



Consultants in Natural Resources and the Environment

Natural Resource Report Hodgen and Highway 83 Property El Paso County, Colorado

Prepared for—

Carl Turse
17572 Colonial Park Drive
Monument, Colorado 80132-2209

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188

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Executive Summary

Carl Turse retained ERO Resources Corporation (ERO) to provide a natural resource report for the subdivision development at Hodgen Road and Colorado Highway 83 in El Paso County, Colorado (project area; Figure 1). ERO assessed the project area for potential wetlands and waters of the U.S., federally listed threatened and endangered species, state-listed species, migratory birds, and other wildlife. Following is a summary of the resources found at the project area and recommendations or future actions necessary based on the current site conditions and regulations.

The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied upon for the specific use for which it was prepared by ERO under contract to Carl Turse. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which ERO was contracted.

Wetlands and Other Waters of the U.S.—One pond and two upland vegetated swales occurs in the project area. *ERO recommends consultation with the U.S. Army Corps of Engineers for a jurisdictional determination of the pond prior to work being conducted in the project area.*

Federally Threatened and Endangered Species—The project area does not contain habitat for any species on the federal threatened and endangered species list.

State Threatened and Endangered Species—The project area is within the range of the black-tailed prairie dog, swift fox, ferruginous hawk, mountain plover, and western burrowing owl. No individuals or habitat was observed for any of the five listed species during the 2017 site visit.

Migratory Birds—During the 2017 site visit, ERO observed no raptor or songbird nests in the project area. However, the grasslands in the project area potentially provide nesting habitat for many species of ground-nesting migratory birds. ERO recommends a nest survey prior to construction as described below:

Both the Denver Field Office of the U.S. Fish and Wildlife Service (2009) and Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring between April 1 and mid to late August. However, some birds, such as bald eagles, red-tailed hawks, and great horned owls, can occupy nests as early as December. Because of variability in breeding seasons of various bird species, *ERO recommends, at a minimum, a nest survey be conducted **one week prior** to construction to determine if any active nests are present in the project area so they can be avoided.* If active nests are found, any work that would destroy the nests cannot be conducted until the birds have vacated the nests.

Natural Resource Report

Hodgen and Highway 83 Property

El Paso County, Colorado

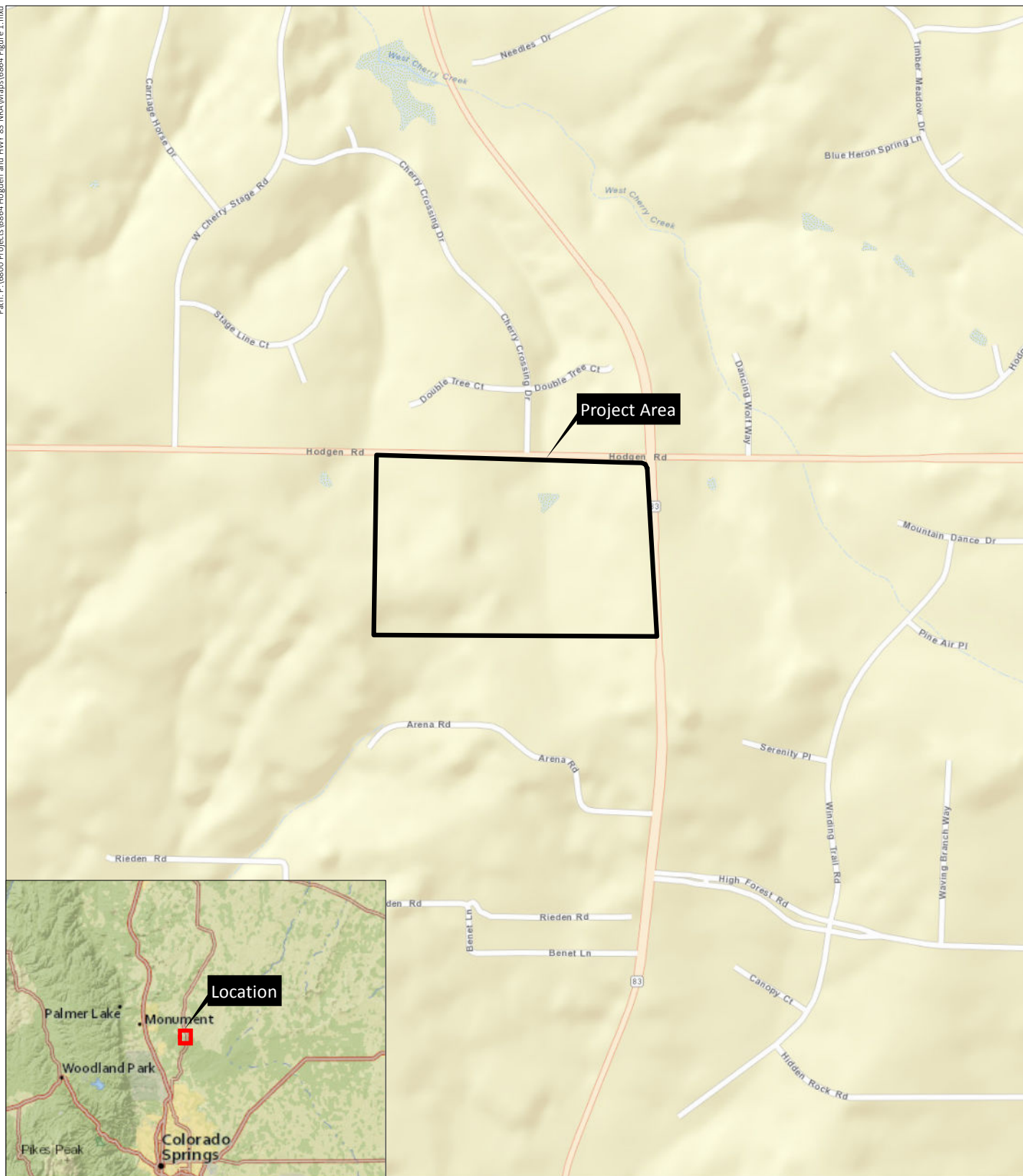
Introduction

Carl Turse retained ERO Resources Corporation (ERO) to provide a natural resource report for the proposed subdivision development at Hodgen Road and Colorado Highway 83 in El Paso County, Colorado (project area; Figure 1). On May 5, 2017, Matthew Boyer with ERO visited the project area to review potential natural resources (2017 site visit). During this assessment, activities included a review of potential wetlands and waters of the U.S., federally listed threatened and endangered species, state-listed species, migratory birds, and other wildlife, and identification of other natural resources that might affect development of the property. This report provides information on existing site conditions and resources, as well as current regulatory requirements related to those resources. ERO assumes the landowner or project proponent is responsible for obtaining all federal, state, and local permits for construction of the project.

Project Area Description

The project area is in Section 27, Township 11 South, Range 66 West of the 6th Principal Meridian in El Paso County, Colorado. The UTM coordinates of the approximate center of the project area are 520312mE and 4324459mN, Zone 13N. The longitude/latitude of the project area is 104.765199°N/39.068998 °W. The approximate elevation of the project area is 7,550 feet above sea level. The proposed project area is immediately southeast of the Hodgen Road and Colorado Highway 83 intersection.

The project area encompasses approximately 57 acres, which consists primarily of introduced rangeland grasses and is used as an active horse pasture (Figure 2). The project area is bounded by residential properties to the south, west, and north and undeveloped land to the east. The project area contains six man-made structures consisting of one barn, one residence, and four storage buildings; fencing along a driveway to the residence; and automobiles parked near the existing structures. One pond, which appears to be isolated, and two upland vegetated swales occur on the project area. The uplands in the project area are dominated by slender wheatgrass (*Elymus trachycaulus*), smooth brome (*Bromus inermis*), blue grama (*Boutelous gracilis*), sand dropseed (*Sporobolus cryptandrus*), and cheatgrass (*Bromus tectorum*) (Photos 1 and 2). The tree strata are confined to the southwest portion of the project area and are dominated by ponderosa pine (*Pinus ponderosa*). The project area is generally within the Rangeland Grass and Conifer Forest vegetation zones (mapped by the Natural Diversity Information Source (NDIS)) associated with the Palmer Divide of Northern El Paso and Southern Douglas Counties. The project area primarily supports shortgrass prairie vegetation and wildlife communities.



Hodgen and Highway 83 NRA

Section 27, T11S, R66W; 6th PM

UTM NAD 83: Zone 13N; 520312mE, 4324459mN

Longitude 104.765199°W, Latitude 39.068998°N

USGS Monument, CO Quadrangle

El Paso County, Colorado

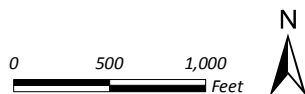


Figure 1
Vicinity Map

Prepared for: Carl Turse
File: 6864 Figure 1 (WH)
May 11, 2017

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Hodgen and Highway 83 NRA




-  Ephemeral Depression
-  Upland Vegetated Swale
-  Project Area

Image Source: USDA NAIP, 2015



Figure 2 Site Description

Prepared for: Carl Turse
File: 6864 Figure 2.mxd (WH)
May 11, 2017

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Wetlands and Waters of the U.S.

Background

The Clean Water Act (CWA) protects the physical, biological, and chemical 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. The Corps defines waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

On May 31, 2016, the U.S. Supreme Court concluded that approved jurisdictional determinations are judicially reviewable under the Administrative Procedure Act and, therefore, can be appealed in court. The Corps has recommended that requests for both approved and preliminary jurisdictional determinations be done using guidance outlined in Regulatory Guidance Letter (RGL) 16-01 and that the form in Appendix 1 of the RGL be completed (Corps 2016). The Corps has indicated that jurisdictional determinations associated with a Section 404 CWA Permit request will preside over stand-alone jurisdictional determination requests. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps makes the final determination.

Project Area Conditions

ERO assessed the project area for potential isolated wetlands, jurisdictional wetlands, and other waters of the U.S. The wetlands were assessed based on vegetation characteristics and observable hydrological conditions. No formal wetland delineation was completed.

One pond and two upland vegetated swales were observed in the project area during the 2017 site visit (Photos 3 and 4). The southern upland vegetated swale flows into the pond and the northern upland vegetated swale is adjacent to a culvert that flows under Hodgen Road. The pond is shown on the U.S. Geological Survey Monument, Colorado topographic quadrangle or National Hydrography Dataset as occurring within the project area. The pond is located near the center of the project area (Photo 3). The pond was dry during the 2017 site visit and appears to be isolated, with the banks vegetated with upland plant species. Although the pond lacks some of the typical criteria to be considered jurisdictional, ERO recommends consultation with the Corps for a jurisdictional determination prior to work occurring within the pond's ordinary high water mark. Because the pond is within the Cherry Creek Basin and South Platte River watershed, any consultation with the Corps will be with the Tri-Lakes Projects Office in Littleton, Colorado.

Threatened, Endangered, and Candidate Species

During the 2017 site visit, ERO assessed the project area for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the ESA. 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. The Service lists several threatened and endangered species with potential habitat in El Paso County, or that would be potentially affected by projects in El Paso County (Table 1).

Table 1. Federally threatened, endangered, and candidate species potentially found in El Paso County or potentially affected by projects in El Paso County.

Common Name	Scientific Name	Status *	Habitat	Suitable Habitat Present
Mammals				
Canada lynx	<i>Lynx canadensis</i>	T	Boreal and subalpine montane forests	No habitat
Preble's meadow jumping mouse (Preble's)	<i>Zapus hudsonius preblei</i>	T	Shrub riparian/wet meadows	No habitat
Birds				
Interior least tern**	<i>Sterna antillarum athalassos</i>	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	No habitat, no depletions anticipated
Mexican spotted owl	<i>Strix occidentalis</i>	T	Closed-canopy forests in steep canyons	No habitat
Piping plover**	<i>Charadrius melodus</i>	T	Sandy lakeshore beaches and river sandbars	No habitat, no depletions anticipated
Whooping crane**	<i>Grus americana</i>	E	Mudflats around reservoirs and in agricultural areas	No habitat, no depletions anticipated
Fish				
Greenback cutthroat trout	<i>Onocorhynchus clarki stomias</i>	T	Flowing cold water stream systems with cobble and rock substrates	No habitat
Pallid sturgeon**	<i>Scaphirhynchus albus</i>	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat, no depletions anticipated
Plants				
Ute ladies'-tresses orchid (ULTO)	<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 habitat
Western prairie fringed orchid (WPFO)**	<i>Platanthera praeclara</i>	T	Mesic and wet prairies, sedge meadows	No habitat, no depletions anticipated

*T = Federally Threatened Species; E = Federally Endangered Species.

**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 2017.

The project area does not contain suitable forested habitat for the Canada lynx and Mexican spotted owl. The proposed project would have no effect on the interior least tern, piping plover, whooping crane, greenback cutthroat trout, or pallid sturgeon because of the lack of potential habitat in the project area. Additionally, the project area lacks adequate riparian or wetland habitat for Preble's, ULTO, or WPFO.

The interior least tern, piping plover, whooping crane, pallid sturgeon, and WPFO are species that are potentially affected by water depletions from the Platte River system (including the South Platte River). Projects that include activities that result in water depletions from the Platte River system, such as diverting water from a stream for domestic use, could affect these species and typically require consultation with the Service. At the present time, no depletions in the project area are anticipated.

State Threatened, Endangered, and Species of Special Concern

ERO assessed the project area for potential habitat for threatened, endangered, and species of special concern protected under State Statute 33. Although State Statute 33 prohibits the take, possession, and sale of a state-listed species, it does not include protection of their habitat. The state lists several threatened, endangered, and species of special concern that are known to occur or have the potential to occur in El Paso County and are presented in Table 2.

Table 2. State threatened, endangered, and species of concern potentially found in El Paso County or potentially affected by projects in El Paso County.

Common Name	Scientific Name	Status*	General Colorado Range	Suitable Habitat Present
Mammals				
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	SC	Eastern plains/urban	Yes – Within the range of the species, but no prairie dogs or burrows present
Swift fox	<i>Vulpes velox</i>	SC	Eastern Colorado	Yes
Birds				
American peregrine falcon	<i>Falco peregrinus anatum</i>	SC	Open spaces associated with high cliffs and bluffs overlooking rivers and coasts	No
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC	Open water and rivers; large trees for nesting and roosting	No
Ferruginous hawk	<i>Buteo regalis</i>	SC	Northwestern and eastern Colorado; open grasslands and shrub steppe communities	Yes
Greater sandhill crane	<i>Grus canadensis tabida</i>	SC	Eastern Colorado; Grand Valley	No
Long-billed curlew	<i>Numenius americanus</i>	SC	Southeastern Colorado	No
Mountain plover	<i>Charadrius montanus</i>	SC	Shortgrass in eastern plains and mountain valleys	Yes
Western burrowing owl	<i>Athene cunicularia</i>	ST	Grasslands, shrublands, and deserts with ground squirrels	Yes
Western snowy plover	<i>Charadrius alexandrinus</i>	SC	Southeastern Colorado; South Park	No
Fish				
Brassy minnow	<i>Hybognathus hankinsoni</i>	ST	Cool, clear water with abundant aquatic vegetation and a gravel substrate overlaid by organic sediment	No

Common Name	Scientific Name	Status*	General Colorado Range	Suitable Habitat Present
Common shiner	<i>Luxilus cornutus</i>	ST	Moderate gradient streams with cool, clear, gravel-bottomed water with overhanging shade	No
Iowa darter	<i>Etheostoma exile</i>	SC	Cool, clear water over a sand or organic matter substrate; Poudre River; ponds	No
Plains minnow	<i>Hybognathus placitus</i>	SE	Mainstream channels of eastern plains rivers	No
Stonecat	<i>Noturus flavus</i>	SC	Fast water riffles and runs of streams; hide under rocks and woody debris; St. Vrain River	No
Suckermouth minnow	<i>Phenacobius mirabilis</i>	SE	Deeper habitats in river and tributary streams with low to moderate currents, preferably with gravel bottoms; South Platte River east of Fort Morgan	No
Amphibians and Reptiles				
Common garter snake	<i>Thamnophis sirtalis</i>	SC	Eastern base of the Front Range in wetlands and ponds	No
Northern leopard frog	<i>Rana pipiens</i>	SC	Eastern Colorado wetlands	No

*ST = Colorado Threatened Species, SE = Colorado Endangered Species, SC = Colorado Species of Special Concern.

Source: Colorado Parks and Wildlife (CPW) 2017.

Of the species listed in Table 2, the black-tailed prairie dog, swift fox, ferruginous hawk, mountain plover, and western burrowing owl have potential to occur in the project area. The American peregrine falcon, bald eagle, greater sandhill crane, long-billed curlew, and western snowy plover would not be affected by the proposed project because the project area is outside of the known range, habitat is not present, or potential habitat would not be impacted by the project and, therefore, these species are not discussed in the following sections. Because there is no wetland or aquatic habitat in the project area, there is no suitable habitat for the brassy minnow, common shiner, Iowa darter, Plains minnow, stonecat, suckermouth minnow, common garter snake, or northern leopard frog.

Black-Tailed Prairie Dog

Species Background

The black-tailed prairie dog is a Colorado species of concern (CPW 2017). Black-tailed prairie dogs are important components of the short and mesic grasslands systems. Threats to this species include habitat loss and degradation, habitat fragmentation, disease (sylvatic plague), and lethal control activities. Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared with nonoccupied sites (Whicker and Detling 1988; Witmer et al. 2002).

Black-tailed prairie dogs are commonly considered a “keystone” species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species and have a large effect on community structure and ecosystem function (Power et al. 1996). Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter

for wildlife (Whicker and Detling 1988). Species such as black-footed ferret, burrowing owl, prairie rattlesnake, and mountain plover are closely linked to prairie dog burrow systems for food and/or cover. Prairie dogs also provide an important prey resource for numerous predators including American badger, coyote, red fox, bald eagle, golden eagle, ferruginous hawk, and other raptors. Prairie dogs also can denude the surface by clipping aboveground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958).

Potential Habitat and Possible Effects

Although habitat is present, no black-tailed prairie dog activity was observed during the 2017 site visit.

Recommendations

No further action or consultation is necessary.

Swift Fox

Species Background

The swift fox is a Colorado species of concern (CPW 2017). The distribution of swift fox includes the grasslands of the Great Plains including eastern Colorado (Fitzgerald et al. 1994). Den sites are usually located on sites dominated by native shortgrass prairie species such as blue grama and buffalo grass. Foxes are sometimes associated with prairie dog towns, although they generally excavate their own dens (Fitzgerald et al. 1994).

Potential Habitat and Possible Effects

No swift foxes or den sites were observed during the 2017 site visit. The project area is within the overall range of the swift fox (NDIS 2017a); however, due to past disturbance and agricultural activity, the project area generally lacks the habitat components necessary to support the swift fox.

Recommendations

No further action or consultation is necessary.

Ferruginous Hawk

Species Background

The ferruginous hawk is the largest hawk in North America and is a Colorado species of concern (CPW 2017). This species inhabits open prairie and desert habitats and is strongly associated with primary prey species such as ground squirrels and jackrabbits. Ferruginous hawks are relatively common winter residents in eastern Colorado, particularly in association with the black-tailed prairie dog (Preston and Beane 1996). This species has been known to breed in scattered locations in eastern Colorado, but not near the project area (Kingery 1998).

Potential Habitat and Possible Effects

No raptor or raptor nests were observed in the project area during the 2017 site visit.

Recommendations

No further action or consultation is necessary.

Mountain Plover

Species Background

The mountain plover is a Colorado species of concern (CPW 2017). In 2002, the Service proposed listing the mountain plover as a threatened species under the ESA, as well as a special rule exempting specific farming practices from ESA prohibitions. In 2003, the Service concluded that the threats to the mountain plover were not as significant as previously believed and withdrew the listing proposal. As part a settlement agreement, on June 29, 2010, the Service reinstated their 2002 proposal to list the mountain plover as a threatened species under the ESA, without the agricultural exemption of farming practices. Presently, the mountain plover is not listed under the Endangered Species Act (Service 2017).

Potential Habitat and Possible Effects

No mountain plover or mountain plover habitat was observed during the 2017 site visit.

Recommendations

No further action or consultation is necessary.

Western Burrowing Owl

Species Background

The western burrowing owl (burrowing owl) is a small migrant owl listed by the State of Colorado as a threatened species (CPW 2017) and is federally protected under the Migratory Bird Treaty Act (MBTA). Primary threats to the burrowing owl include habitat loss and fragmentation, anthropogenic sources of mortality (e.g., vehicular collisions), and loss of wintering grounds, largely in Mexico.

In general, burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground. In Colorado, burrowing owls are usually associated with black-tailed prairie dog colonies (Jones 2016; Andrews and Righter 1992). More than 70 percent of sightings reported by Colorado Breeding Bird Atlasers were in prairie dog colonies (Jones 2016).

Burrowing owls usually arrive on their breeding grounds about mid-March to early April and remain until September. Burrowing owls are present in Colorado between March 15 and October 31, with breeding from mid-April to early/mid-August (Andrews and Righter 1992; Jones 2016). CPW suggests conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning or construction projects from March 15 through October 31 (Colorado Division of Wildlife (CDOW) 2008).

Potential Habitat and Possible Effects

No burrowing owls or prairie dog burrows were observed in the project area during the 2017 site visit.

Recommendations

No further action or consultation is necessary.

Migratory Birds

Background

Migratory birds, as well as their eggs and nests, are protected under the MBTA. 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 (Service 2003). The regulatory definition of a take means 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 may take a significant amount of time. In addition, CPW has recommended buffers for nesting raptors, depending on the species (generally $\frac{1}{3}$ or $\frac{1}{4}$ mile) (CDOW 2008). The best way to comply with the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. Public awareness of the MBTA has grown in recent years, and most MBTA enforcement actions are the result of a concerned member of the community reporting noncompliance.

Potential Habitat and Possible Effects

During the 2017 site visit, pygmy nuthatch (*Sitta pygmaea*), field sparrow (*Spizella pusilla*), black capped chickadee (*Poecile atricapillus*), and eastern meadowlark (*Sturnella magna*) were observed in the project area. No raptor or songbird nests were observed in the tree or shrub layers in the project area. 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 and red-tailed hawks.

Recommendations

ERO recommends vegetation removal outside of the breeding season (typically September through February). Both the Denver Field Office of the Service (2009) and the Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring between April 1 and mid to late August. However, a few species such as the bald eagle, great horned owl, and red-tailed hawk can nest as early as December (eagle) or late February (owl and red-tailed hawk). Because of variability in the breeding seasons of various bird species, ERO recommends that a nest survey be conducted at least one week prior to construction to determine if any active nests are present in the project area so they can be avoided. Additional nest surveys during the nesting season may be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

Nest removal may occur during the nonbreeding season to discourage future nesting and avoid violations of the MBTA. No permit or approval is necessary for removing nests during the nonbreeding season; however, nests must be destroyed and 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 within one week prior to vegetation removal to determine if the nest is active and by which species. If active nests are found, any work that would destroy the nests could not be conducted until the birds have vacated the nests.

Big Game

The project area is shown to be within the mule deer, pronghorn, and white-tailed deer overall ranges (NDIS 2017b). The proposed project would not likely decrease the overall movement of these species within the project area and would not adversely affect these species. No action is necessary regarding big game species.

Other Wildlife

As with any human development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to development are likely to increase in abundance. Species likely to decline include some raptors and possibly coyotes. Species likely to increase include red fox, raccoon, and house mouse. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition to favor species that adapt better to human disturbance.

References

- Andrews, R.A. and R. Righter. 1992. Colorado Birds. Denver Museum of Natural History, Denver, CO.
- Colorado Department of Transportation. 2011. Work Sheet: 240pmbcdotb dated 02-03-11. <https://www.codot.gov/programs/environmental/wildlife/guidelines/Birdspecontractorsbio.pdf>/view. Last accessed December 16, 2016.
- Colorado Division of Wildlife (CDOW). 2008. Recommended buffer zones and seasonal restrictions for Colorado Raptor Nests. February.
- Colorado Natural Heritage Program (CNHP). 2013. CNHP Tracked Bird Species. <http://www.cnhp.colostate.edu/download/list/birds.asp>.
- Colorado Parks and Wildlife (CPW). 2017. Colorado listing of endangered, threatened and wildlife species of special concern. <http://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx>. Last accessed January 16, 2017.
- Dinsmore, S.J. 2003. Mountain Plover (*Charadrius montanus*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. <http://www.fs.fed.us/r2/projects/scp/assessments/mountainplover.pdf>.
- Dreitz, V.J. and F.L. Knopf. 2007. Mountain Plovers and the politics of research on private lands. *Bioscience* 57:681-687.

- Fitzgerald, J.P., C.A. Meaney, and D.M. Armstrong. 1994. Mammals of Colorado. University Press of Colorado and Denver Museum of Natural History.
- Jones, S.R. 2016. Colorado Breeding Bird Atlas. Colorado Breeding Bird Atlas Partnership and Colorado Parks and Wildlife.
- Kingery, H.E. (ed.). 1998. Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and Colorado Division of Wildlife, Denver.
- Knopf, F.L and M.B. Wunder. 2006. Mountain Plover (*Charadrius montanus*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/211>.
- Kuenning, R.R. and H.E. Kingery. 1998. Mountain Plover In Colorado Breeding Bird Atlas. (H.E. Kingery, Ed.), Colorado Breeding Bird Atlas Partnership and Colorado Division of Wildlife.
- Kuford, C.C. 1958. Prairie dogs, whitefaces, and blue grama. *Wildlife Monograph* 1–78.
- Natural Diversity Information Source (NDIS). 2017a. 2017 Swift Fox.kmz. <http://ndis.nrel.colostate.edu>. February 28.
- Natural Diversity Information Source (NDIS). 2017b. 2017 mule deer range.kmz, pronghorn range.kmz, and white-tailed deer range.kmz. <http://ndis.nrel.colostate.edu>. February 28.
- Power, M.E., D. Tilman, J.A. Estes, B.A. Menge, W.T. Bond, L.S. Mills, G. Daily, J.C. Castilla, J. Lutchonco, and R.T. Paine. 1996. Challenges in the Quest for Keystone Species. *BioScience* 46:609–620.
- Preston, C.R. and R.D. Beane. 1996. Occurrence and distribution of diurnal raptors in relation to human activity, and other factors at Rocky Mountain Arsenal, Colorado. D.M. Bird, D.F. Varland, and J.J. Negro. Raptors in Human Landscapes: adaptations to built and cultivated environments. Pp. 365-374.
- U.S. Army Corps of Engineers (Corps). 2016. Regulatory Guidance Letter 16-01. http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl_6-01_app1-2.pdf?ver=2016-11-01-091706-840. Last accessed December 21, 2016.
- U.S. Fish and Wildlife Service (Service). 2003. Migratory Bird Permit Memorandum. April 15.
- U.S. Fish and Wildlife Service (Service). 2009. Personal communication between Pete Plage (U.S. Fish and Wildlife Service) and ERO Resources Corporation.
- U.S. Fish and Wildlife Service (Service). 2017. Information for Planning and Conservation (IPaC). <https://ecos.fws.gov/ipac/>. Last accessed December 16, 2016.
- Whicker, A.D. and J.K. Detling. 1988. Ecological consequences of prairie dog disturbances. *BioScience* 38:778–785.
- Witmer, G.W., K.C. VerCauteren, K.M. Mancini, and D.M. Dees. 2002. Urban-suburban prairie dog management opportunities and challenges. Proceedings of 19th Vertebrate Pest Conference. 19:439–444.

HODGEN AND HIGHWAY 83 PROPERTY
EL PASO COUNTY, COLORADO
MAY 5, 2017



Photo 1 - Overview of uplands in the project area. View to the southwest.



Photo 2 - Overview of uplands in the project area. View to the northwest.

HODGEN AND HIGHWAY 83 PROPERTY
EL PASO COUNTY, COLORADO
MAY 5, 2017



Photo 3 - Dry pond bed near the center of the project area. View to the northwest.



Photo 4 - Culvert adjacent to the northern upland vegetated swales. View to the north.