

Sanctuary of Peace PUD

NATURAL FEATURES AND WILDLIFE REPORT

December 20, 2018

The site is located in a mature Ponderosa Pine stand of the Black Forest. The site consists of ridge and swale topography with slope heights of less than about 20 feet. Two well established drainages were found running to the south through the site. Alluvium present in these drainages suggest a fair volume of water may flow during seasonal precipitation events. Primary geologic deposits are the Dawson Formation, which is overlain by sand and gravel of variable thickness. The Dawson is known for its tendency for easy erosion; however, no evidence of active erosion was observed.

Site is approximately 90 % vegetated, consisting primarily of Ponderosa Pine, Scrub Oak, Mountain Mahogany, and other species common to the region. The property does not contain any waterway or riparian areas

The site has a moderately dense tree cover and is underlain by poorly permeable soils. Thus, a Higher-Level Treatment (HLT) System, followed by Drip Dispersal, is proposed.

Site topography is highly variable with slopes ranging from 5 - 40%. Development will be limited to those areas of less than 30% slope.

The project area was assessed 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. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report.

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—No raptor or songbird nests are observed in the project area. However, the grasslands in the project area potentially provide nesting habitat for many species of ground nesting migratory birds. A nest survey prior to construction is recommended, 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, 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.

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 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: 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).

Swift Fox: 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).

No swift foxes or den sites were observed. 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.

Ferruginous Hawk: 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). No hawks or hawk nests were observed in the project area.

Mountain Plover: 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). No mountain plover or mountain plover habitat was observed.

Western Burrowing Owl: 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). No burrowing owls or prairie dog burrows were observed in the project area.

Migratory Birds: Migratory birds, as well as their eggs and nests, are protected under the Migratory Bird Permit Memorandum (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, Colorado Parks and Wildlife (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.

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.

Vegetation should be removed 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, 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/Birdspecccontractorsbio.pdf> viewed. 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. 365374.

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=2016-11-01091706-840. 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). 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.