ERO

Consultants in Natural Resources and the Environment

Natural Features and Wildlife Habitat Assessment
Guntzelman Porcelain Pines Subdivision
Cascade, El Paso County, Colorado

Prepared for—

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Project Description

SMH Consultants (SMH) retained ERO Resources Corporation (ERO) to provide a wildlife habitat assessment for the Guntzelman Porcelain Pines subdivision in Cascade, El Paso County, Colorado (project area; Figure 1). A survey of the wildlife habitat and ecological conditions in the project area was conducted by Courtney Marne and Julia Snieder, biologists with ERO, on January 14, 2022 (2022 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 36-acre parcel in Cascade, El Paso County, Colorado, and is planned to be subdivided into six lots (Figure 2).

This report describes natural features and wildlife habitat identified during the surveys and outlines current regulatory guidelines related to natural resources potentially occurring in the project area. It is SMH'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 22, Township 13 South, Range 68 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 501297mE, 4306575mN, Zone 13. The latitude/longitude of the project area is 38.908066°N/104.985042°W. The elevation of the project area ranges between about 7,600 and 8,450 feet above sea level. The project area is bounded by a low-density residential community to the north, Pikes Peak Highway to the east, and the Pike National Forest to the south and west (Figures 1 and 2).

Project Background

Currently, the project area is a 36-acre parcel with a single home. The steep slopes in the southern portion of the project area are greater than 30 degrees and are considered a "no-build" zone. The project area is being subdivided into six new plots, including three 6.16-acre plots, two 5-acre plots, and the existing residence.

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 SMH 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.

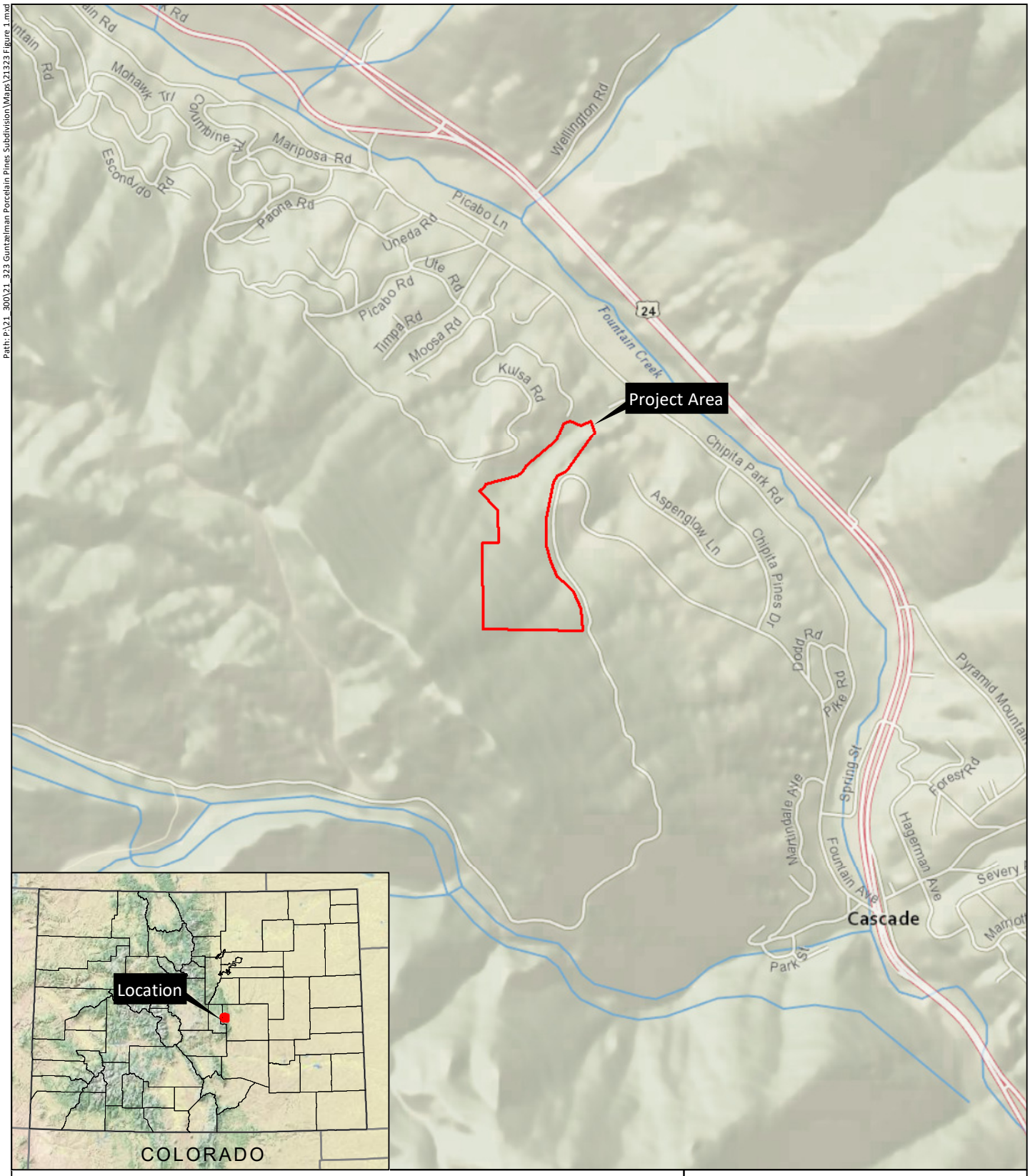
Colorado State Statute 33

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 (EPCMP) was adopted in May 2021. As part of the EPCMP, 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 *Post-construction Habitat Recommendations* section of this report.

Path: P:\21_300\21_323 Guntzelman Porcelain Pines Subdivision\Maps\21323 Figure 1.mxd



Guntzelman Porcelain Pines Subdivision

Section 22, T13S, R68W; 6th PM

UTM NAD 83: Zone 13N; 501297mE, 4306575mN

Longitude 104.985042°W, Latitude 38.908066°N

USGS Cascade, CO Quadrangle

El Paso County, Colorado

0 750 1,500 feet

N

Figure 1
Vicinity Map

Prepared for: SMH Consultants
File: 21323 Figure 1.mxd [dlH]
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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 2022 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 (USDA) has mapped the project area within the Southern Rocky Mountains Major Land Resource Area, which is mainly characterized by rugged mountains with some broad valleys and remnants of high plateaus (USDA and Natural Resource Conservation Service (NRCS) 2006). The climate of the area is typical of midcontinental semiarid temperate zones, but the strong rain shadow effect of the Southern Rocky Mountains makes the area somewhat drier. The average annual precipitation is between 9 inches in certain valleys and 63 inches on some mountain peaks (USDA NRCS 2006).

The project area is located in the Fountain Creek watershed and is part of the Arkansas River system, which is tributary to the Mississippi River. The geology of the area consists largely of exposed sedimentary rock and alluvial fill. The majority of the region historically consisted of spruce-fir forest.

The topography of the project area generally slopes from southwest to northwest, with the steepest slopes in the southern portion of the project area (Photo 1). The project area consists of a spruce-fir forest community with two drainage corridors, which are described in detail in the *Vegetation Communities and Wildlife Habitat* section of this report. Fountain Creek is located northeast of the project area. A list of plants observed during the 2022 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.

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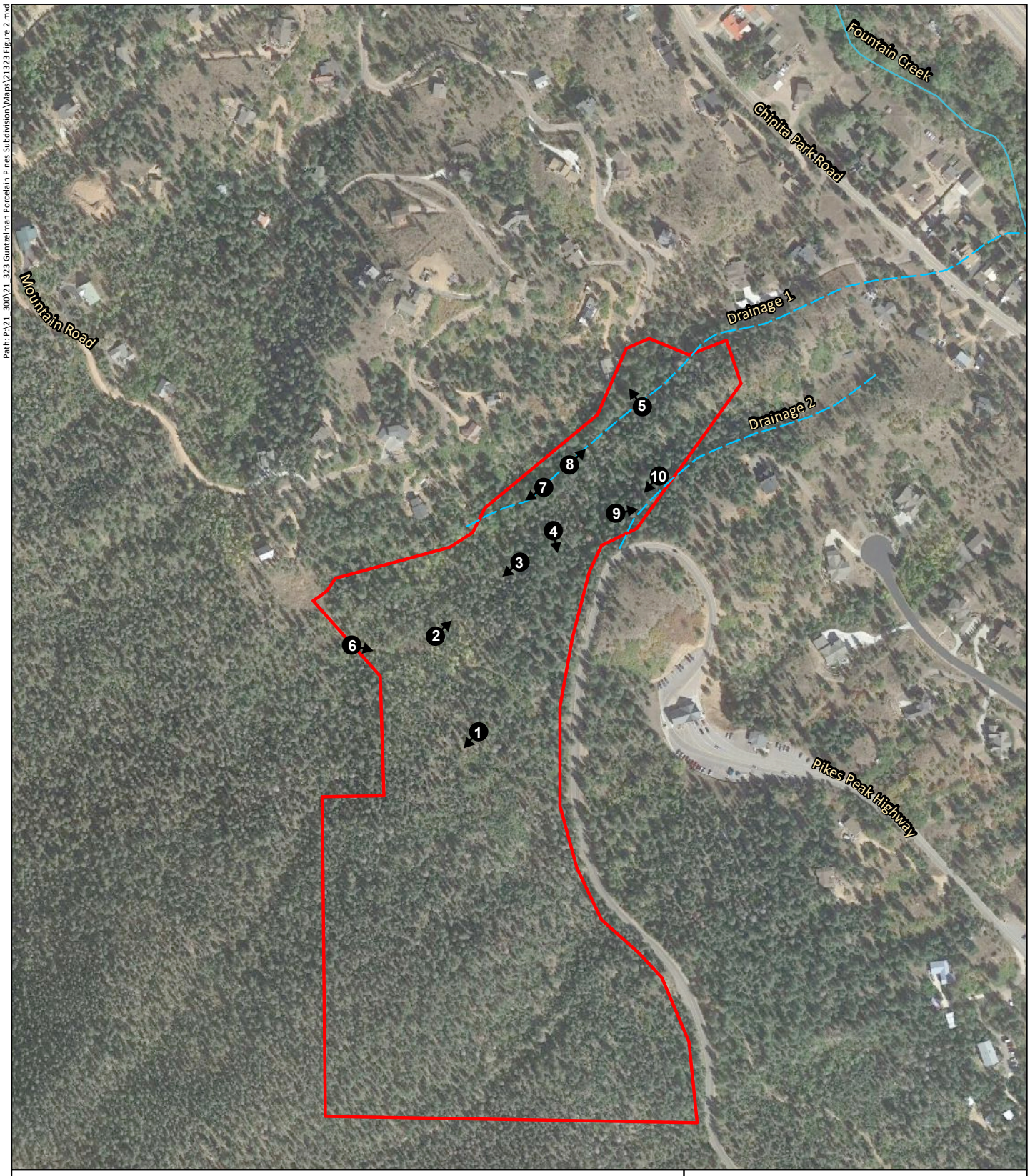

Guntzelman Porcelain Pines Subdivision

Project Area

Intermittent Stream

Fountain Creek

Photo Point

0 150 300 feet

N

Figure 2
Existing Conditions

Prepared for: SMH Consultants
File: 21323 Figure 2.mxd [dlH]
April 1, 2022

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Habitat Value

Based on the 2022 site visit, high wildlife habitat value areas were 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. High wildlife habitat value areas were observed throughout most of the project area and are particularly significant along the drainage corridors and the southern hillslopes, where the project area directly abuts the Pike National Forest (Photos 1 through 4).

Moderate wildlife habitat value areas are intermixed in the northeastern portion of the project area near existing residential properties and roads (Photo 5). As observed during the 2022 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. Patches of lower-quality habitat are 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. A narrow corridor of low-quality habitat exists along the old road where nonnative weedy upland species have taken over (Photo 6).

Vegetation Communities and Wildlife Habitat

Wildlife habitat in the project area correlates to the existing vegetation communities and topographical features. During the 2022 site visit, ERO documented primary vegetation communities that provide contiguous 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 spruce-fir forest and drainage corridors. Each primary vegetation community is described in more detail below.

Spruce-Fir Forest

The spruce-fir forest in the project area is of moderate density and consists of an overstory of Douglas fir (*Pseudotsuga menziesii*) and Engelmann spruce (*Picea engelmanii*) with small pockets of quaking aspen (*Populus tremuloides*). The understory consists of sparse stands of Woods' rose (*Rosa woodsii*) and snowberry (*Symphoricarpos album*). The herb stratum includes blue grama (*Bouteloua gracilis*), smooth brome (*Bromus inermis*), and field brome (*Bromus arvensis*). This vegetation community covers the majority of the project area (Photos 1 through 4).

The spruce-fir forest community supports nesting and foraging areas for American red squirrels (*Tamiasciurus hudsonicus*), and numerous cone middens were observed during the site visit. This vegetation community also provides cover for big game such as mule deer (*Odocoileus hemionus*) and

black bear (*Ursus americanus*) (Photo 4). ERO biologists observed a herd of five mule deer and found bear scat during the 2022 site visit.

Drainage Corridors

Two unnamed drainages occur in the project area, Drainage 1 and Drainage 2 (Figure 2; Photos 7 through 10). These drainages contribute to the varied topography of the project area.

The western drainage (Drainage 1) appears to have an intermittent flow regime, and the eastern drainage (Drainage 2) appears to have an ephemeral flow regime. No perennial tributaries occur in the project area. Drainage 1 consisted of an intermittent channel bed and bank, and portions of the drainage contained water during the 2022 site visit (Photos 7 and 8). The majority of Drainage 2 consists of an upland vegetated swale with sporadic sediment deposition. Drainage 2 mostly lacks a defined bed and bank, and water is only seasonally present (Photos 9 and 10). The overstory in the drainages was dominated by thinleaf alder (*Alnus incana*) and Rocky Mountain maple (*Acer glabrum*). Due to the seasonal timing of the survey, no wetland vegetation could be seen along either of the drainages.

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 potential 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 (CWA) 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 CWA. 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 waterbodies). On June 22, 2020, the Environmental Protection Agency (EPA) and Corps' Navigable Waters Protection Rule (NWPR) (EPA 2020) to define "waters of the United States" became effective in 49 states and in all U.S. territories. A preliminary injunction was granted for Colorado. On March 2, 2021, the United States Court of Appeals for the 10th Circuit vacated the stay on the NWPR in Colorado, thereby ruling the NWPR effective in Colorado. After April 23, 2021, jurisdiction of wetlands and other potential waters of the U.S. in Colorado was to be determined using the NWPR. However, on August 30, 2021, the Arizona District Court remanded and vacated the NWPR. In response, the EPA and Corps have halted implementation of the NWPR and, until further notice, are interpreting waters of the U.S. consistent with the pre-2015

regulatory regime (also referred to as the "Rapanos" guidelines). 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 2022 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 2022 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 2022 site visit.

As discussed above, two drainages (Drainages 1 and 2) occur in the project area and support intermittent and ephemeral flows, respectively. During the 2022 site visit, a surface connection could not be found between Drainage 1 and Fountain Creek; however, based on a review of the Service's National Wetland Inventory (NWI) and the National Hydrography Dataset (NHD), Drainage 1 connects to Fountain Creek. As such, Drainage 1 may be considered jurisdictional. Drainage 2 generally flows from the southwest to the northeast, toward Fountain Creek; however, it is not shown in the NWI or the NHD. Based on the 2022 site visit, Drainage 2 does not have a consistent channel and primarily supports upland vegetation; therefore, ERO believes this feature would be nonjurisdictional.

Recommendations

ERO recommends that the proposed project avoid development within the drainages. If any work would be performed in the drainages, a jurisdictional determination should be requested from the Corps. Drainages 1 and 2 would potentially be considered jurisdictional because of their downstream surface connection to a known water of the U.S.; however, Drainage 2 could be considered nonjurisdictional because it intermittently lacks a defined channel bed and bank and other characteristics of a water of the U.S. 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[1]	Habitat	Suitable Habitat Present or Potential to Be Affected by Project?
Birds				
Eastern black rail	*Laterallus jamaicensis*	T	Shallow cattail wetlands and wet sedge meadows with dense cover in southeastern Colorado	No
Mexican spotted[2] owl	*Strix occidentalis lucida*	E	Mixed-conifer woodlands and rocky canyons	Yes
Piping plover[3]	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	No habitat, no potential to affect
Whooping crane[3]	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No habitat, no potential to affect
Mammals				
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	No habitat
Fish				
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	Gravelly headwater streams or mountain lakes	No
Pallid sturgeon[3]	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravelly or sandy substrate	No habitat, no potential to affect
Invertebrates				
Monarch butterfly	*Danaus plexippus plexippus*	C	Dependent on milkweeds (Asclepiadoideae) as host plants and forage on blooming flowers; a summer resident	No
Plants				
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet in elevation	No

Common Name	Scientific Name	Listing Status[1]	Habitat	Suitable Habitat Present or Potential to Be Affected by Project?
Western prairie-fringed orchid[3]	*Platanthera praeclara*	T	Mesic and wet prairies, sedge meadows	No habitat, no potential to affect

[1] T = Threatened Species, E = Endangered Species, C = Candidate Species.
[2] There is critical habitat for the species within El Paso County.
[3] 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 2022.

Species Eliminated from Further Consideration

The proposed project would not affect the greenback cutthroat trout and 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 a host plant for egg laying and larval development (Service 2021). No milkweeds were observed in the project area during the 2022 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 2022 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.

Potential habitat for Preble's meadow jumping mouse (Preble's) is generally more prevalent in areas across the Front Range. Additionally, the project area is within designated critical habitat for the Mexican spotted owl. As such, a more detailed discussion for these 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 2018b). 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 1998). 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. 1997b; 1997a). 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 et al. 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 2022 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 the lush herbaceous understory and adequate shrub cover by sandbar willows or other riparian shrubs typically associated with Preble's.
- Two trapping surveys were conducted 1.6 miles upstream (Western Wildlife 2003) and 1.4 miles downstream (ERO Resources Corporation 1999) along Fountain Creek, with no Preble's found.
- The closest known Preble's population is over 20 river miles west of the project area, north of Woodland Park.

- The project area is near or above the typical elevational limit for the species' distribution.

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, ERO recommends submitting a Habitat Assessment Letter to the Service requesting concurrence that the project area is not habitat for Preble's and that the proposed project would not adversely affect the continued existence of Preble's.

Mexican Spotted Owl

Species Background

The Mexican spotted owl (*Strix occidentalis lucida)* ranges throughout Utah and portions of Colorado, Arizona, Texas, New Mexico, and central Mexico. The Mexican spotted owl is listed as threatened by the Service and as a Management Indicator Species by the U.S. Forest Service. In accordance with sections 3(5)(A)(I) and 4(b) of the ESA and 50 Code of Federal Regulations (CFR) 424.12, physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species of spotted owls have been identified. Because spotted owl habitat can include both canyon and forested areas, physical or biological features have been identified for both areas.

In Colorado, the Mexican spotted owl typically inhabits areas with steep exposed cliffs, canyons that are characterized by piñon-juniper, and mixed conifer forests including Douglas fir, ponderosa pine, and white fir (Andrews and Righter 1992; Service 1995). Steep-walled canyons are an integral component of Mexican spotted owl habitat in Colorado (Fletcher and Hollis 1994). Designated critical habitat occurs in the Pike National Forest in western Douglas and El Paso Counties and eastern Teller and Fremont Counties (69 *Federal Register* [FR] 53182 [August 31, 2004]).

As defined by the 1995 Mexican spotted owl recovery plan, Protected Activity Centers (PACs) are "a minimum area of 600 acres surrounding the 'activity center,' which includes the nest site, a roost grove commonly used during the breeding season in the absence of a verified nest site, or the best roosting/nesting habitat if both nesting and roosting information are lacking" (Service 1995). PACs exist for the life of the recovery plan even if Mexican spotted owls are not located during subsequent years. The boundaries of the PAC often correspond to topographic features such as ridgelines or canyon rims and follow the axis of the canyon and both slopes on either side (Service 2012). The recovery plan recommends that activities within PACs should be coordinated with the appropriate Service office and that no new roads or construction should occur.

Physical or biological features of mixed-conifer, pine-oak, and riparian forest types are:

- A wide range of plants and tree species including mixed-conifer, pine-oak, and riparian forest types;
- Uneven-age stands;
- 30 to 45 percent of trees with over 12 inches in diameter at breast height;

- At least 40 percent canopy closure;
- Dead tree snags over 12 inches in diameter at breast height;
- High volumes of trees and other woody debris; and
- Adequate levels of residual plant cover to maintain fruits and seeds and allow plant regeneration.

Physical or biological features of canyon habitats include:

- Presence of water, which often provides cooler, more humid conditions;
- Clumps or stringers of mixed-conifer, pine-oak, piñon-juniper, and/or riparian habitat;
- Canyon walls containing crevices, ledges, or caves; and
- High percentage of ground litter or debris.

Spotted owl restricted habitat is defined in the 1995 species recovery plan as mixed-conifer and pine-oak found on steep slopes that have been treated within the past 20 years and riparian forests. Restricted habitat is also mixed-conifer and pine-oak not found on steep slopes. These areas are typically not protected as strictly as protected habitat areas, but specific guidelines for management activities exist. Protected habitat for Mexican spotted owls includes all PACs and all areas in mixed-conifer and pine-oak types with slope greater than 40 percent where timber harvest has not occurred in the past 20 years.

Potential Habitat and Effects

The project area is within mapped critical habitat for the spotted owl; however, the Service did not designate critical habitat on state, private, and military lands (69 FR 53182). It is unknown if any PACs overlap the project area. The project area contains moderate-density mixed-conifer forest on the northeast-facing hillside in a wide canyon. No flows were present in the drainages during the 2022 site visit. Primary threats to spotted owl populations include habitat loss and fragmentation and human-caused disturbances such as timber management practices.

The project area does not provide the conditions preferred by Mexican spotted owls and was determined to not provide suitable nesting and roosting habitat due to dry conditions, a moderately open tree canopy, and a lack of rocky cliffs. Furthermore, the northeastern portion of the project area, where the majority of project activities would occur, provides less desirable conditions for Mexican spotted owls because of the existing human development and because topographically the area is flatter with more open canopy cover. Based on a review of aerial imagery of the site in Google Earth and the U.S. Geological Survey Cascade topographic quadrangle map, preferable conditions that could be potential nesting and roosting habitat for Mexican spotted owls appear to occur approximately 0.6 to 1 mile away to the south and southwest along Severy Creek and Cascade Creek, which would not be impacted by the proposed project.

Recommendations

For the reasons discussed above, ERO determined that Mexican spotted owl is highly unlikely to roost or nest in the project area; however, since the area is mapped as critical habitat and abuts U.S. Forest Service land, ERO recommends submitting a Habitat Assessment Letter to the Service requesting concurrence that the project area is not habitat, and the proposed project would not adversely affect the continued existence of Mexican spotted owl. If the project would involve federal permitting, licensing, or funding, such as a Section 404 CWA permit, then additional consultation with the Service may be required.

State Threatened and Endangered Species and Species of Special Concern

During the 2022 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 the SWAP; however, there is potential habitat or documented occurrences within 1 mile of the project area for seven 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[1]
Mammals			
Canada lynx	*Lynx canadensis*	Climax boreal forest with a dense understory of thickets and windfalls	SE
Fringed myotis	*Myotis thysanodes*	Woodlands, caves, and in or under buildings and bridges in urban areas	Tier 1
Little brown myotis	*Myotis lucifugus*	Woodlands, caves, and in or under buildings and bridges in urban areas	Tier 1
Birds			
Brown-capped rosy finch	*Leucosticte australis*	Rocky summits, snowfields, and alpine cirques; winters in open country at lower and mid elevations	Tier 1
Golden eagle	*Aquila chrysaetos*	Open mountains, foothills, plains, deserts, and open country	Tier 1
Western burrowing owl	*Athene cunicularia*	Rangeland and shortgrass prairie with prairie dogs	ST
Reptiles and Amphibians			
Northern leopard frog	*Lithobates pipiens*	Wet meadows and shallows of marshes, ponds, lakes, reservoirs, streams, and irrigation ditches up to 11,000 feet in elevation	SC

[1] SE = Endangered Species, ST = Threatened Species, SC = Species of Special Concern.
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.

The brown-capped rosy finch is found in barren, rocky, or grassy areas and cliffs among glaciers or beyond timberline. In migration and winter, it is also found in fields, cultivated lands, and brushy areas and around human habitation (American Ornithologists' Union 1983). The project area does not contain any potential breeding habitat for brown-capped rosy finches; however, it is possible that brown-capped rosy finches sporadically forage in the project area in winter.

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.; Andrews and Righter 1992). CPW has a recommended buffer of ⅛ 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 2022 site visit. Furthermore, for the reasons discussed above, it is unlikely that the fringed myotis, little brown myotis, brown-capped rosy finch, 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 Canada lynx, golden eagle, and northern leopard frog, these species are discussed in more detail below.

Canada Lynx

Species Background

The Canada lynx was federally listed as threatened on March 24, 2000 (FR 65 16052). It is considered Critically Imperiled in the state of Colorado (NatureServe 2022), and Colorado is thought to be the southernmost distribution of the lynx (Armstrong, Fitzgerald, and Meaney 2011). Lynx habitat generally is described as climax boreal forest with a dense understory of thickets and windfalls (DeStefano 1987). In the western United States, most lynx occurrences are associated with Rocky Mountain Conifer Forest and fall between 4,920 and 6,560 feet (McKelvey, Aubry, and Ortega 2000). Subalpine forest habitat is dominated by subalpine fir and Engelmann spruce, while the upper montane forest supports lodgepole pine and aspen. Lower-elevation montane forests of ponderosa pine, Douglas fir, and riparian corridors provide connective habitat that may facilitate dispersal and movement between primary habitats and provide additional foraging opportunities (Interagency Lynx Biology Team 2013). Lynx habitat in Colorado is fragmented naturally by elevation, dry south and west exposures, alpine tundra, open valleys, and shrubland (McKelvey, Aubry, and Ortega 2000).

Travel corridors are thought to be an important factor in lynx habitat because of their large home ranges (Brittell 1989). Landscape connectivity for lynx movement may include forested mountain ridges, wooded riparian drainages, and lower-elevation forests and shrub habitat. Travel corridors are usually forested and include contiguous vegetation cover over 6 feet in height (Brittell 1989). Lynx travel along the edges of meadows but generally do not cross openings wider than 300 feet (Aubry, Koehler, and Squires 1999).

Lynx research by CPW describes the lynx habitat based on aerial tracking data from 1999 to 2008 (Shenk 2009). The most common cover type used by lynx was Engelmann spruce/subalpine fir, followed by subalpine fir and aspen as the second most common cover type, and various riparian habitats as the third most common cover type (Shenk 2009).

Potential Habitat and Possible Effects

According to the Service, the project area is not within the identified range of the lynx (Service 2022). Although not considered within lynx range by the Service, the far west portion of the project area is mapped within predictive summer and winter range for the lynx (NDIS 2021). Denning sites are generally at higher elevations, and a lack of human disturbance is an important component of denning habitat. Due to the presence of residential properties and the Pikes Peak Highway and other human disturbances in the project area, den sites are unlikely to occur in the project area. Indirect impacts could occur on potential foraging areas and travel corridors, but this disturbance would not be significant given the small size of the project area compared to large areas of surrounding, higher-quality habitat.

Recommendations

The proposed project would not likely adversely affect the Canada lynx because the majority of the project area is outside of its potential known and predictive habitat range; therefore, no further action is necessary regarding this species. However, to discourage conflicts between future residents and wildlife, ERO recommends educating residents on wildlife interactions and providing residents 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.

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 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, Great Basin, and 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 2 miles away from the project area to the northeast (CPW 2021a). One golden eagle was observed soaring over the project area from the west to the northeast during the 2022 site visit; however, 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

Drainage 1 may provide low-quality habitat for the northern leopard frog. No leopard frogs were observed during the 2022 site visit. Northern leopard frogs have been observed within 1 mile of the project area (CNHP 2022).

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, 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 (CPW 2021b). ERO reviewed data from CPW map databases and determined that no HPH areas overlap with the project area (CPW 2021b). 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 2022 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, Meaney, and Armstrong 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, Meaney, and Armstrong 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, Meaney, and Armstrong 1998) Elk 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, Meaney, and Armstrong 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, Meaney, and Armstrong 1998).

Potential Habitat and Possible Effects

The entire project area is located within the overall range for elk in Colorado, and elk may occasionally forage in the project 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 2021b). An elk production area is mapped 1 mile west of the project area, and elk winter range has been mapped 0.5 mile northwest of the project area on the north side of U.S. Highway 24 (NDIS 2021). No elk migration corridors have been identified by CPW (NDIS 2021) in or near the project area, and no elk were observed during the 2022 site visit.

Recommendations

Because no HPH for elk occurs in the project area, no action is necessary. Similar to the recommendation in the Canada lynx 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.

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 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 browse from trees and shrubs, forbs, and grasses.

Potential Habitat and Possible Effects

The majority of the project area is within mule deer overall range and resident population area, and a mule deer concentration area is located adjacent to the project area; however, there is no HPH for this species in the project area (NDIS 2021; CPW 2021b). A herd of five mule deer were observed feeding and resting in the project area during the 2022 site visit, 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 Canada lynx and elk 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.

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 2022 site visit, including black-billed magpies (*Pica hudsonia*), black-capped chickadee (*Poecile atricapilla*), white-breasted nuthatch (*Sitta carolinensis*), and dark-eyed junco (*Junco hyemalis*). 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 2022 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 (Colorado Department of Transportation 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 one 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.), deer mice, and voles. As described above, American red squirrels are present in the project area and provide a food source for predators. 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*), striped skunks (*Mephitis mephitis*), 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 (NDIS 2021). In addition, the project area is included in a black bear/human conflict area and a mountain lion/human conflict area (NDIS 2021), and ERO found multiple piles of bear scat during the 2022 site visit. 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.

Post-construction Habitat Recommendations

Wetland and Riparian Communities

ERO recommends that conservation design techniques be utilized for future development along the drainage corridor and that revegetation and erosion control be conducted along the drainages to stabilize areas where erosion is occurring. 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.

Spruce-Fir Communities

To maintain spruce-fir communities and associated wildlife, native seed should be planted in areas temporarily disturbed by construction. Due to the heavily wooded nature of the project area, residents should be educated in wildfire mitigation strategies such as regularly raking needles and removing trees close to homes.

ERO recommends preserving larger-diameter Douglas firs and Engelmann spruces to the greatest extent feasible to maintain habitat for the large number of 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, particularly in the southern portion of the project area, which would remain relatively unimpacted by the subdivision project. 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 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:

- If trails would be included in the subdivision plan, they should be designed and installed to encourage human use in appropriate areas and discourage use in sensitive wildlife areas. Such trails should not be placed within the bottoms of drainages, and buffers should be established to avoid impacts on wildlife movement areas.
- Preserve, to the greatest extent feasible, the wetland, riparian, and spruce-fir communities, which provide valuable forage and cover for many wildlife species, including elk and mule deer.
- Where feasible and applicable, implement wildlife-friendly road crossings.
- Conduct surveys prior to construction of the development to avoid the inadvertent take of raptor or migratory bird nests, which are protected under federal and state laws. No active nests were identified in the project area during the 2022 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 large 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, and cheatgrass (*Bromus tectorum*).
- 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 this plan.
- Educate residents on wildlife interactions. All wildlife, particularly big game, predators, and human commensal species such as raccoons, can cause nuisance problems in residential developments. Contact information and resources from CPW and El Paso County should be provided to residents that describe how to minimize conflicts and ways to enjoy the natural resources in the area. Residents should also be made aware that feeding wildlife, with the exception of birds, is against state law.
- 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:

- Place signs along roads and trails near open space areas to remind trail users to respect wildlife and their habitat.
- 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 space areas.

Conclusions

The existing vegetation communities and topographical features in the project area provide contiguous habitat, water resources, and core wildlife values such as cover and forage for various wildlife species. In particular, the drainage corridors along Drainages 1 and 2 contribute to the overall diversity of the project area and provide wildlife movement passageways that help maintain connections between wildlife populations. Preservation of the drainages would help maintain and conserve the high and moderate wildlife values of the project area. Additionally, conserving larger contiguous parcels and

concentrating building envelopes would provide a greater value to wildlife than numerous smaller parcels.

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

APPENDIX A
LIST OF PREVALENT PLANT SPECIES OBSERVED IN THE PROJECT AREA

Scientific Name	Common Name
Acer glabrum	Rocky Mountain maple
Agropyron cristatum	Crested wheatgrass
Alnus incana	Thinleaf alder
Arctostaphylos uva-ursi	Bear berry
Bouteloua gracilis	Blue grama
Bromus inermis	Smooth brome
Cercocarpus montanus	Mountain mahogany
Cirsium arvense	Canada thistle
Hesperostipa comata	Needle-and-thread grass
Picea engelmannii	Engelmann spruce
Pinus ponderosa	Ponderosa pine
Populus tremuloides	Quaking aspen
Pseudotsuga menziesii	Douglas fir
Quercus gambelii	Gambel oak
Rosa woodsii	Woods' rose
Ribes aureum	Golden currant
Rubus occidentalis	Wild raspberry
Symphoricarpos occidentalis	Snowberry
Verbascum thapsus	Common mullein

Source: U.S. Department of Agriculture, Natural Resources Conservation Service (2021).

Appendix B Wildlife Potentially Found in the Project Area

APPENDIX B
WILDLIFE POTENTIALLY FOUND IN THE PROJECT AREA

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

Appendix C Photo Log

Photo 1 - Overview of the project area generally sloping from southwest to northwest with the steepest slopes to the south. View is to the southwest.

Photo 2 - Overview of the spruce-fir forest vegetation community in the project area. View is to the northeast.

Photo 3 - Moderate density spruce-fir forest in the project area. View is to the southwest.

Photo 4 - Mule deer in the spruce-fir forest in the project area. View is to the south.

Photo 5 - Moderate wildlife habitat value area intermixed in the project area near existing residential properties. View is to the northwest.

Photo 6 - Narrow corridor of low-quality habitat along a trail where nonnative weedy upland species have taken over. View is to the east.

Photo 7 - Overview of the upstream end of Drainage 1, which lacks a defined channel. View is to the southwest.

Photo 8 - Overview of Drainage 1 with an intermittent channel bed and bank. View is to the northeast.

Photo 9 - Overview of the upstream end of Drainage 2 consisting of an upland vegetated swale. View is to the east.

Photo 10 - Overview of Drainage 2 with intermittent sediment deposition. View is to the southwest.