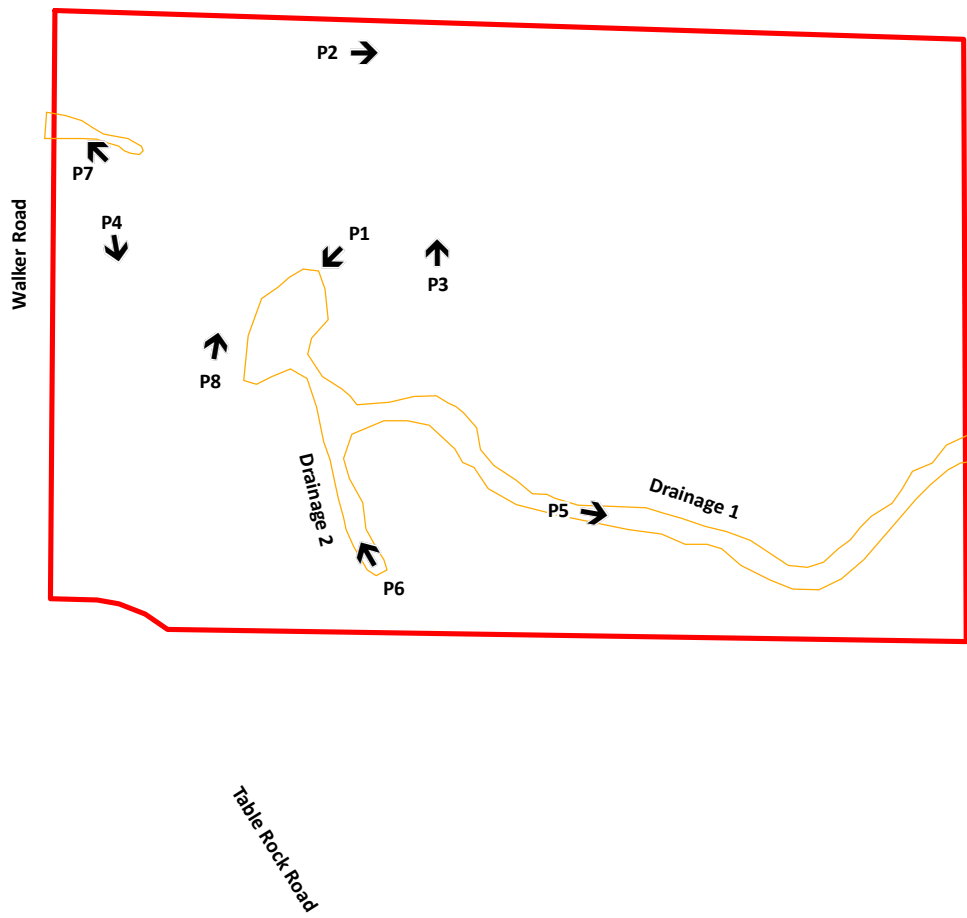


Figure 1  
Vicinity Map

Prepared for: Paula Donohoo  
File: 22\_325 Figure 1.mxd (WH)  
December 21, 2022





### High Forest Estates Subdivision

- ➔ Photo Point
- Wetland
- Project Area

Image Source: Maxar Technologies© July 6, 2022

0 100 200 Feet



### Figure 2 Existing Conditions

Prepared for: Paula Donohoo  
File: 22\_325 Figure 2.mxd (WH)  
March 16, 2023



## Regulatory Framework

Development in the project area may be affected by several federal and state environmental regulations. One of the goals of this document is to provide information to assist Paula Donohoo in addressing regulatory compliance issues. The environmental regulations most pertinent to the proposed development are described below.

### Federal, State, and Local Regulations

#### Endangered Species Act

Federally threatened and endangered species are protected under the Endangered Species Act of 1973, as amended (ESA) (16 United States Code 1531 et seq.). Significant adverse effects on a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. No regulations require consultations for effects on candidate species; however, if a species were to become listed during project planning or construction, consultation with the Service would be required. Findings regarding federally threatened and endangered species are addressed in the *Federally Threatened, Endangered, and Candidate Species* section of this report.

#### Migratory Bird Treaty Act

Migratory birds, including raptors, and any active nests are protected under the Migratory Bird Treaty Act (MBTA). Removal of active nests that results in the loss of eggs or young is prohibited under the MBTA. In Colorado, most birds (except grouse species and nonnative Eurasian collared dove, European starling, house sparrow, and rock pigeon) are protected under the MBTA (§§ 703-712). Even species that tend to be present throughout the year, such as magpie and great horned owl, are protected under the MBTA. All nests are protected, including cavity (e.g., flicker), ground (e.g., killdeer), and subterranean (e.g., burrowing owl) nests. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. Findings regarding migratory birds are addressed in the *Other Raptors and Migratory Birds* section of this report.

#### Colorado State Statute 33

As directed by Colorado State Statute 33 (State Statute 33; Colorado Revised Statutes Ann. §§33-2 to 102-106), the Colorado Wildlife Commission issues regulations and develops management programs implemented by Colorado Parks and Wildlife (CPW) for wildlife species not federally listed as threatened or endangered. This includes maintaining a list of state threatened and endangered species. CPW also maintains a list of species of concern, but these are not protected under State Statute 33. Although State Statute 33 prohibits the take, possession, and sale of state-listed species, it does not include protection of their habitat. Findings regarding state threatened and endangered species and other wildlife species are addressed in the *State Threatened and Endangered Species and Species of Special Concern* and *Other Species of Concern* sections of this report.

## **El Paso County Wildlife Protection Policies**

The current El Paso County Master Plan was adopted in May 2021. As part of the plan, the County has established guidance, goals, and policies to prioritize and protect the natural environment.

Recommendations on compliance with the County's environment and natural resources goals are provided in the *Postconstruction Habitat Recommendations* section of this report.

## **Methods**

ERO conducted a natural features wildlife habitat assessment of the project area to identify natural and wildlife resources that may be impacted by development of the project area. In addition to the information gathered during the 2023 site visit, wildlife and natural resource information was obtained from existing sources such as aerial photography, the Colorado Natural Diversity Information Source (NDIS), and Colorado's Conservation Data Explorer. Based on the information gathered from existing sources and the site visit, ERO identified existing vegetation communities and important wildlife attributes of the project area both within the project area boundaries and in a regional context (Figure 2). In addition, ERO used existing data from CPW map databases to compile this description of wildlife habitat.

## **Project Area Description**

The U.S. Department of Agriculture has mapped the project area within the Southern Rocky Mountain Foothills Major Land Resource Area, which is mainly characterized by hogbacks, ridges, and hills running parallel to the Rocky Mountains (U.S. Department of Agriculture, Natural Resources Conservation Service 2006). The average annual precipitation in most areas is between 12 and 25 inches but can range to 32 inches in some places, generally increasing with elevation (USDA, NRCS 2006).

The project area is located in the East Cherry Creek watershed and is part of the South Platte River system, which is tributary to the Platte River. The geology of the area consists largely of sandstone-dominated formations of all ages. The majority of the region historically consisted of ponderosa pine forest.

The topography of the project area generally slopes from southeast to northwest, with an intermittent stream running diagonally through the property. The project area consists of a mixture of native and nonnative grasslands with a few scattered trees. One large depressional wetland is present near the center of the project area (Photo 1), with two drainage corridors, which are described in detail in the *Vegetation Communities and Wildlife Habitat* section of this report. A list of plants observed during the 2023 site visit and their foremost associated vegetation community types can be found in Appendix A, Appendix B lists wildlife species observed or potentially found in the project area, and a photo log is provided in Appendix C.



## Habitat Value

Areas with high wildlife habitat value are typically defined as areas dominated by native plant species and areas that have not been degraded by overgrazing, contribute to the function and value of the ecosystem, and have a strong structural component as well as a diverse species composition. Riparian and wetland areas are considered high-quality habitat areas because they have high value to wildlife, filter out pollutants, and contribute to the function and value of the ecosystem. Moderate wildlife habitat value areas were observed throughout portions of the project area, but because the project area is surrounded by roads and other residential properties, they are very fragmented (Photo 2). As observed during the 2023 site visit, moderate wildlife habitat value areas are usually dominated by native and introduced plant species, have low densities of noxious weeds, and have not been degraded by disturbance within the project area.

Lower-quality wildlife habitat value areas are found in the eastern portion of the project area near the existing residential property and barn. Patches of lower-quality habitat are also located within moderate-quality habitat areas where disturbance has degraded the vegetation by allowing nonnative weedy species such as musk thistle (*Carduus nutans*) and common mullein (*Verbascum thapsus*) to become more dominant.

## Vegetation Communities and Wildlife Habitat

Wildlife habitat in the project area correlates to the existing vegetation communities and topographical features. During the 2023 site visit, ERO documented primary vegetation communities that provide habitat, water resources, and core wildlife values such as cover and forage for various wildlife species. The primary vegetation communities found in the project area are grasslands and drainage corridors. Each primary vegetation community is described in more detail below.

### Grasslands

The grasslands in the project area consist of sections dominated by native species and sections dominated by nonnative species. The native species dominating portions of the grasslands consist of blue grama (*Bouteloua gracilis*), sand dropseed (*Sporobolus cryptandrus*), and fringed sagebrush (*Artemisia frigida*). The nonnative grasslands are dominated almost completely by smooth brome (*Bromus inermis*) and field brome (*Bromus arvensis*). This vegetation community covers the majority of the project area (Photos 3 and 4).

The grassland community supports nesting and foraging areas for numerous small mammal and songbird species. This vegetation community also provides forage for big game such as mule deer (*Odocoileus hemionus*) and elk (*Cervus canadensis*). ERO biologists found mule deer droppings during the 2023 site visit.

## Drainage Corridors

Two unnamed tributaries to East Cherry Creek occur in the project area—Drainage 1 and Drainage 2 (Figure 2). These drainages contribute to the varied topography of the project area. Drainages 1 and 2 come together in a depressional wetland area in the project area immediately upstream of a large upland berm. Drainage 1 continues downstream of the berm before crossing Walker Road.

Drainage 1 appears to have an intermittent flow regime and consisted of an intermittent channel bed and bank. Drainage 1 flows along the southern section of the project area and then heads northwest, and it did not contain any water during the 2023 site visit (Photo 5). Drainage 1 is mostly vegetated with wetland species before being dammed by a large berm in the project area, creating the large wetland depressional area. Downstream of the berm, the majority of Drainage 1 is vegetated with upland species and lacks a defined bed and bank. A small portion of Drainage 1 on the western end of the project area near Walker Road contains wetland vegetation (Photo 7). Wetland vegetation present along Drainage 1 is dominated by broadleaf cattail (*Typha latifolia*), reed canarygrass (*Phalaris arundinacea*), and common rush (*Juncus effusus*).

Drainage 2 is in the southwest section of the project area and consists of an ephemeral swale with both wetland and upland species present. The portion of Drainage 2 directly connecting to the depressional wetland contains wetland vegetation. (Photo 6), while the portion toward the southern edge of the project area contains uplands. Drainage 2 mostly lacks a defined bed and bank, and water is only seasonally present. Wetland vegetation along Drainage 2 is dominated by broadleaf cattail, reed canarygrass, and common rush. The overstory in the drainages is sparse with a few crack willow (*Salix fragilis*) occurring in the project area.

Although the drainage corridors lack well-developed wetland and riparian communities, they provide a water source, protective cover, foraging, and nesting habitat for wildlife and birds. The drainages extend across the project area and support movement corridors and core habitat connections for wildlife, as well as add to the scenic quality of the project area. Several wildlife species dwell in the wetland and riparian vegetation communities that typically occur along drainage corridors, while others use them as passageways; therefore, there is typically high biodiversity. ERO recommends that the proposed project avoid development within the drainage corridors and wetland areas. Maintaining these areas as habitat corridors would contribute to maintaining wildlife movements, distribution, and genetic exchange.

## Wetlands and Other Waters of the U.S.

### Background

The Clean Water Act protects the chemical, physical, and biological quality of waters of the U.S. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the Clean Water Act. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other waters of the U.S. (streams, ponds, and other water bodies). Currently, the

Corps is following the pre-2015 regulatory regime (also referred to as the “Rapanos” guidelines) for defining waters of the U.S. As such, the identification of waters of the U.S. in this report follows the Rapanos guidelines. Potential rulings and guidance in the future could change the results of this report regarding the jurisdictional status of waters and wetlands in the project area. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps will make the final determination of jurisdiction based on the current rulings.

Under the Rapanos guidelines, the Corps considers traditionally navigable waters (TNWs), wetlands adjacent to TNWs, and tributaries to TNWs that are relatively permanent waters (RPWs) and their abutting wetlands jurisdictional waters. Other wetlands and waters that are not TNWs or RPWs will require a significant nexus evaluation to determine their jurisdiction. A significant nexus evaluation assesses the flow characteristics and functions of a tributary and its adjacent wetlands to determine if they significantly affect the chemical, physical, or biological integrity of downstream TNWs.

### **Project Area Conditions and Regulations**

During the 2023 site visit, ERO surveyed the project area for wetlands, streambeds, and open waters; however, a jurisdictional wetland delineation following Corps guidelines was not conducted during this assessment. Prior to the 2023 site visit, ERO reviewed U.S. Geological Survey quadrangle topographic maps and aerial photography to identify mapped streams and areas of open water that could indicate wetlands or waters of the U.S. ERO also reviewed the proximity and potential surface water connection of wetlands to known jurisdictional waters of the U.S. using aerial photo interpretation, landowner information, and information from the 2023 site visit.

As discussed above, two drainages (Drainages 1 and 2) occur in the project area and support intermittent flows. Both drainages contain wetland vegetation as discussed above, although a section of Drainage 1 is dominated by upland species just downstream of the berm (Photo 8). Although Drainage 1 has a break in characteristics of a water of the U.S., the Corps may consider both Drainage 1 and 2 jurisdictional waters of the U.S. due to their potential downstream connection to East Cherry Creek, a known water of the U.S.

### **Recommendations**

ERO recommends that the proposed project avoid development within the drainages and their associated wetland vegetation. If any work would be performed in the drainages or wetland areas, a jurisdictional determination should be requested from the Corps. If Drainage 1 or 2 is considered jurisdictional and work is planned in either of these areas, a Section 404 permit would be required for the placement of dredged or fill material below the ordinary high water mark. If either of the drainages is determined nonjurisdictional or if no work is planned in either of these areas, no action would be necessary.

## Federally Threatened, Endangered, and Candidate Species

ERO assessed the project area for habitat for threatened, endangered, and candidate species protected under the ESA. Adverse effects on a federally listed species or their habitat require consultation with the Service under Section 7 or 10 of the ESA. The Service lists several threatened and endangered species with potential habitat in the project area or that would be potentially affected by the project (Table 1).

**Table 1. Federally threatened, endangered, and candidate species potentially found in the project area or potentially affected by the project.**

Common Name	Scientific Name	Listing Status <sup>1</sup>	Habitat	Suitable Habitat Present or Potential to Be Affected by Project?
<b>Birds</b>				
Eastern black rail	<i>Laterallus jamaicensis</i>	T	Shallow cattail wetlands and wet sedge meadows with dense cover in southeastern Colorado	No
Piping plover <sup>2</sup>	<i>Charadrius melodus</i>	T	Sandy lakeshore beaches and river sandbars	No habitat, no potential to affect
Whooping crane <sup>2</sup>	<i>Grus americana</i>	E	Mudflats around reservoirs and in agricultural areas	No habitat, no potential to affect
<b>Mammals</b>				
Gray wolf	<i>Canis lupus</i>	T	Wolves thrive in a wide range of habitats; highly adaptable as a species and occurs in temperate forests, mountains, and grasslands	No, does not currently occur in El Paso County
<b>Fish</b>				
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	T	Gravelly headwater streams or mountain lakes	No
Pallid sturgeon <sup>2</sup>	<i>Scaphirhynchus albus</i>	E	Large, turbid, free-flowing rivers with a strong current and gravelly or sandy substrate	No habitat, no potential to affect
<b>Invertebrates</b>				
Monarch butterfly	<i>Danaus plexippus plexippus</i>	C	Dependent on milkweeds (Asclepiadoideae) as host plants and forage on blooming flowers; a summer resident	No
<b>Plants</b>				
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet in elevation	No
Western prairie-fringed orchid <sup>2</sup>	<i>Platanthera praeclara</i>	T	Mesic and wet prairies, sedge meadows	No habitat, no potential to affect

<sup>1</sup> T = Threatened Species, E = Endangered Species, C = Candidate Species.

<sup>2</sup> Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: Service 2023.

## Species Eliminated from Further Consideration

The proposed project would not affect the greenback cutthroat trout or eastern black rail because the project area is outside of the known range of the species and lacks suitable habitat. The piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species that are affected by continued or ongoing water depletions to the Platte River system. If the project includes activities that deplete water in the South Platte River, such as diverting water from a stream or developing new water supplies, these species could be affected by the project, and consultation with the Service may be required.

Monarch butterflies migrate through Colorado in the summer, although the project area is not within a designated migration corridor or breeding or overwintering area for this species (Service 2019). Monarch butterflies are dependent on milkweeds (primarily *Asclepias* spp.) as host plants for egg laying and larval development (Service 2021). No milkweeds were observed in the project area during the 2023 site visit. This species may occasionally travel through the project area but are not likely to lay eggs because host plants appear to be lacking. As a candidate species, monarch butterflies are not under federal regulation at this time.

During the 2023 site visit, ERO assessed the project area for potential Ute ladies'-tresses orchid (ULTO) habitat. Because the project area is outside of the 100-year floodplain of Fountain Creek, the site does not fall within the Service's guidelines for ULTO surveys (Service 1992). In addition, the project area lacks moist to wet alluvial meadows and the mesic vegetation communities typically associated with ULTO.

Although Preble's meadow jumping mouse (Preble's) is not listed on IPaC as potentially occurring in the project area, a known population is present approximately 1.5 miles downstream of the project area; therefore, a more detailed discussion for this species is provided below.

## Threatened and Endangered Species Habitat

### Preble's Meadow Jumping Mouse

#### ***Species Background***

Preble's was listed as a threatened species on May 13, 1998. Several petitions to delist Preble's have been filed with the Service since 2011. On March 30, 2017, a petition to delist Preble's was filed; the Service found that the petition did not present substantial scientific or commercial information indicating that delisting Preble's may be warranted (Service 2018). The Service refers to this finding as a "not substantial" petition finding (2018). On August 10, 2018, the Service announced the initiation of a 5-year status review for Preble's (Service 2018a). Until the completion of this 5-year finding, Preble's remains protected under the ESA. Preble's is found along the foothills of southeastern Wyoming and southward along the eastern edge of the Colorado Front Range to Colorado Springs (Clark and Stromberg 1987; Fitzgerald, Meaney, and Armstrong 1994). The semiarid climate in southeastern

Wyoming and eastern Colorado limits the extent of riparian corridors and therefore restricts Preble's range, which is associated with these corridors.

Along Colorado's Front Range, Preble's is found below 7,800 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams. Preble's prefers riparian areas featuring well-developed, multistoried, and horizontal cover with an understory of grasses and forbs (Armstrong et al. 1997a; 1997b). Preble's typically inhabits areas characterized by plains riparian vegetation with relatively undisturbed grassland and a water source nearby (Armstrong, Fitzgerald, and Meaney 2011). High-use areas for Preble's tend to be close to creeks and are associated with a high percentage of shrubs, grasses, and woody debris (Trainor, Shenk, and Wilson 2007). Previous studies have suggested that Preble's may have a wider ecological tolerance than previously thought and that the requirement for diverse vegetation and well-developed cover can be met under a variety of circumstances (Meaney 1997). Radio-tracking studies conducted by CPW have documented Preble's using upland habitat adjacent to wetlands and riparian areas (Shenk and Sivert 1999). Additional research by CPW has suggested that habitat quality for Preble's can be predicted by the amount of shrub cover available at a site (White and Shenk 2000). Mountain riparian sites may be surrounded by dense forest vegetation (such as ponderosa pine in Colorado), and sites on the plains have less woody vegetation.

### ***Potential Habitat and Effects***

During the 2023 site visit, ERO assessed the project area for potential Preble's habitat. ERO determined that the project area does not contain suitable habitat based on the following:

- The project area lacks adequate tree and shrub cover typically associated with Preble's. The project area is predominantly dominated by herbaceous vegetation.
- The drainages in the project area lack a continuous water source for Preble's, with only ephemeral to intermittent flows present.
- A large berm is present along Drainage 1 near Campbell Road that may disrupt Preble's movement into the project area.

### ***Recommendations***

Because of the reasons listed above, ERO determined that Preble's is unlikely to be present in the project area. However, since the area falls within the survey guidelines for Preble's, and because Preble's are present downstream, ERO recommends submitting a habitat assessment to the Service requesting concurrence that the project area is not habitat for Preble's and that the project be allowed to proceed without a trapping survey.

## **State Threatened and Endangered Species and Species of Special Concern**

During the 2023 site visit, ERO assessed the project area for potential habitat for threatened and endangered species and species of special concern protected under State Statute 33. Although State

Statute 33 prohibits the take, possession, and sale of state-listed species, it does not include protection of their habitat. ERO also assessed the project area for habitat for Tier 1 species designated in the Colorado State Wildlife Action Plan (SWAP). SWAP was developed by CPW to document the status of knowledge about the wildlife species of conservation need in the state. SWAP determines the state’s Species of Greatest Conservation Need (SGCN), documents threats to the species and habitats, and articulates strategies that can be employed to lessen those threats. SGCN do not require protection via federal or state listing regulation under SWAP, although some of the SGCN are also listed or protected by other statutes. SWAP prioritizes 55 of those species into Tier 1 SGCN (CPW 2015).

The project area lacks habitat for the majority of the species protected under State Statute 33 and of the SGCN listed as Tier 1 in SWAP; however, there is potential habitat or documented occurrences within 1 mile of the project area for six of these species (Table 2).

**Table 2. State-listed species and state species of concern potentially occurring in the project area.**

Common Name	Scientific Name	Habitat	State Status <sup>1</sup>
<b>Mammals</b>			
Fringed myotis	<i>Myotis thysanodes</i>	Woodlands, caves, and in or under buildings and bridges in urban areas	Tier 1
Little brown myotis	<i>Myotis lucifugus</i>	Woodlands, caves, and in or under buildings and bridges in urban areas	Tier 1
Preble’s meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Shrub riparian/wet meadows	S1
<b>Birds</b>			
Golden eagle	<i>Aquila chrysaetos</i>	Open mountains, foothills, plains, deserts, and open country	Tier 1
Western burrowing owl	<i>Athene cunicularia</i>	Rangeland and shortgrass prairie with prairie dogs	ST
<b>Reptiles and Amphibians</b>			
Northern leopard frog	<i>Lithobates pipiens</i>	Wet meadows and shallows of marshes, ponds, lakes, reservoirs, streams, and irrigation ditches up to 11,000 feet in elevation	SC

<sup>1</sup>ST = Threatened Species, SC = Species of Special Concern, S1 = State critically imperiled  
 Source: Colorado Natural Heritage Program (CNHP) 2022.

In Colorado, most maternity roosts for the fringed myotis are in the crevices of rock faces, though some are found in abandoned mines or abandoned cabins (Adams and Hayes 2000). In spring and summer, males roost separately and are rarely found in nursery colonies, while winter hibernacula are found in caves, mines, and buildings (Nagorsen and Brigham 1993). The project area does not contain any habitat for breeding or hibernation for the fringed myotis.

The little brown myotis is found in a wide range of habitats and often uses human-made structures for resting and maternity sites; they also use caves and hollow trees. Little brown myotis day roosts under rocks and tree bark and within woodpiles (Armstrong, Fitzgerald, and Meaney 2011). Winter hibernation sites include caves, mines, and tunnels, and maternity sites are often found in warm buildings such as attics or other structures and occasionally in hollow trees (Kunz and Reichard 2010).

The trees in the project area have potential to support little brown myotis, and this species may use the project area for foraging; however, there are no potential maternity or winter roosts in the project area.

In general, western burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground (Gillihan and Hutchings 2000). In Colorado, western burrowing owls are usually associated with black-tailed prairie dog colonies (Colorado Breeding Bird Atlas Partnership (CBAP), n.d.; Robert Andrews and Righter 1992). CPW has a recommended buffer of  $\frac{1}{8}$  mile (660 feet) surrounding active burrowing owl nests during the nesting season (March 15 through August 31) (CPW 2021). The project area does not contain habitat for burrowing owls, and there are no active or inactive prairie dog colonies in or within 660 feet of the project area.

None of the species discussed above were observed during the 2023 site visit. Furthermore, for the reasons discussed above, it is unlikely that the fringed myotis, little brown myotis, or western burrowing owl are present in the project area or would be affected by the project. If any of these species are found in the project area, attempts should be made to avoid disturbing the animals until all individuals have left the area. Operations near the individuals should temporarily cease until they have vacated the project area.

Because of the potential habitat in the project area for the golden eagle and northern leopard frog, these species are discussed in more detail below.

## **Golden Eagle**

### **Species Background**

The Bald Eagle Protection Act (Eagle Act) was originally passed in 1940. In 1962, the Eagle Act was amended to include the golden eagle. The Eagle Act prohibits anyone without a permit issued by the Secretary of the Interior from “taking” bald eagles, including their parts, nests, or eggs. The Eagle Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” The Eagle Act affords eagles additional protections beyond those provided by the MBTA by making it unlawful to “disturb” eagles. In 2007, “disturb” under the Eagle Act was defined to mean to “agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Removing nests, destroying nests, or causing nest abandonment may constitute a violation of the MBTA and the Eagle Act. The Eagle Act authorizes the Service to issue eagle incidental take permits only when the take is “compatible with the preservation of bald eagles or golden eagles.” In December 2016, the Service published a final rule regarding Eagle Take Permits, outlining revisions to regulations for eagle incidental take and take of eagle nests (Service 2016; 50 Code of Federal Regulations [CFR] 13 and 22). The permitting process provides limited exceptions to the Eagle Act’s prohibitions, and the Service has issued regulations concerning the permit procedures in 50 CFR 22.



The golden eagle is a large North American bird with a historical distribution throughout the western U.S. from Mexico to Canada and is most numerous in winter in the Rocky Mountain states, the Great Basin, and the western edge of the Great Plains (Root 1988). Typical golden eagle nesting habitat consists of rock ledges on cliffs, but this species sometimes nests in large trees, on steep hillsides, or on the ground, in areas with a sufficient mammalian prey base (Page and Seibert 1973).

### **Potential Habitat and Possible Effects**

No known golden eagle nest or roost sites occur in the project area or within a ½-mile radius of the project area (the CPW-recommended buffer). The closest known nest is approximately 11.5 miles away from the project area to the northeast (CPW 2022b). No golden eagles were observed during the 2023 site visit, and no indications of a nest in the project area were observed. Golden eagles may forage on the open country above tree line on Pikes Peak southwest of the project area.

### **Recommendations**

No golden eagle nests were observed or are known to occur within a ½-mile radius of the project area; therefore, the project is unlikely to adversely affect golden eagles. If active nests are identified within a ½-mile radius of the project area, ERO recommends contacting the local CPW district manager. As applicable, CPW recommends early consultation with the Service to comply with the Eagle Act, the MBTA, and the 2016 Service Eagle Permits Rules (Service 2016).

## **Northern Leopard Frog**

### **Species Background**

The northern leopard frog is listed as a Colorado species of special concern (CPW 2022). This species typically inhabits the banks and shallow portions of wetlands, ponds, lakes, streams, and other permanent water bodies. The northern leopard frog occurs at elevations from 3,500 to 11,000 feet in Colorado (Hammerson 1999).

### **Potential Habitat and Possible Effects**

Drainages 1 and 2 may provide low-quality habitat for the northern leopard frog. No leopard frogs were observed during the 2023 site visit.

### **Recommendations**

CPW does not currently enforce restrictive measures if a northern leopard frog is encountered during construction, and corrective measures are voluntary. If a northern leopard frog is found during construction, ERO recommends that activities cease within a 30-foot buffer of where the animal was seen and a qualified biologist be brought to the site to correctly identify the animal and, if possible, relocate the animal to suitable habitat outside the construction limits. If no activities would occur within Drainage 1 or 2, the proposed project would not likely adversely affect leopard frogs because habitat would not be impacted.

## Other Species of Concern

In 2021, CPW released a High Priority Habitat (HPH) table that identifies species and habitats, as well as recommendations to avoid and minimize impacts on wildlife from land use development (Natural Diversity Information Source 2021). ERO reviewed data from CPW map databases and determined that no HPH areas overlap with the project area (Natural Diversity Information Source 2021). Although no HPH occurs in the project area, ERO assessed the project area for potential habitat for species and habitats listed in the HPH table during the 2023 site visit. Because elk and mule deer likely frequent the project area, these species are discussed in more detail below.

### Elk

#### Species Background

Elk once occurred over much of central and western North America from Alaska south through Canada and further south through much of the United States (Fitzgerald, Armstrong, and Meaney 1998; Peek 1999). In Colorado, elk primarily occupy the western two-thirds of the state but can also be found on the eastern plains (Fitzgerald, Armstrong, and Meaney 1998). The statewide estimate for elk in 2004 post-hunt was 274,570 (Watkins 2005), and CPW's long-term objective for the elk population in Colorado is about 228,000 (Kahn 2006).

Elk once occupied the eastern plains of Colorado, but today they are mostly associated with semi-open forests or forest edges adjacent to parks, meadows, and alpine areas (Fitzgerald, Armstrong, and Meaney 1998) are considered generalist feeders, grazers, and browsers, foraging on a variety of grasses, forbs, and shrubs throughout the year, with grasses, shrubs, and even conifers such as Douglas fir as winter forage (Fitzgerald, Armstrong, and Meaney 1998; Peek 1999; Stewart et al. 2002). Most elk herds migrate between summer and winter ranges, with winter ranges typically occurring at lower elevations; however, some herds are relatively sedentary (Fitzgerald, Armstrong, and Meaney 1998).

#### Potential Habitat and Possible Effects

The entire project area is located within the overall range for elk in Colorado and an elk resident population area; however, no HPH for this species (including migration corridors, production areas, severe winter range, or winter concentration areas) occurs in the project area (CPW 2021a). No elk migration corridors have been identified by CPW (NDIS 2021) in or near the project area, and no elk were observed during the 2023 site visit.

#### Recommendations

Because no HPH for elk occurs in the project area, no action is necessary. Residents should be educated on wildlife interactions and provided with links to CPW's educational websites for "Living with Wildlife" and "Avoid Wildlife Conflicts." Additional recommendations are provided in the *Habitat Management Guidelines* section of this report.

## **Mule Deer**

### **Species Background**

Mule deer are found in all ecosystems in Colorado from grasslands to alpine tundra. Spring and summer ranges are typically mosaics of meadows, aspen woodlands, alpine tundra-subalpine forest edges, or montane forest edges (Fitzgerald et al. 1994). Seasonally, deer are relatively sedentary, although most will spend the summer at higher elevations and migrate to lower elevations in the winter. Mule deer diets vary seasonally but generally consist of browsing trees and shrubs, forbs, and grasses.

### **Potential Habitat and Possible Effects**

The majority of the project area is within mule deer overall range and a mule deer concentration area; however, there is no HPH for this species in the project area (NDIS 2021; CPW 2021a). Though no mule deer were in the project area during the 2023 site visit, mule deer droppings were present, and it is likely that mule deer frequently forage and migrate through the project area.

### **Recommendations**

Because no HPH for mule deer occurs in the project area, no action is necessary. Similar to the recommendation in the elk section above, residents should be educated on wildlife interactions and provided with links to CPW's educational websites for "Living with Wildlife" and "Avoid Wildlife Conflicts." Additional recommendations are provided in the *Habitat Management Guidelines* section of this report.

## **Other Raptors and Migratory Birds**

### **Species Background**

Migratory birds, as well as their eggs and nests, are protected under the MBTA. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (Service 2003). The regulatory definition of a take is to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that takes, at a minimum, 8 to 12 weeks. The best way to avoid a violation of the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. MBTA enforcement actions are typically the result of a concerned member of the community reporting a violation.

CPW maintains a leadership role with respect to raptor management in Colorado; however, the primary authority for the regulation of take and the ultimate jurisdiction for most of these species rests with the Service under the MBTA and the Eagle Act (16 United States Code 668-668c).

### **Potential Habitat and Possible Effects**

ERO did not observe any active or inactive songbird nests in the project area; however, trees and shrubs in and adjacent to the project area are potential nesting habitat for migratory birds. A wide variety of bird species may use different vegetation communities in the project area for shelter, breeding, wintering, and foraging at various times during the year. Several migratory birds were observed in the project area during the 2023 site visit, including black-billed magpies (*Pica hudsonia*), American crows (*Corvus brachyrhynchos*), and European starlings (*Sturnus vulgaris*). The breeding season for most birds in Colorado is March through August, with the exception of a few species that begin breeding in February, such as great horned owls.

### **Recommendations**

Although no nests were observed during the 2023 site visit, ground and arboreal nests are difficult to detect and may be present in the project area. To avoid destruction of potential migratory bird nests, vegetation removal should be conducted outside of the April 1 through August 31 breeding season.

Both the Service's Eastern Colorado Field Office (Beane 2021) and the Colorado Department of Transportation (CDOT 2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring from April 1 through August 31. However, a few species such as bald eagles, great horned owls, and red-tailed hawks can nest as early as December (eagles) or late February (owls and red-tailed hawks). Because of variability in the breeding seasons, ERO recommends that a nest survey be conducted within 1 week prior to construction to determine if any active nests are present in the project area so that they can be avoided. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

If active nests are identified in or near the project area, activities that would directly affect the nests should be restricted. Habitat-disturbing activities (e.g., tree removal, grading, scraping, and grubbing) should be conducted in the nonbreeding season to avoid disturbing active nests or to avoid a "take" of the migratory bird nests in the project area. Nests can be removed during the September 1 through March 31 nonbreeding season to preclude future nesting and avoid violations of the MBTA. There is no process for removing nests during the nonbreeding season; however, nests may not be collected under MBTA regulations. If the construction schedule does not allow vegetation removal outside of the breeding season, a nest survey should be conducted immediately prior to vegetation removal to determine if the nests are active and by which species. If active nests are found, any work that would destroy the nests or cause the birds to abandon young in the nest cannot be conducted until the birds have vacated the nests.

## Other Wildlife

The project area also provides habitat for a variety of small mammals such as cottontail rabbits (*Sylvilagus* spp.), striped skunks (*Mephitis mephitis*), deer mice, and voles. Riparian ecosystems typically support many more species of native birds than surrounding grassland or shrubland communities (Knopf and Samson 1994).

Predators such as coyotes (*Canis latrans*), raccoons (*Procyon lotor*), red foxes (*Vulpes vulpes*), and short-tailed weasels (*Mustela ermine*) are also likely to occur in the project area. The project area is mapped as overall range for both mountain lions (*Puma concolor*) and black bears (*Ursus americanus*) (Colorado Natural Heritage Program [CNHP] 2022). In addition, the project area is included in a black bear/human conflict area (CNHP 2022). Any residential or commercial development will need to implement programs using best management practices to avoid human/wildlife (predator) conflicts. As discussed in the elk and mule deer sections above, residents should be educated on wildlife interactions and provided with links to CPW's educational websites for "Living with Wildlife" and "Avoid Wildlife Conflicts." Additional recommendations are provided in the *Habitat Management Guidelines* section of this report.

## Postconstruction Habitat Recommendations

### Wetland and Riparian Communities

ERO recommends that conservation design techniques be utilized for future development along the drainage corridor. A native seed mix and native shrubs should be planted for any areas disturbed by the project. Increasing the diversity and abundance of riparian species would create habitat for a number of species, including the western terrestrial garter snake (*Thamnophis elegans*), bull snake (*Pituophis catenifer*), western chorus frog (*Pseudacris triseriata*), red fox, coyote, raccoon, yellow-rumped warbler (*Setophaga coronata*), yellow warbler (*Dendroica petechia*), and many other species. Enhancing riparian vegetation within and along the drainages would create habitat, improve wildlife movement corridors, and provide cover, foraging, and nesting habitat for a number of species.

### Grassland Communities

To maintain grassland communities and associated wildlife, native seed should be planted in areas temporarily disturbed by construction. ERO recommends preserving areas of native vegetation to the greatest extent feasible to maintain habitat for the species associated with these community types.

### Species in Disturbed Areas

It is likely that a diverse wildlife community would still be found in the project area after development, especially for smaller species. Many of the species that occur in the project area are those that prefer edge habitats and that are relatively common such as red fox, raccoon, squirrel, cottontail rabbit, mule deer, elk, American robin (*Turdus migratorius*), black-capped chickadee, mourning dove (*Zenaida macroura*), black-billed magpie, broad-tailed hummingbird (*Selasphorus platycercus*), and house finch

(*Carpodacus mexicanus*). Black bears and mountain lions may also be found in the development, particularly along the drainages, as the project area is mapped in both black bear and mountain lion overall range. In addition, some raptors such as great horned owls and red-tailed hawks are known to inhabit areas of human disturbance.

## Habitat Management Guidelines

To maximize the continued use of the area by native wildlife, ERO recommends implementing the following strategic planning principles:

- Preserve, to the greatest extent feasible, the wetland and grassland communities, which provide valuable forage and cover for many wildlife species, including elk and mule deer.
- Conduct surveys prior to construction of the development to avoid the inadvertent take of migratory bird nests, which are protected under federal and state laws. No active nests were identified in the project area during the 2023 site visit. If an active nest is found, follow CPW recommendations and implement buffers restricting disturbance and construction activities around nests to the extent they remain active (CPW 2020). Conduct habitat-disturbing activities such as tree removal, grading, scraping, and grubbing in the nonbreeding season (September through March for most songbirds) to avoid disturbance (or take) of an active migratory bird nest, including nests of ground-nesting species.
- Where feasible, leave mature trees in place to provide continued nesting habitat for avian species.
- Develop and implement a noxious weed plan and management recommendations to control weeds on-site and maintain foraging habitat for big game and other wildlife. Prevalent noxious weed species include musk thistle, common mullein, Canada thistle (*Cirsium arvense*), and yellow toadflax (*Linaria vulgaris*).
- Contain and control noxious weeds in areas not slated for development or that will not be developed until later phases as required by the El Paso County Weed Management Plan.
- Reclaim temporarily disturbed areas that will not be landscaped with a mix of native species that are found on-site or that are highly compatible with site conditions.
- To minimize impacts on soils, identify topsoil depth and salvage topsoil from areas within the development and then revegetate.
- Revegetate as soon as practicable after construction activities have been completed in accordance with the recommended seasons for revegetation and use practices conducive to success.
- Take care to minimize temporary disturbance to and permanent loss of woody vegetation within the construction area. Whenever possible, avoid blading and grubbing of woody vegetation in areas of temporary disturbance. Cut woody vegetation to ground level in areas of temporary disturbance without removing the root mass.
- Implement best management practices to minimize the risk of a spill of hazardous materials and waste within the construction area and in particular near the drainages.

In addition to those strategies above, the following measures are suggested to further minimize impacts on area wildlife:

- To help to minimize collision risk, place wildlife crossing signs along the roads reminding residents to be aware that big game and other wildlife may be present.
- Restrict domestic animals to building envelopes through covenants. Pets should be on leashes when in open areas.

## Conclusions

The existing vegetation communities in the project area provide some habitat, water resources, and core wildlife values such as cover and forage for various wildlife species. In particular, the drainage corridor along Drainage 1 contributes to the overall diversity of the project area and provides wildlife movement passageways that help maintain connections between wildlife populations. Preservation of the drainages would help maintain and conserve the moderate wildlife values of the project area.

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**Appendix A List of Prevalent Plant Species Observed in the Project Area**

Scientific Name	Common Name
<i>Artemisia frigida</i>	Fringed sagebrush
<i>Agropyron cristatum</i>	Crested wheatgrass
<i>Phalaris arundinacea</i>	Reed canarygrass
<i>Juncus effusus</i>	Common rush
<i>Bouteloua gracilis</i>	Blue grama
<i>Bromus inermis</i>	Smooth brome
<i>Achillea millefolium</i>	Common yarrow
<i>Cirsium arvense</i>	Canada thistle
<i>Sporobolus cryptandrus</i>	Sand dropseed
<i>Picea engelmannii</i>	Engelmann spruce
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Salix fragilis</i>	Crack willow
<i>Linaria vulgaris</i>	Yellow toadflax
<i>Carduus nutans</i>	Musk thistle
<i>Rosa woodsii</i>	Woods' rose
<i>Juncus balticus</i>	Baltic rush
<i>Typha latifolia</i>	Broadleaf cattail
<i>Bromus arvensis</i>	Field brome
<i>Schoenoplectus tabernaemontani</i>	Softstem bulrush
<i>Verbascum thapsus</i>	Common mullein

Source: U.S. Department of Agriculture, Natural Resources Conservation Service (2022).

**Appendix B Wildlife Potentially Found in the Project Area**

Scientific Name	Common Name
<i>Canis latrans</i>	Coyote
<i>Cervus canadensis</i>	Elk
<i>Erethizon dorsatum</i>	American porcupine
<i>Lynx rufus</i>	Bobcat
<i>Mephitis mephitis</i>	Striped skunk
<i>Neogale frenata</i>	Long-tailed weasel
<i>Odocoileus hemionus</i>	Mule deer
<i>Peromyscus maniculatus</i>	Deer mouse
<i>Procyon lotor</i>	Raccoon
<i>Puma concolor</i>	Mountain lion
<i>Sciurus aberti</i>	Abert's squirrel
<i>Tamiasciurus hudsonicus</i>	American red squirrel
<i>Ursus americanus</i>	American black bear
<i>Vulpes vulpes</i>	Red fox
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Accipiter striatus</i>	Sharp-shinned hawk
<i>Bubo virginianus</i>	Great horned owl
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Carduelis tristis</i>	American goldfinch
<i>Chordeiles minor</i>	Common nighthawk
<i>Colaptes auratus</i>	Common flicker
<i>Cyanocitta stelleri</i>	Steller's jay
<i>Falco sparverius</i>	American kestrel
<i>Haliaeetus leucocephalus</i>	Bald eagle
<i>Junco hyemalis</i>	Dark-eyed junco
<i>Meleagris gallopavo</i>	Wild turkey
<i>Pipilo maculatus</i>	Spotted towhee
<i>Poecile atricapilla</i>	Black-capped chickadee
<i>Seiurus aurocapilla</i>	Ovenbird
<i>Selasphorus platycercus</i>	Broad-tailed hummingbird
<i>Setophaga coronata</i>	Yellow-rumped warbler
<i>Setophaga petechia</i>	Yellow warbler
<i>Sialia mexicana</i>	Western bluebird
<i>Sitta pygmaea</i>	Pygmy nuthatch
<i>Sitta carolinensis</i>	White-breasted nuthatch
<i>Spinus pinus</i>	Pine siskin
<i>Spizella passerina</i>	Chipping sparrow
<i>Turdus migratorius</i>	American robin
<i>Vermivora virginiae</i>	Virginia warbler
<i>Zenaida macroura</i>	Mourning dove
<i>Pituophis catenifer</i>	Gopher snake
<i>Rana pipiens</i>	Northern leopard frog
<i>Sceloporus undulatus</i>	Fence lizard

PHOTO LOG  
HIGH FOREST ESTATES SUBDIVISION  
MARCH 3, 2023



**Photo 1** - Overview of the depressional wetland area. View is to the west.



**Photo 2** - Roads running along the project area boundaries. View is to the south.



PHOTO LOG  
HIGH FOREST ESTATES SUBDIVISION  
MARCH 3, 2023



**Photo 3** - Uplands dominated by native species in the project area. View is to the north.



**Photo 4** - Uplands dominated by nonnative species in the project area. View is to the southeast.



PHOTO LOG  
HIGH FOREST ESTATES SUBDIVISION  
MARCH 3, 2023



**Photo 5** - Drainage 1 in the project area. View is to the east.



**Photo 6** - Drainage 2 in the project area. View is to the northwest.



PHOTO LOG  
HIGH FOREST ESTATES SUBDIVISION  
MARCH 3, 2023



**Photo 7** - Another section of drainage 1 in the project area. View is to the northwest.



**Photo 8** - Upland berm running through the project area. View is to northeast.