NATURAL FEATURES AND WETLANDS REPORT

for

Flying Horse East Phase 1
El Paso County, CO

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1.0 INTRODUCTION

Flying Horse Land Company, LLC ("Applicant") has retained Bristlecone Ecology, LLC ("B.E." or "Agent") to perform a habitat and wetland assessment and prepare a Natural Features and Wetlands Report for the proposed Flying Horse East Phase 1 development project ("Project") located in unincorporated El Paso County (EPC), Colorado. Contact information for both Applicant and Agent is provided below:

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1.1. Purpose and Goals

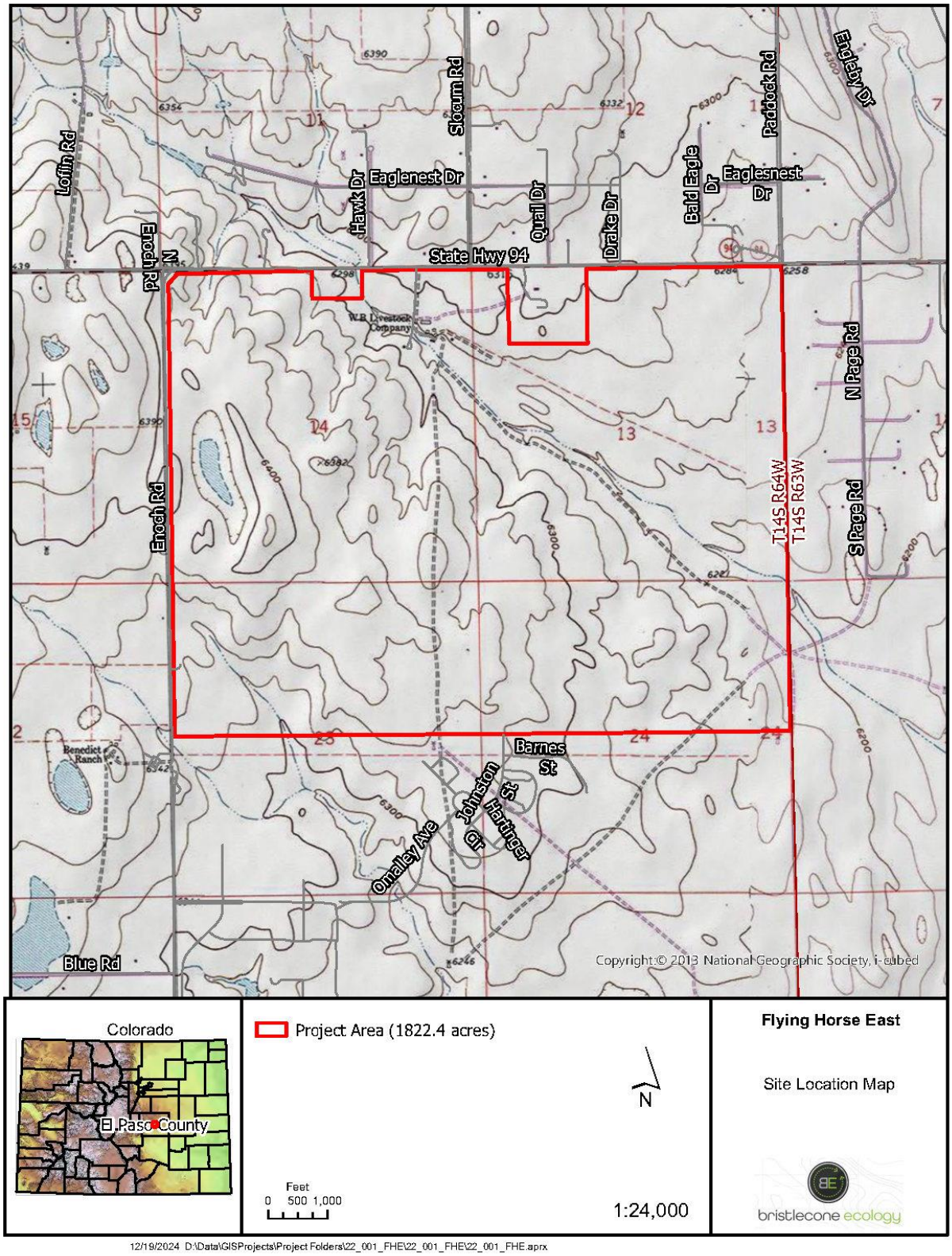
The purpose of this Natural Features and Wetlands Report is to document natural resources and existing site conditions in order to identify potential environmental constraints that may affect the development of the Project. In addition, a goal of this report is to provide guidance on regulatory issues that could influence site development in accordance with development planning and application submittals in EPC. Environmental resources and constraints addressed include:

- Vegetation
- Soils
- Aquatic Resources/Wetlands/Waters of the U.S. (WOTUS)
- Noxious Weeds
- Wildfire Hazard
- Flood Hazard
- Wildlife Impacts
- Federal and State Listed Threatened and Endangered (T&E) Species

1.2. Project Description and Site Location

The Project will involve the development of residential, commercial, and institutional properties on approximately 1,822 acres within El Paso County Parcels No. 4400000438, No. 4400000374, and No. 4400000360. The Project Area is located south of State Highway 94, east of Enoch Road, north of Schriever Space Force Base (SFB), and west of Page Road. It is bounded by open space and rural residential housing development on three sides, and the SFB immediately to the south (**Figure 1**: *Site Location Map*). The Project will consist of both commercial and residential lots, parks, open space tracts, a school, a hotel, stormwater detention facilities, local roads, utilities, and other associated facilities and infrastructure. Planning is conceptual, involving anywhere from 2,468 to 5,227 residential units, along with 631 additional acres of non-residential development. The site is located on portions of Sections 13, 14, 23, and 24 in Township 14 South, Range 64 West. The site can be found on the U.S. Geological Survey's (USGS) Corral Bluffs and Ellicott 7.5-minute quadrangles (USGS 2020). The topography of the Project consists of rolling foothills grasslands.

Figure 1: Site Location Map



2.0 METHODOLOGY

B.E. first performed a desktop review to gather background information about the environmental setting of the Project area. Publicly available data sources queried via desktop included:

- U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) data
- USFWS Critical Habitat Portal
- Species profiles and spatial data from Colorado Parks and Wildlife (CPW)
- USFWS National Wetland Inventory (NWI) data
- USGS National Hydrography Dataset (NHD)
- USGS aerial imagery
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panels
- Google Earth current and historic aerial imagery
- Colorado State Forest Service (CSFS) Wildfire Hazard Maps
- National Resources Conservation Service (NRCS) county soil survey data
- Colorado Natural Heritage Program (CNHP) Survey of Critical Biological Resources
- El Paso County (EPC) Noxious Weed Guidance

Following the desktop review of these resources, a site reconnaissance was conducted on October 29th, 2024, to field-verify the results of the review and identify potential impacts to resources and constraints to development. The reconnaissance focused on identifying and mapping aquatic features and potential WOTUS, on classifying vegetation communities on the site, noting the presence of any noxious weeds, and on identifying suitable wildlife habitat, particularly that which could support T&E and sensitive species.

3.0 ENVIRONMENTAL SETTING

The Project area is located within the Foothill Grasslands Level IV ecoregion in Colorado (Chapman et al. 2006). The Foothill Grasslands Ecoregion is composed of a mixture of mid- and shortgrass prairies, with isolated tallgrass prairie species and scattered pine woodlands (Chapman *et al.* 2006). Typical plant species within the Foothill Grasslands include ponderosa pine (*Pinus ponderosa*), Gambel oak (*Quercus gambelii*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), needle-and-thread (*Hesperostipa comata*), slender wheatgrass (*Elymus trachycaulus*), switchgrass (*Panicum virgatum*), and yellow Indiangrass (*Sorghastrum nutans*) among others (Chapman *et al.* 2006). The topography of the Project consists mainly of rolling grasslands with the occasional large swale. The site is surrounded by rangeland and scattered rural residential development on three sides and the Schriever SFB to the south.

Elevations of the Project site range between approximately 6,300 and 6,500 feet above mean sea level (AMSL). The Project site contains no Conservation Areas or Potential Conservation Areas according to the CNHP (2022), and, according to the USFWS' Information for Planning and Consultation (IPaC; 2022), does not contain Wildlife Refuges or Hatcheries. The area has been used historically as rangeland.

2.1. Vegetation

Vegetation typical of grasslands within the Foothill Grasslands ecoregion predominates within the site. Blue grama (*Bouteloua gracilis*), mountain muhly (*Muhlenbergia montana*), fringed sage (*Artemisia frigida*), yellow Indiangrass, little bluestem, and hairy false goldenaster (*Heterotheca villosa*) predominate. Other common upland plant species observed were plains pricklypear cactus (*Opuntia polyacantha*), soapweed yucca (*Yucca glauca*), slender wheatgrass (Elymus *trachycaulus*), white sagebrush (*Artemisia ludoviciana*), and needle-and-thread grass, among others. There is very little riparian or mesic vegetation overall, and the wettest areas are near two ponds on the western side of the site. Much of the site appears to be lightly disturbed by regular cattle grazing, but vegetative cover is currently relatively extensive and healthy. Diversity is moderate for this ecoregion, and the structure of vegetation in the uplands is somewhat underdeveloped, with only minimal variation in vegetative structure throughout the property.

Few noxious weeds are present at the site, mostly scattered throughout the property in low densities. Weedy species observed included musk thistle (*Carduus nutans*) and Russian thistle (*Salsola tragus*). The most prominent noxious weed observed was musk thistle, a List B noxious weeds in El Paso County (EPC 2018a). Noxious weeds are discussed further in **Section 3.4**.

B.E. reviewed CNHP data for the Corral Bluff and Ellicott, Colorado 7.5-minute quadrangles, which summarizes vegetation communities in the state by USGS quadrangle. Data were reviewed to determine the probability of the presence/absence of significant natural communities, rare plant areas, or riparian corridors that may be within the Project area. Based on CNHP's data and the site reconnaissance, the probability of these plant communities being impacted by Project development is described below in **Table 1**: *Potentially Impacted vegetation Communities*.

Table 1. Potentially Impacted Vegetation Communities (CNHP 2022)

Plant Community (Type)	Status[1]	Presence and Location	Probability of Impacts
Pascopyrum smithii - Eleocharis spp. Wet Meadow	G1, S1	Stands of herbaceous vegetation in small, closed basin playas with fine-textured soils that impede drainage on the northern Great Plains.	None. This community is not present in the Project area.

[1]G=Global; S=State
1=Critically Imperiled; 2=Imperiled; 3=Rare or Uncommon; 4=Widespread, Abundant, and Apparently Secure; 5=Demonstrably Widespread, Abundant, and Secure; NR=Not Ranked

2.2. Soils

Soil survey data and reports were reviewed to determine the potential for the presence of geologic hazards within the Project (NRCS 2022a). County soil survey data indicate that the site is composed of Truckton sandy loam complex (49.1% of Project Area), Bresser sandy loam complex (30.8% of Project Area), Ascalon sandy loam complex (10.8% of Project Area), Truckton-Bresser complex (1.2% of Project Area), Blendon sandy loam complex (7.8% of Project Area), and Udic Haplusterts (0.4% of Project Area) (**Figure 2:** *NRCS SSURGO Soils Data*). These soils are the primary series occupying the Project area; there are also minor components (called "inclusions") within each series or consociation that could contribute to the overall soil composition at the site.

The NRCS provides information on soil properties that could influence the development of building sites for dwellings with and without basements, as well as small commercial buildings, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Qualitative soil ratings are assigned to each major soil group and include 'Not Limited', 'Somewhat Limited', and 'Very Limited'. 'Not Limited' indicates that the soil type has properties that are very favorable for the specified type of construction. 'Somewhat Limited' indicates that the soil type has properties that are moderately favorable for the specified type of construction; these limitations can generally be overcome through planning and design considerations. 'Very Limited' indicates that the soil type has properties that cannot generally be overcome through design and planning considerations (NRCS 2022b). Based on the soils present, the entire site is rated 'Not Limited' for dwellings with or without basements, except the small area of the site containing Udic Haplusterts, which is 'Very Limited' (NRCS 2022b). For small commercial buildings, the Ascalon sandy loam, 1 to 3 percent slopes; Blendon sandy loam; Bresser sandy loam, 3 to 5 percent slopes; and Truckton sandy loam, 0 to 3 percent slopes are rated 'Not Limited'. Ascalon sandy loam, 3 to 9 percent slopes; Blakeland loamy sand; Bresser sandy loam, 3 to 5 percent slopes; Truckton sandy loam, 3 to 9 percent slopes; and Truckton-Bresser complex are rated 'Somewhat Limited'. Udic Haplusterts are rated 'Very Limited' (NRCS 2022b). In terms of area, 25.4% of the site is rated 'Not Limited', 74.3% of the site is rated 'Somewhat Limited', and 0.4% of the site is rated 'Very Limited' for commercial buildings (NRCS 2022b).

B.E. reviewed the hydric soil ratings for all soil components present on the Project site to aid in the identification of wetland habitats during the site reconnaissance. Hydric soils are those that form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions, and their formation is required in order for wetlands to become

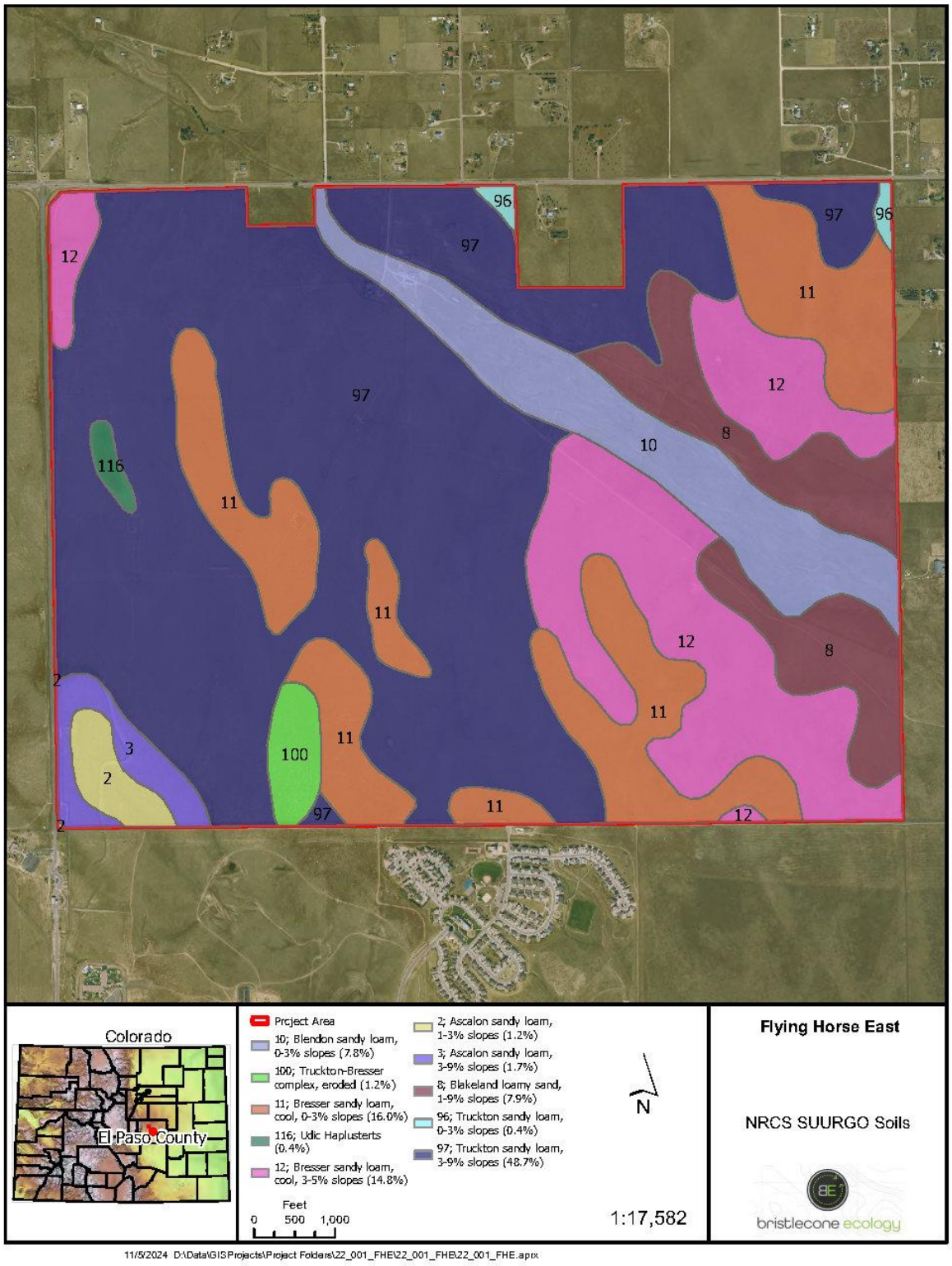
established. All of the primary soil series occurring on the site are described as having a low hydric to nonhydric rating in El Paso County, with each series rated as follows:

- Ascalon sandy loam, 1 to 3 percent slopes – hydric rating 1
- Ascalon sandy loam, 3 to 9 percent slopes – hydric rating 0
- Blakeland loamy sand, 1 to 9 percent slopes – hydric rating 1
- Blendon sandy loam, 0 to 3 percent slopes – hydric rating 1
- Bresser sandy loam, cool, 0 to 3 percent slopes – hydric rating 0
- Bresser sandy loam, cool, 3 to 5 percent slopes – hydric rating 0
- Truckton sandy loam, 0 to 3 percent slopes – hydric rating 2
- Truckton sandy loam, 3 to 9 percent slopes – hydric rating 0
- Truckton-Bresser complex, eroded – hydric rating 1
- Urdic Haplusterts – hydric rating 9

Hydric ratings are on a scale of 1 to 100, with 100 having greater hydric components and zero having no hydric components (NRCS 2022a). The Pleasant soil series, a minor component of some of the primary series on the site, is rated as hydric in El Paso County and is typically found in depressions and drainages where ponding can regularly occur (NRCS 2022c). Pleasant soil is likely to be found within the site, specifically in the floodplain and depression; any areas where Pleasant soils are found, the site is more suitable for the development of hydric soils. Overall, the suitability of the site for the development of hydric soils, and thus the presence of wetlands, is moderate in the floodplain, and low everywhere else.

The Blakeland sandy loam, Truckton sandy loam, and Truckton-Bresser complex and grouped into Hydrologic Group A (NRCS 2022d). The 'A' grouping includes soils that have a high infiltration rate, which results in the soil having a corresponding high rate of surface and ground water transmission. The Ascalon sandy loam, Blendon sandy loam, and Bresser sandy loam soil complexes are grouped into Hydrologic Group B (NRCS 2022d). The 'B' grouping includes soils that have a moderate infiltration rate, which results in the soil having a corresponding moderate rate of surface and ground water transmission. The Udic Haplusterts complex is grouped into Hydrologic Group D (NRCS 2022d). The 'D' grouping includes soils that have a very slow infiltration rate, which results in the soil having a corresponding very low rate of surface and ground water transmission. Additional, detailed soil data for the Project will be presented in a soils/geology/geotechnical report that will be submitted separately.

Figure 2: NRCS SSURGO Soils Data



2.3. Aquatic Resources

Aquatic resources include jurisdictional wetlands and other regulated WOTUS such as streams/rivers, ponds/lakes, and ditches, as well as non-regulated wetlands, streams/rivers, ponds/lakes, ditches, and other surface water features. The USFWS' NWI and USGS' NHD datasets were reviewed for the possible presence of wetlands and streams, respectively, within the Project Area. Aerial imagery (USDA 2019 and Google 2021) was reviewed to locate aquatic features not depicted in the NWI and NHD datasets. NHD and NWI data are notoriously inaccurate, necessitating field inspection to verify the presence or absence of the resources depicted in these datasets. The four aquatic features that were depicted in the data can be seen in **Figure 3**: *Aquatic Resources Desktop Review*, and include:

- One pond identified in the NWI as Palustrine, Emergent, Persistent, Temporarily Flooded (PEM1A) and as a lake/pond in the NHD, located in the center of the western side of the site.
- One Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA) wetland, not identified in the NHD, located on the eastern edge of the site.
- An unnamed tributary to Black Squirrel Creek, identified as a Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) wetland in the NWI, identified as a stream/river in the NHD, that crosses through the site from the northern center to the southeast edge.
- A second unnamed tributary identified as an R4SBC wetland in the NWI and as a stream/river in the NHD, which flows southeasterly from the southwest corner of the site to the southern edge of the site.

Because these desktop data are often inaccurate, the watercourses and other aquatic features identified in the preliminary desktop analysis were inspected in the field to assess their presence/absence and jurisdictional potential. Aquatic features were surveyed in a preliminary survey on October 29th, 2024. This survey determined that there are two isolated ponds within the Project Area, one of which is natural and corresponds to the location of the PEM1A wetland, and another which is a manmade stock pond and does not appear in the NHD or NWI data. During the site visit, the majority of the aquatic features identified in the NWI and NHD were not present in locations matching the desktop review data. The following aquatic features were observed in the field (also see **Appendix A:** *Photographic Log*):

- One 4.31 acre naturally occurring pond located in the same location as the PEM1A wetland in the NWI and the lake/pond identified in the NHD (see **Figure 4:** *Aquatic Features Map*). This feature occurs naturally in a closed depression that holds water seasonally.
- One 0.21 acre constructed stock pond just southeast of the first pond, not shown in the NWI or NHD (**Figure 4**). This feature is also located in a closed depression disconnected from the first ponded area.

The R4SBC wetlands/tributaries depicted in the NWI and NHD were not present.

Based on the information obtained from the site reconnaissance, there are two isolated ponds located on the site, the first identified as PEM1C and the second as PUSCH (**Figure 4**). Wetlands on the site are isolated and are therefore are presumed to be non-jurisdictional.

Figure 3: Aquatic Resources Desktop Review

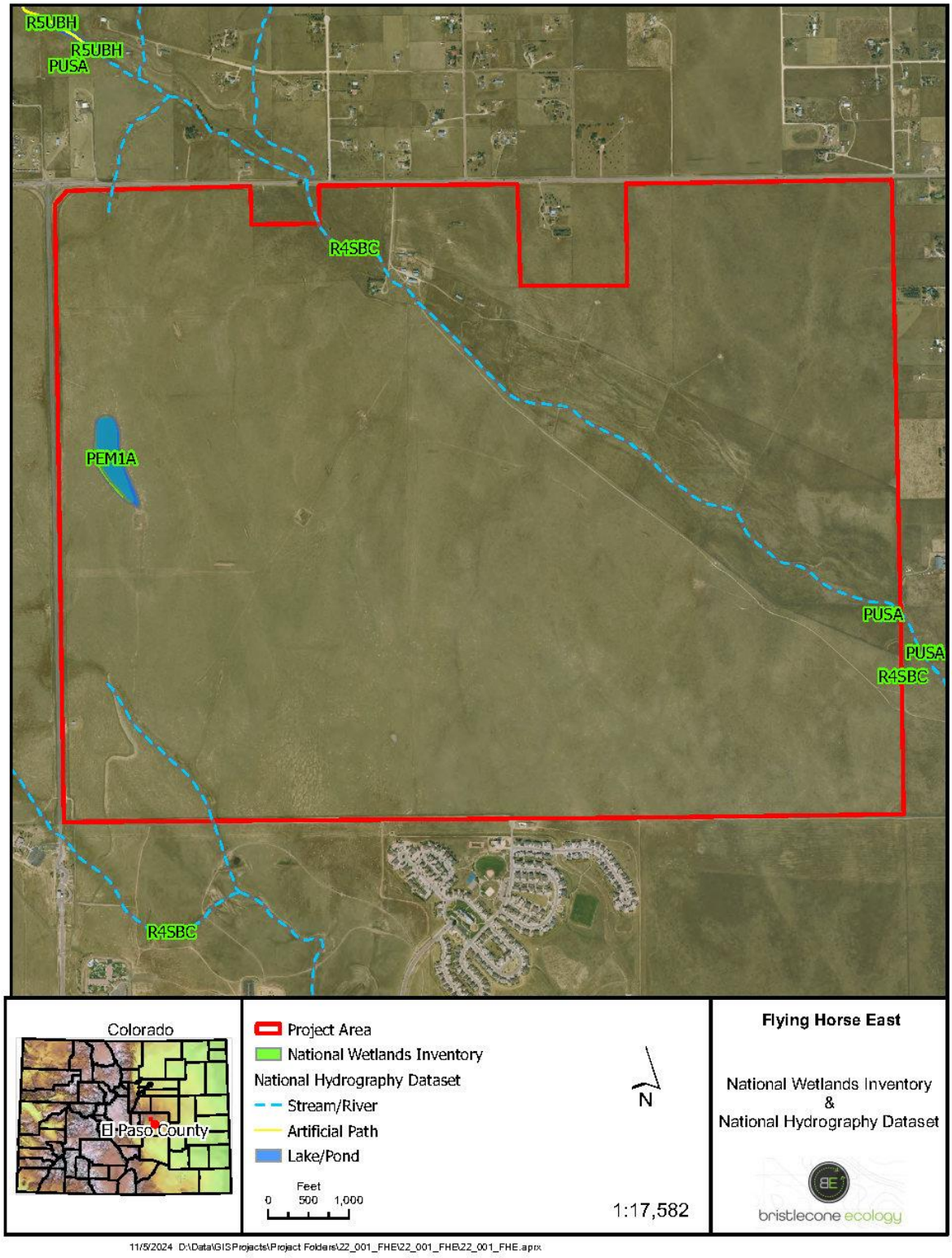
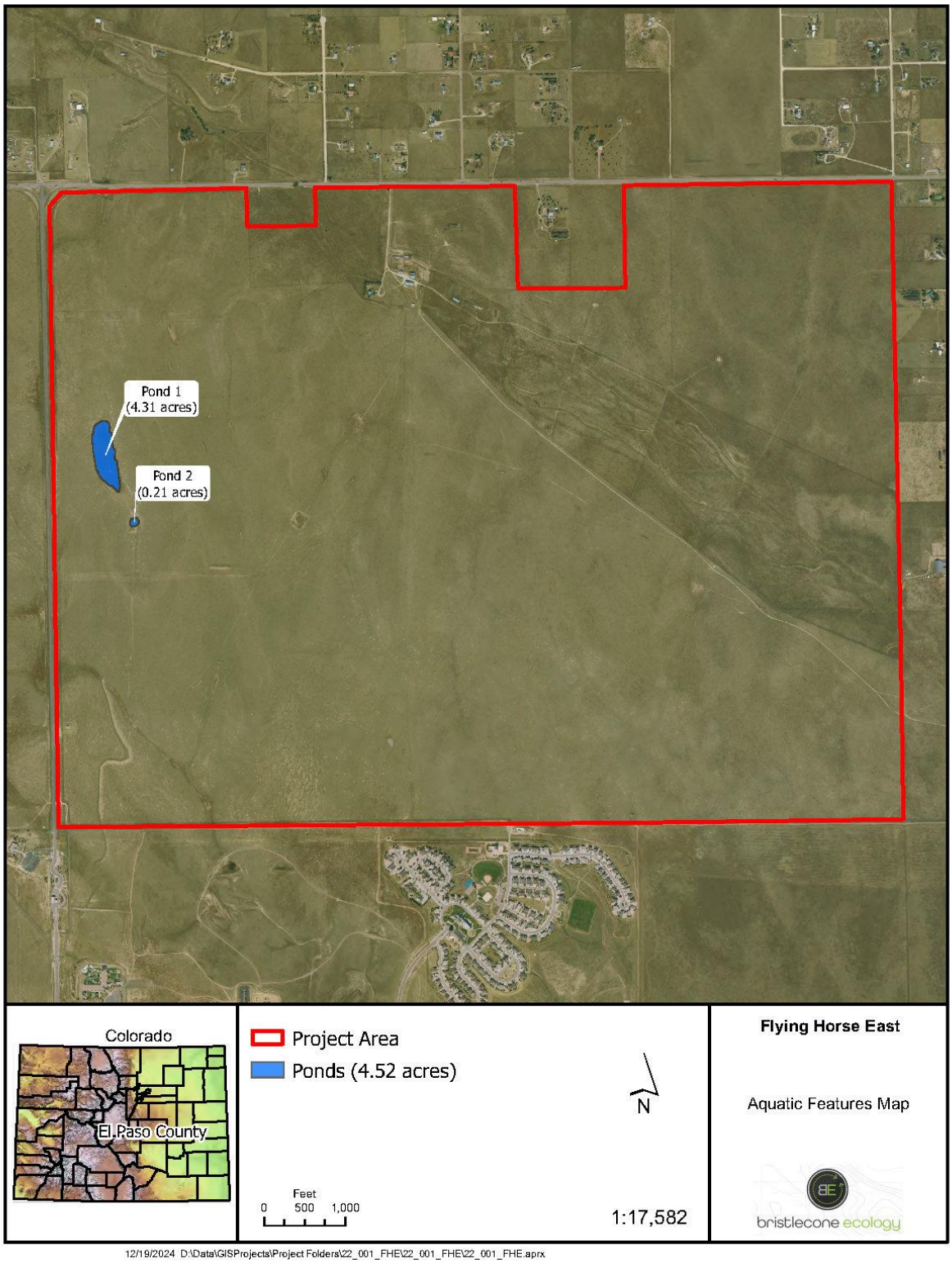


Figure 4: Aquatic Features Map



2.4. Noxious Weeds

Noxious weeds are defined as those non-native plants that aggressively invade and are detrimental to native vegetation communities and ecosystems. The *Colorado State Noxious Weed Act* (Colorado Revised Statute 35-5.5-103) developed a list of plants considered noxious in the state of Colorado that should be targeted for control by various methods dependent upon list category (A, B, or C). In addition, requirements have been set forth by the El Paso County Noxious Weed Management Plan (EPC 2022), and the El Paso County Noxious Weeds and Control Methods report (EPC 2018a), which contain guidelines for the control and treatment of noxious weeds found in the County. EPC requires that residential, commercial, or industrial projects that include ground disturbing activities submit a project-specific noxious weed management plan.

B.E. noted dispersed, sparse concentrations of noxious weeds on the site. Noxious weeds that were observed included musk thistle, a List B species, and Russian thistle, which is not a listed noxious weed species. Overall, the site had one of the lowest concentrations of noxious weeds B.E. has observed in the County. A site-specific may be needed in order to prevent and control the spread of noxious weeds at the construction and post-construction phases of the Project. In general, chemical and/or mechanical controls of the scattered thistles on the site should be utilized prior to or during initial ground disturbance.

2.5. Wildfire Hazards

In the 2018 El Paso County Development Standards, the stated purpose and intent for fire protection and wildfire mitigation is to ensure that proposed development is reviewed for wildfire risks and adequate fire protection (EPC 2018b). No permit or approval associated with development, construction, or occupancy shall be approved or issued until the provisions of these standards are satisfied. The Project area is located within the Colorado Springs Fire Department (CSFD) coverage. The closest station to the Project is:

- Station 17; 3750 Tutt Blvd, Colorado Springs, CO 80922 (13 miles from the northern end of the site along State Highway 94).

The CSFD has the following operations equipment available at Station 17:

- 2 fire engines
- 1 collapse rescue truck
- 1 brush fire truck

Wildfire hazard for the Project site was evaluated using the Colorado State Forest Service's (CSFS) online Wildfire Risk Assessment Portal (WRAP; CSFS 2020). WRAP allows professionals, planners, and the public to access the best scientific information regarding wildfire risk, and to establish prevention and mitigation measures accordingly. According to WRAP, the Wildfire Risk to Assets at the site is primarily 'Lowest' (approximately 85% of the site), while the remainder of the site is rated as 'Low' (approximately 10% of the site) or 'Moderate' (approximately 5% of the site) (CSFS 2020; **Figure 5**: *Wildfire Risk to Assets*). "Wildfire Risk to Assets" is determined by CSFS by combining the burn probability rating of a site with the values-at-risk rating. While the Project site

has a low to very low rating of values and assets that would be adversely impacted by wildfire, the burn probability for the entire site is 'High' (CSFS 2020; **Figure 6:** *Wildfire Burn Probability*). The Fire Intensity rating throughout the site is primarily 'Moderate', with some areas on the northern edge of the site rated as 'Low' (CSFS 2020; **Figure 7:** *Fire Intensity Rating*).

2.6. Flood Hazards

Flood hazard maps from the Federal Emergency Management Agency (FEMA) were reviewed to determine the potential for flooding hazards at the site. The majority of the site is within Zone X, meaning that the areas is deemed by FEMA to have minimum flood hazard "above the 500-year flood zone" (**Figure 8**: *FEMA Flood Hazard Map*). There is a floodplain that crosses through the eastern side of the site along the unnamed wash identified in the NHD that is within Zone A, meaning that the area is deemed by FEMA to have a 1% annual change of flooding and a 26% annual change of flooding over the life of a 30-year mortgage (**Figure 8**).

Figure 5: Wildfire Risk to Assets

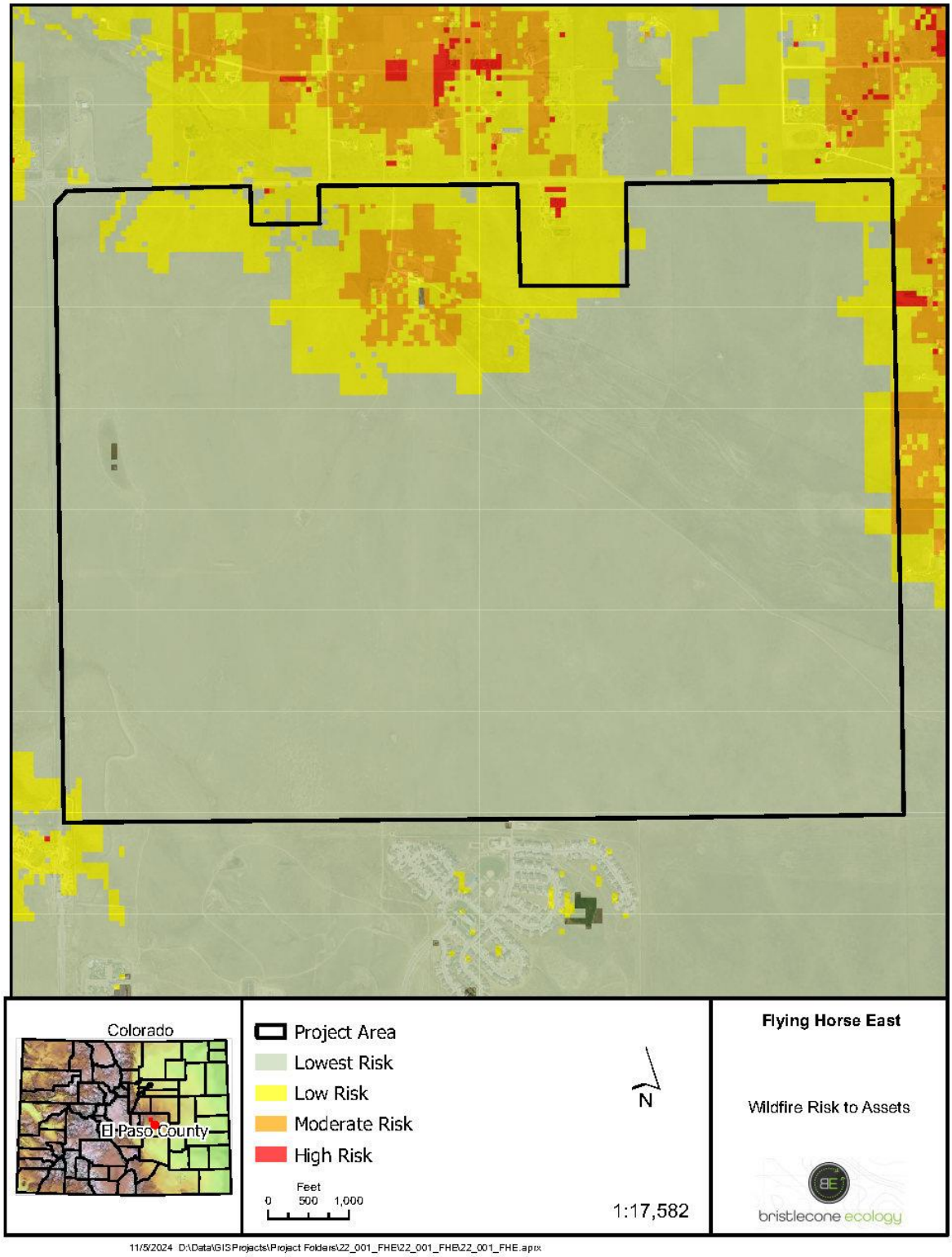


Figure 6: Wildfire Burn Probability

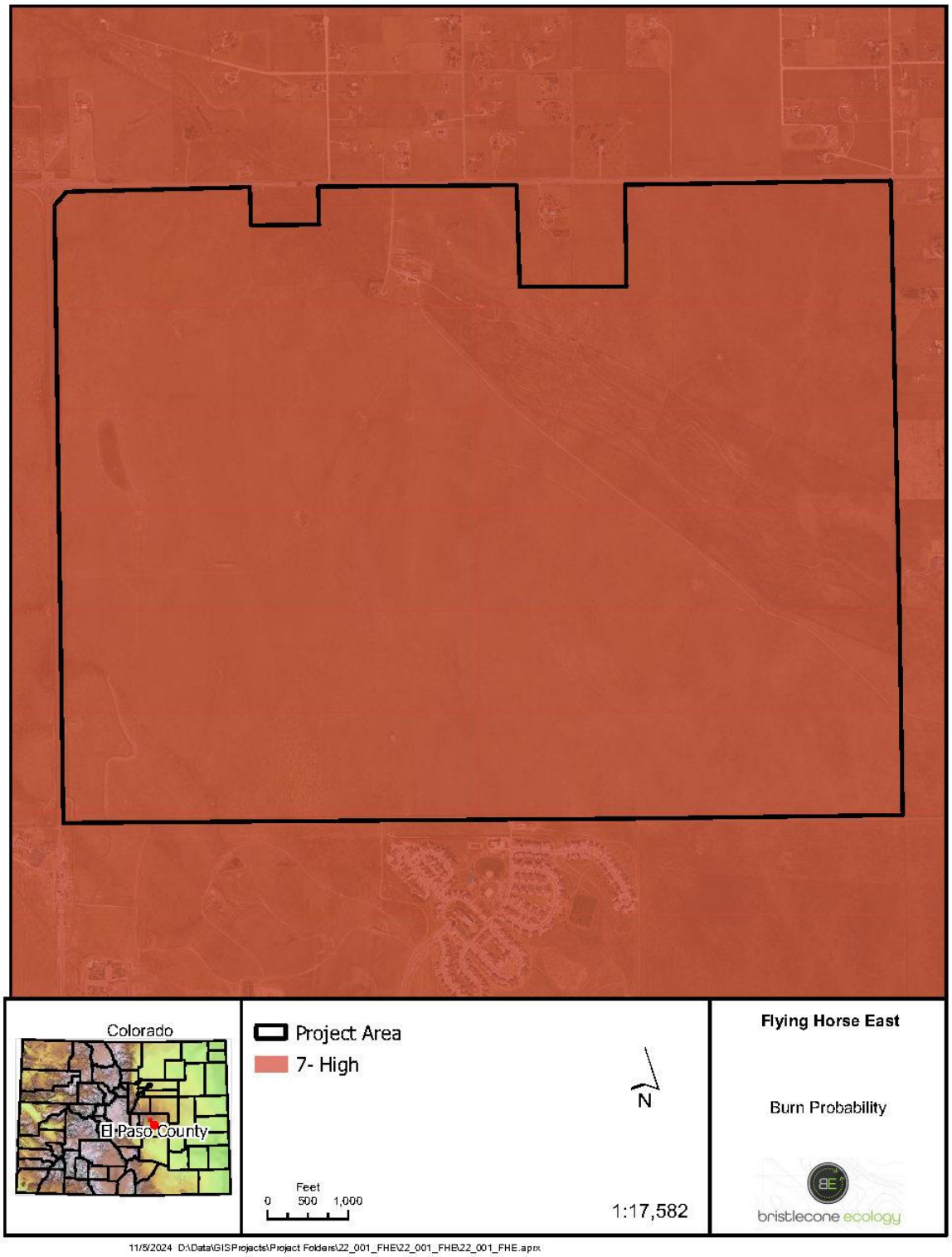


Figure 7: Fire Intensity Scale

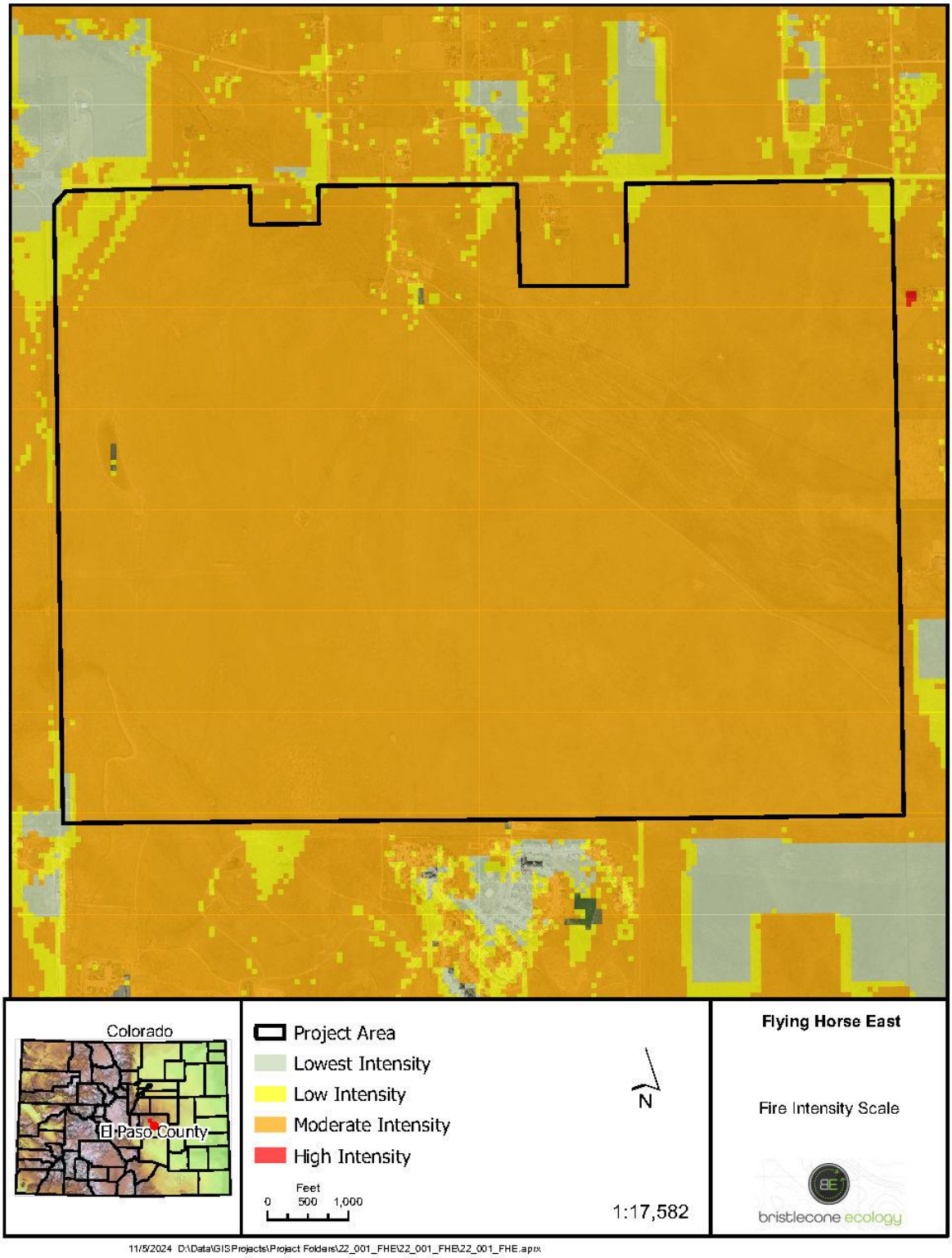
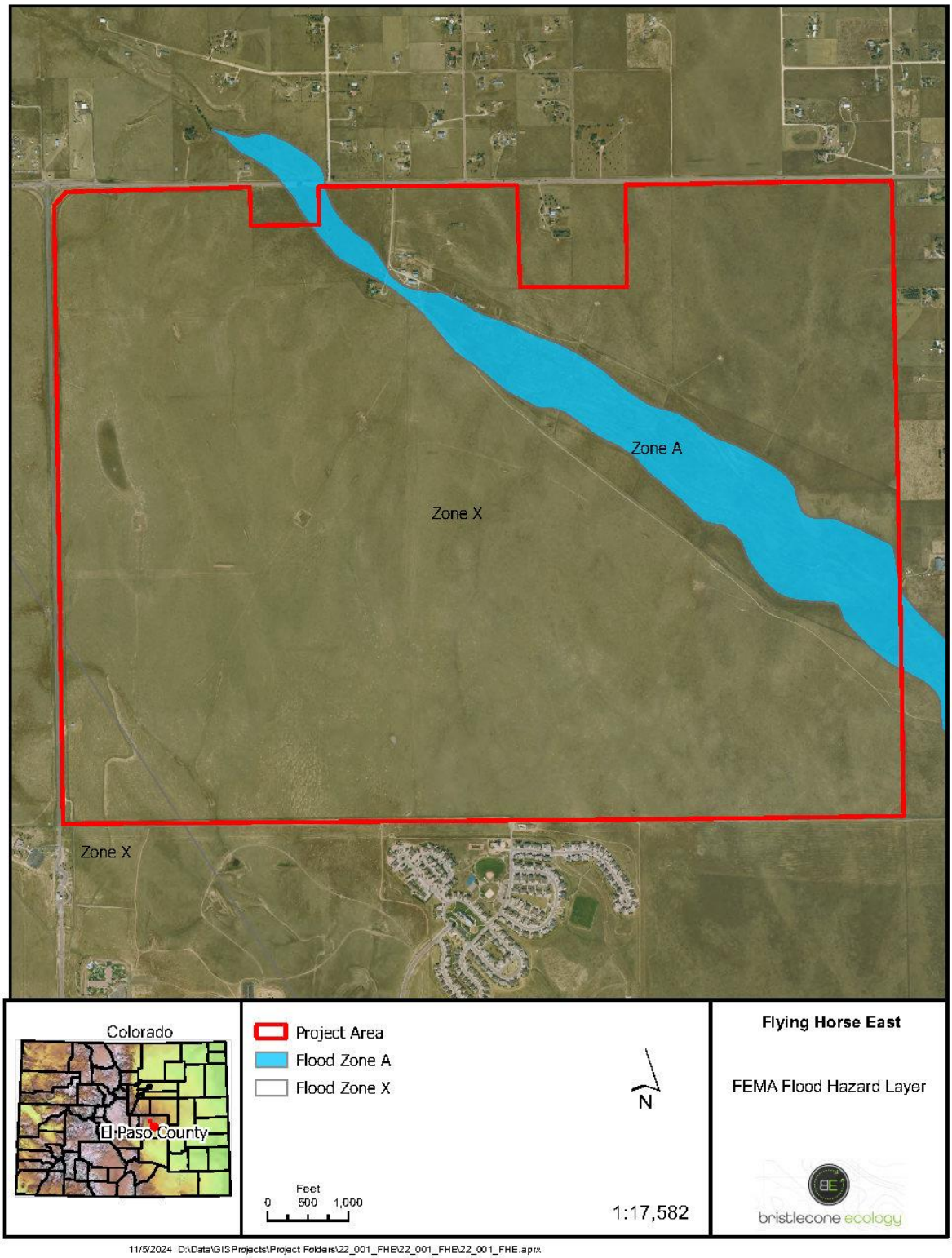


Figure 8: FEMA Flood Hazard Map



2.7. Federally Listed T&E Species

The USFWS IPaC database (USFWS 2024) was used to determine the likelihood of occurrence of federally listed T&E species within the Project area. The IPaC query listed six species, including one mammal, two birds, one fish, one insect, and one flowering plant with the potential to occur within or be affected by development in the Project Area (**Table 2:** *Federally Listed T&E Species Potentially Impacted by the Project* and **Appendix B:** *IPaC Resources List*). B.E. has provided our professional opinion regarding the probability of occurrence of T&E species at the Project site and their probability of being impacted by Project development.

Table 2. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2022)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status[1]
Mammals			
Preble's Meadow Jumping Mouse	*Zapus hudsonius preblei*	Inhabits well-developed riparian habitat with adjacent, relatively undisturbed grasslands, and a nearby water source. Riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub/tree canopy may be present. Has been found to use uplands as far out as 100 meters beyond the 100-year floodplain. The site does not contain any Critical Habitat for Preble's, nor does it contain any habitat suitable for Preble's. Habitat requirements include perennial flowing water, dense shrubs, and a thick understory in a riparian gallery. **Likelihood of impacts: None; suitable habitat not present.**	FT
Birds			
Piping plover	*Charadrius melodus*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None; the Project is not within the watersheds listed.**	FT
Eastern black rail	*Laterallus jamaicensis* ssp. *jamaicensis*	Eastern black rail is a subspecies of black rail that occurs east of the Rocky Mountains in North America. Black rails are small, cryptic marsh/wetland specialists, and depend entirely upon these habitats to support their resource needs. Requires dense overhead cover (usually cattails [*Typha* spp.] or bulrushes [*Schoenoplectus* / *Scirpus* spp.]) and moist to saturated soils. Eastern black rails have been expanding their range in Colorado. **Likelihood of impacts: None; suitable habitat is not available on the site.**	FT
Fish			
Pallid sturgeon	*Scaphirhynchus albus*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None; Project is not within the watersheds listed.**	FE

[1]FE= Federally Endangered; FT=Federally Threatened; C=Candidate for Listing

Table 2 Cont. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2022)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status[1]
Insects			
Monarch butterfly	*Danaus plexippus*	Monarch butterflies require milkweeds (*Asclepias sp.*) as an obligate host plant. Caterpillars consume the plant, and adults lay their eggs on milkweeds. Monarch butterfly is a candidate species for listing under the ESA. The USFWS determined that listing the species was warranted but precluded by work on higher priority listing actions. The species will remain a candidate for listing and reviewed yearly. There are no requirements for candidate species, but due diligence is encouraged. **Likelihood of impacts: Unlikely; milkweed plants were not observed on the site.**	C
Flowering Plants			
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, gravel pits, borrow pits, and other human-modified wetlands. There are no longer any known populations in El Paso County. **Likelihood of impacts: None; habitat is not present, and the site is not in an area that requires surveys.**	FT

[1]FE= Federally Endangered; FT=Federally Threatened; C=Candidate for Listing

2.8. Wildlife Communities

The Project site provides moderate quality habitat for some grassland wildlife, including birds, mammals, reptiles, and possibly amphibians, as well as limited, seasonal wetland habitat for these species. Development of the site would inevitably affect some habitat for wildlife; based on the findings of the site reconnaissance, B.E. classified the expected impacts on grassland species as moderate, on woodland species as negligible, an on riparian and aquatic species as negligible. Wildlife that could be affected were identified first by referencing CPW's Species Activity Mapping (SAM) spatial data to assess the likelihood of occurrence for state T&E species, state species of concern (SC), and other general wildlife, including big game species. The Colorado Natural Heritage Program (2022) also provides species status data from tracked natural animal and plant communities in the state. The review indicated that there is potential for the occurrence of 14 mammals, 16 birds, and 17 reptiles, including one SC mammal, one state and federally threatened mammal, one state threatened bird, and one federally protected bird (**Table 3:** *SAM Wildlife Potential for Occurrence*).

Generally, sensitive wildlife species and Colorado SC species do not receive statutory protections. The Project area does not intersect with big game migratory routes, though it does intersect with mountain lion (*Puma concolor*) peripheral range, and mule deer (*Odocoileus hemionus*) concentration (CPW 2023). Development of residential properties has the potential to attract

occasional mountain lions if trash is available to attract prey animals, or pets are outside during nighttime. The Project Area is within the overall range of black-tailed prairie dog (*Cynomys ludovicianus*; **Table 3**), which is a Colorado SC and provides nesting and roosting habitat for the state threatened burrowing owl (*Athene cunicularia*). The Project Area is also within the breeding range of burrowing owl (**Table 3**; CPW 2023). Breeding ranges for many sensitive bird species, as well as overall ranges for sensitive bats, lizards, snakes, turtles, and other wildlife, overlap the Project Area (**Table 3**).

Table 3. SAM Wildlife Potential for Occurrence (CPW 2022; CNHP 2022)

Common Name	Scientific Name	Type of Occurrence (CPW 2022)	Status [1,2]
Mammals			
Big brown bat	*Eptesicus fuscus*	Overall range	n/a
Black-tailed prairie dog	*Cynomys ludovicianus*	Overall range Potential colony occurrence	SC, S3
Dwarf shrew	*Sorex nanus*	Overall range	n/a
Hoary bat	*Lasiurus cinereus*	Overall range	n/a
Little brown myotis	*Myotis lucifugus*	Overall range	n/a
Mountain lion	*Puma concolor*	Overall range Peripheral range	n/a
Mule deer	*Odocoileus hemionus*	Overall range	n/a
Olive-backed pocket mouse	*Perognathus fasciatus*	Overall range	G5, S3
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	Overall range	FT, ST, S1
Pronghorn	*Antilocapra americana*	Overall range Concentration area	n/a
Red bat	*Lasiurus borealis*	Overall range	G3G4, S2S3B
Silver-haired bat	*Lasionycteris noctivagans*	Overall range	n/a
White-tailed deer	*Odocoileus virginianus*	Overall range	n/a
White-tailed jackrabbit	*Lepus townsendii*	Overall range	n/a
Birds			
Brewer's sparrow	*Spizella breweri*	Breeding range	S4B
Burrowing owl	*Athene cunicularia*	Breeding range	ST
Cassin's sparrow	*Peucaea cassinii*	Breeding range	n/a
Golden eagle	*Aquila chrysaetos*	Breeding range	BGEPA, S3S4B
Grasshopper sparrow	*Ammodramus savannarum*	Breeding range	S3S4B
Lark bunting	*Calamospiza melanocorys*	Breeding range	S4
Lazuli bunting	*Passerina amoena*	Breeding range	S5B
Lewis' woodpecker	*Melanerpes lewis*	Breeding range	G4, S4
Thick-billed longspur	*Rhynchophanes mccownii*	Breeding range	n/a
Northern harrier	*Circus hudsonius*	Breeding range	S3B
Prairie falcon	*Falco mexicanus*	Breeding range	S4B, S4N
Rufous hummingbird	*Selasphorus rufus*	Migration range	n/a

[1]FT=Federally Threatened; ST=State Threatened; SC=State Species of Concern; BGEPA=Bald and Golden Eagle Protection Act

[2]State (S) or Global (G) CNHP Status: 1=Critically Imperiled; 2=Imperiled; 3=Vulnerable; 4=Apparently Secure, but Cause for Long Term Concern; 5=Demonstrably Secure; B=Breeding; N=Non-breeding

Table 3, Cont. SAM Wildlife Potential for Occurrence (CPW 2022; CNHP 2022)

Common Name	Scientific Name	Type of Occurrence (CPW 2022)	Status[1,2]
Birds (cont.)			
Sandhill crane	*Antigone canadensis tabida*	Migration range	G5T5, S2B, S4N
Scaled quail	*Callipepla squamata*	Breeding range	n/a
Swainson's hawk	*Buteo swainsoni*	Breeding range	S5B
Reptiles and Amphibians			
Bullsnake	*Pituophis catenifer sayi*	Overall range	n/a
Coachwhip	*Masticophis flagellum*	Overall range	n/a
Common lesser earless lizard	*Holbrookia maculata*	Overall range	n/a
Hernandez short-horned lizard	*Phrynosoma hernadesi*	Overall range	n/a
Milksnake	*Lampropeltis elapsoides*	Overall range	n/a
Many-lined skink	*Plestiodon multivirgatus*	Overall range	n/a
Ornate box turtle	*Terrapene ornata ornata*	Overall range	n/a
Painted turtle	*Chrysemys picta*	Overall range	n/a
Plains garter snake	*Thamnophis radix*	Overall range	n/a
Plains hognose snake	*Heterodon nasicus*	Overall range	n/a
Prairie lizard	*Sceloporus consobrinus*	Overall range	n/a
Plateau fence lizard	*Sceloporus tristichus*	Overall range	n/a
Prairie rattlesnake	*Crotalus viridis*	Overall range	n/a
Western rattlesnake	*Crotalus oreganus,*	Overall range	n/a
Six-lined Racerunner	*Aspidoscelis sexlineata*	Overall range	n/a
Smooth greensnake	*Opheodrys vernalis*	Overall range	n/a
Terrestrial gartersnake	*Thamnophis elegance*	Overall range	n/a

[1]FT=Federally Threatened; ST=State Threatened; SC=State Species of Concern; BGEPA=Bald and Golden Eagle Protection Act

[2]State (S) or Global (G) CNHP Status: 1=Critically Imperiled; 2=Imperiled; 3=Vulnerable; 4=Apparently Secure, but Cause for Long Term Concern; 5=Demonstrably Secure; B=Breeding; N=Non-breeding

Following the review of the SAM data, a site reconnaissance was performed to field-verify the information provided in the data and perform a general wildlife survey. In general, the site provides moderate quality grassland habitat for wildlife. The upland areas throughout the site are dominated by typical Foothills Grasslands vegetation, such as blue grama, buffalograss (*Bouteloua dactyloides*), and mountain muhly. There is little to no riparian habitat within the site, and the only aquatic features are the two seasonal ponds – both dry at the time of the survey. Disturbance throughout the site is low, and invasive weeds such as Russian thistle and musk thistle are scattered only sparsely throughout the site. All vegetation communities present on the site provide moderate habitat for wildlife.

In terms of sensitive species, some of the species listed in the SAM data likely occur on the site, though only one of the species listed was observed: black-tailed prairie dog (*Cynomys ludovicianus*). The majority of species listed are either not expected to occur or may occur only rarely based on the limited habitat available. Black-tailed prairie dogs, a state species of concern, were observed during the site reconnaissance in large numbers. Up to 567.6-acres of prairie dog colonies were mapped during the site visit (**Figure 9:** *Black-tailed Prairie Dog Colonies*). The site is thus also suitable for the state-threatened burrowing owl (*Athene cunicularia*), which uses abandoned prairie dog burrows for nesting and roosting. No burrowing owls were observed during the site visit, and a formal survey during the breeding season would be necessary to confirm whether burrowing owls are inhabiting the prairie dog colony.

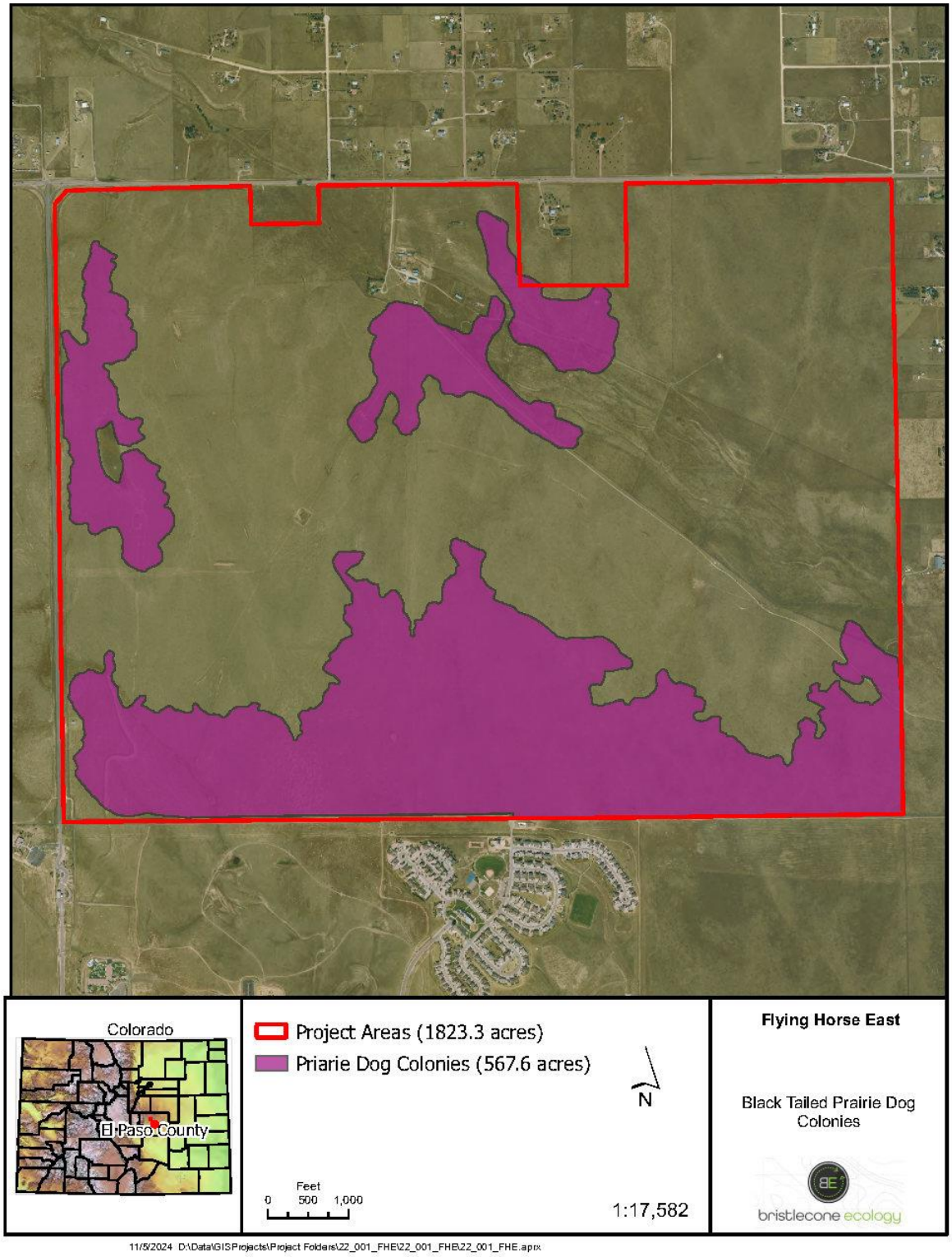
Other state-listed and state sensitive species were not observed. Species such as big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), pronghorn (*Antilocapra americana*), grasshopper sparrow (*Ammodramus savannarum*), lark bunting (*Calamospiza melanocorys*), Northern harrier (*Circus hudsonius*), Swainson's hawk (*Buteo swainsoni*), common lesser earless lizard (*Holbrookia maculata*), plains garter snake (*Thamnophis radix*), and prairie lizard (*Sceloporus consobrinus*) are all species in the SAM data that could reasonably be expected to occur on-site in the appropriate seasons and in the appropriate habitats. Ferruginous hawk (*Buteo regalis*), a state SC that was not included in the SAM data, was observed during the site visit and could occur regularly, particularly given the abundant available prey base (prairie dogs).

Golden eagles (*Aquila chrysaetos*), which nest mostly on cliffs in mountainous areas, and bald eagles (*Haliaeetus leucocephalus*), which are almost always found near large bodies of water or rivers, both receive federal protections under the Bald and Golden Eagle Protection Act (BGEPA). Golden eagles may occasionally nest in large trees (primarily cottonwoods) on Colorado's eastern plains. No cliffs or large trees are within the Project area and no eagle-sized nests were observed in any of the few trees on or near the site. There are also no large bodies of water within the site, so it is unlikely that either species would breed in the area. Eagles may, however, utilize the site for hunting, particularly with an abundant prey base available. Golden eagles are often seen near prairie dog colonies in winter when prey resources are scarcer.

The Project area also provides habitat for mammals, including rodents, ungulates, and carnivores. In addition to the aforementioned black-tailed prairie dog, one other mammal was observed – black-tailed jackrabbit (*Lepus californicus*). Other mammals were not observed during the site reconnaissance, but more species may be expected to occur, including gray fox (*Urocyon cinereoargenteus*) and red fox (*Vulpes vulpes*). The area is also suitable year-round range for mule deer throughout the site. The site has the potential to provide both foraging and breeding habitat for predators such as coyote (*Canis latrans*), red fox, gray fox, and American badger (*Taxidea taxus*); it is also listed as peripheral range for mountain lion, though based on the available habitat, this species is unlikely to occur.

No amphibians were observed during the survey. Chorus frogs (*Pseudacris* spp.) are the most likely species of amphibian to be present, though the available aquatic habitats are seasonal, and may not support amphibians.

Figure 9: Black Tailed Prairie Dog Colonies



4.0 SUMMARY OF IMPACTS

4.1. Vegetation

Vegetation will be unavoidably disturbed through development of the Project site. The majority of the site is classified under the broad category of Foothill Grasslands, which is the primary ecosystem type that will be impacted. The upland areas of site are generally of moderate quality and impacts are not expected to imperil or substantially harm this ecosystem, though development of the site will result in the loss of up to 1,800+ acres of moderately diverse, relatively undisturbed grasslands. No globally sensitive vegetation communities are present according to CNHP data for sensitive vegetation communities and the site reconnaissance (CNHP 2022.)

4.2. Aquatic Resources

There are two ponds on the site, one of which is of natural origins, while the second is a man-made stock pond. A formal wetland delineation was not completed during the site visit. Wetlands mapped in NHD/NWI data were generally confirmed to be not present in the locations shown in the datasets during the site reconnaissance, other than the larger pond observed. A formal wetland delineation and an approved jurisdictional determination would be needed to confirm the regulatory status of the aquatic features present. If these wetlands are determined to be jurisdictional, a Section 404 permit from the USACE would be required to impact them.

4.3. Noxious Weeds

Noxious weeds are present on the Project site in several areas but in limited quantities and not in concentrations. List A Species, which require reporting and eradication by Colorado law (Colorado Department of Agriculture [CDA] 2006), were not detected. List B Species require either eradication, containment, or suppression; List C Species require control through either public education or chemical control. List B noxious weeds that were detected during the site reconnaissance included:

List B:

- Musk thistle

It is possible that additional noxious weed populations may be present on the site. A site inventory to identify and map noxious weeds during the growing season would be required to accurately catalogue all populations on the site. In accordance with EPC requirements, a Noxious Weed Management Plan may be needed to detail recommendations for identifying and controlling the spread of noxious weeds prior to, during, and/or post-construction. Overall, the site has minimal noxious weed cover, and those weeds that are present should be easily controlled via chemical or mechanical means.

4.4. Wildfire

Roughly 85% of the Project area is mapped as 'Lowest' Wildfire Risk to Assets while the remaining area is mapped as 'Low' (approximately 10% of the site) or 'Moderate' (approximately 5% of the site). The area of the site with Low to Moderate wildfire risk to assets, versus Lowest, is the only developed section of the site, on the northern edge of the property where one home exists. The site is rated mostly 'Lowest' in terms of values and assets present that could be lost to wildfire, however, it is 'High' in terms of Burn Probability based on the available fuels at the site, which includes relatively undisturbed grasslands. Fire intensity at the site is rated 'Low' to 'Moderate' throughout the site. The nearest fire response is Station 17 in the Colorado Springs Fire Department which is located 13 miles west of the site.

Development of the site would result in a reduction of the available fuels for wildfires, while simultaneously increasing the values and assets present on the site. Assuming additional trees will be planted as landscaping, the overall arboreal coverage of the site would increase. As such, the overall wildfire risk index for the Project is expected to be similar or slightly higher after development.

4.5. Wildlife

Similar to the vegetation impacts, some wildlife will inevitably be affected by development of the Project area. Some species that prefer suburban habitats, including some species of birds, are expected to benefit from an increase in planted trees and bird feeders in yards. Any designated open spaces may also conserve some of the grassland, wetland, and woodland habitats that are currently available, but open, undisturbed grasslands are expected to be significantly reduced overall.

Implementation of a stormwater management plan will assist in protecting water quality downstream, which will provide additional benefits to aquatic species including invertebrates. Detention facilities may add seasonal water features that could support additional wildlife such as waterfowl and amphibians. Since grasslands are the most dominant habitat type, grassland species are expected to experience the greatest adverse impacts. Deer, foxes, bears, raccoons, and skunks may experience adverse effects from the increase in urbanization in close proximity to wildland areas. Few sensitive species were present and only in small numbers, and thus are not expected to be affected any more than other species.

The main consideration for wildlife is the presence of large black-tailed prairie dog colonies that extend throughout much of the site. Black-tailed prairie dogs are a state species of concern. No burrowing owls, a state threatened species, were observed to be utilizing the burrows within the site during the reconnaissance, but the survey was performed at the tail end of the breeding season. Focused burrowing owl surveys during the breeding season (March through October) would be required to determine whether owls use the site. The prairie dog colonies also serve as a significant prey base for raptors such as ferruginous hawk, which was observed during the site visit. Other raptors may also be attracted to the colony as a food source, particularly during the winter when resources are scarce. Golden eagle occurrence during the winter is possible.

The greatest impact to wildlife will be to the state sensitive black-tailed prairie dogs present in colonies of up to 567.6 acres total. These colonies would presumably be removed prior to development of the site. State threatened burrowing owls may also be present seasonally at abandoned prairie dog burrows. A formal burrowing owl survey would be necessary to confirm their presence/absence. Raptors may also be affected indirectly through the loss of a large prey source.

4.6. Federally Listed T&E Species

Federally listed T&E species are not expected to occur at the site or be affected by the development of the Project. All species listed in the IPaC report for the site occur in habitats that were not present on the site or occur in different river systems.

5.0 RECOMMENDATIONS

Upon completion of a desktop review, site reconnaissance, and preliminary wetland assessment, B.E. finds that some environmental constraints are present within the Project Area. Constraints are summarized below within the regulatory context that they apply, and recommendations are provided.

5.1. Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredge or fill material into WOTUS (including wetlands) without a valid CWA permit. An approved jurisdictional determination from the USACE would be necessary to determine if the aquatic resources observed on the site are officially considered non-jurisdictional. A Section 404 permit is not expected to be necessary since wetlands on the site are not expected to be determined jurisdictional; however, should they be jurisdictional and should they be impacted by the planned development, a Section 404 permit would be required. B.E. recommends clarifying the status of the wetlands with the USACE prior to development.

5.2. Endangered Species Act

Section 9(a)(1) of the Endangered Species Act prohibits the take of federally listed species and their habitats, and defines such take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1531). There is no suitable habitat for listed species on the site. Federally listed species are not present, or they would not be affected because the Project is not located in the river basins where these species occur. No impacts to any federally listed species are anticipated from site development and no further due diligence is recommended.

5.3. Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

Migratory birds, and the parts, nests, or eggs of such a bird receive statutory protection under the Migratory Bird Treaty Act (MBTA), which prohibits the intentional take of migratory birds. Bald eagles and golden eagles receive additional statutory protection from accidental take and disturbance under the Bald and Golden Eagle Protection Act (BGEPA). Both the MBTA and the BGEPA particularly apply to nesting birds and their nests. There were no nests observed on the site, and suitable nesting substrates for raptors was generally not available within the site. Nesting substrates for other migratory birds are present in the form of open grasslands, which are expected to be used by some migratory birds during the breeding season.

It is recommended that vegetation clearing/grubbing/grading of the site occur outside of the nesting season (March 15th to July 31st) to avoid disturbing nesting migratory birds. If such timing restrictions are not possible, B.E. recommends conducting a migratory bird nesting survey during the nesting season to ensure impacts to nesting birds do not occur. In particular, ground nesting songbirds are expected to use the available grasslands at the site and surveys should be conducted to avoid disturbance.

Golden eagles could occur in the vast colonies of prairie dogs on the site. Care should be taken not to impact eagles unintentionally that may use these colonies as a prey base during the winter.

5.4. Colorado Noxious Weed Act

In order to ensure Project compliance with the Colorado Noxious Weed Act, and to comply with the requirements of El Paso County's Noxious Weed Management Plan, B.E. recommends developing a site-specific Noxious Weed Management Plan, and site-specific weed management in accordance with such a plan should be implemented on an ongoing basis. In particular, control of musk thistle (and any other List B noxious weeds observed on the site) is required by Colorado law.

5.5. Non-Statutory Considerations

There is potential for general wildlife, including some big game such as pronghorn and mule deer, to occur within the site. However, no big game migratory routes traverse the Project. In addition, ranges for several migratory birds, including the state-threatened burrowing owl, overlap the Project area, and habitat for burrowing owls is present based on the presence of black-tailed prairie dogs. A survey for burrowing owls is recommended prior to construction.

B.E. recommends following guidance from CPW to determine the appropriate avoidance measures to take during and after construction regarding general wildlife. Impacts to wildlife should be reduced as much as practicable through the implementation of typical covenants, such as using bear-resistant trash containers and fencing that allows safe passage for game animals.

Should you have any questions regarding the information or recommendations provided in this report, please feel free to contact Bristlecone Ecology at dmaynard@bristleconeecology.com.

Sincerely,

Bristlecone Ecology, LLC

Daniel Maynard
Owner/Ecologist

6.0 REFERENCES

Chapman, S.S., G.E. Griffith, J.M. Omernik, A.B. Price, J. Freeouf, and D.L. Schrupp. 2006. Ecoregions of Colorado (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,200,000).

CNHP (Colorado Natural Heritage Program). 2022. Colorado's Conservation Data Explorer (CODEX). Colorado Natural Heritage Program, Colorado State University, Fort Collins. https://codex.cnhp.colostate.edu/https://codex.cnhp.colostate.edu/

CDA (Colorado Department of Agriculture). 2006. 8 CCR 1206-2 – Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act.

Colorado Weed Management Association. (CWMA). 2015. Colorado State Noxious Weed List

CPW. 2022. CPW Species Activity Mapping Data. Updated March 2022. https://www.arcgis.com/home/item.html?id=190573c5aba643a0bc058e6f7f0510b7

CSFS (Colorado State Forest Service). 2020. Wildfire Risk Assessment Portal (WRAP). https://co-pub.coloradoforestatlas.org/#/. Accessed November, 2024.

EPC (El Paso County). 2018a. El Paso County Noxious Weeds and Control Methods. https://assets-communityservices.elpasoco.com/wp-content/uploads/Environmental-Division-Picture/Noxious-Weeds/Noxious-Weed-Control-Book.pdf

EPC. 2018b. El Paso County Land Development Code. https://planningdevelopment.elpasoco.com/land-development-code/

EPC. 2022. El Paso County Noxious Weed Management Plan. Available at: https://epc-assets.elpasoco.com/wp-content/uploads/sites/10/2022-EPC-Weed-Management-Plan.pdf

Katzner, T. E., M. N. Kochert, K. Steenhof, C. L. McIntyre, E. H. Craig, and T. A. Miller (2020). Golden Eagle (*Aquila chrysaetos*), version 2.0. In Birds of the World (P. G. Rodewald and B. K. Keeney, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.goleag.02

Metcalf, J. L., S. Love Stowell, C. M. Kennedy, K. B. Rogers, D. McDonald, J. Epp, K. Keepers, A. Cooper, J. J. Austin, and A. P. Martin. 2012. Historical Stocking Data and 19th Century DNA Reveal Human-Induced Changes to Native Diversity and Distribution of Cutthroat Trout." Molecular Ecology 21, no. 21 (November 1, 2012): 5194–5207. doi:10.1111/mec.12028.

NRCS (Natural Resources Conservation Service). 2022a. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed November, 2024.

NRCS. 2022b. Building Site Development: Dwellings and Small Commercial Buildings Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

NRCS. 2022c. Building Site Development: Hydrologic Soil Group Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

NRCS. 2022d. Building Site Development: Hydric Soil Rating Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

State of Colorado. 2003. Colorado Revised Statutes, Title 35 Agriculture, Article 5.5 Colorado Noxious Weed Act.

USDA (U.S. Department of Agriculture). 2020. National Agriculture Imagery Program.

USFWS (United States Fish and Wildlife Service). 1992. Interim Survey Requirements for Ute Ladies-tresses' Orchid (*Spiranthes diluvialis*). Available at: https://www.fws.gov/utahfieldoffice/Documents/Plants/SPDI_interimSurveyRequirements_1992.pdf

USFWS. 2017. Critical Habitat Portal. http://ecos.fws.gov/tess_public/profile/speciesProfile?spcode=E00F. Accessed November, 2024.

USFWS. 2024. Information for Planning and Conservation Online System. https://ecos.fws.gov/ipac/.https://ecos.fws.gov/ipac/.

APPENDIX A

PHOTOGRAPHIC LOG

PHOTO 1 – View facing south of the large depression identified as a wetland in NWI data. This area is a closed depression subject to seasonal ponding; it has no surface connection to other aquatic features. Typical foothill grasslands species dominate the site, as can be seen throughout the photo. The wetland is vegetated sparsely with Baltic rush.

PHOTO 2 – View facing southeast of the large swale along the northeast side of the Project Area. This area was identified as a Riverine wetland in the NWI data, but it is merely a broad swale that may occasionally carry infrequent floodwaters.

PHOTO 3 – Typical view from many areas of the site: relatively gentle slopes covered mostly by graminoids, and regular prairie dog burrows.

PHOTO 4 – View facing south-southeast of the isolated manmade stock pond not labeled on the NWI or NHD data. The pond can be seen clearly in aerial photos. Though wet seasonally, this pond was dry at the time of the site visit.

PHOTO 5 – Another view of the large upland swale on the east side of the site, this time facing northwest. This swale is within the 100-year floodplain, but vegetation is entirely upland plants and flow conveyance is seemingly infrequent.

APPENDIX B

IPAC RESOURCE LIST

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

El Paso County, Colorado

Local office

Colorado Ecological Services Field Office

(303) 236-4773
(303) 236-4005

MAILING ADDRESS

Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486

PHYSICAL ADDRESS

1 Denver Federal Center
Bldg 25 Room W1911}
Denver, CO 80225-0001

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Preble's Meadow Jumping Mouse Zapus hudsonius preblei Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4090	Threatened

Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover Charadrius melodus This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened

Fishes

NAME	STATUS

NAME	STATUS
Pallid Sturgeon Scaphirhynchus albus Wherever found This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7162	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses Spiranthes diluvialis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2159	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

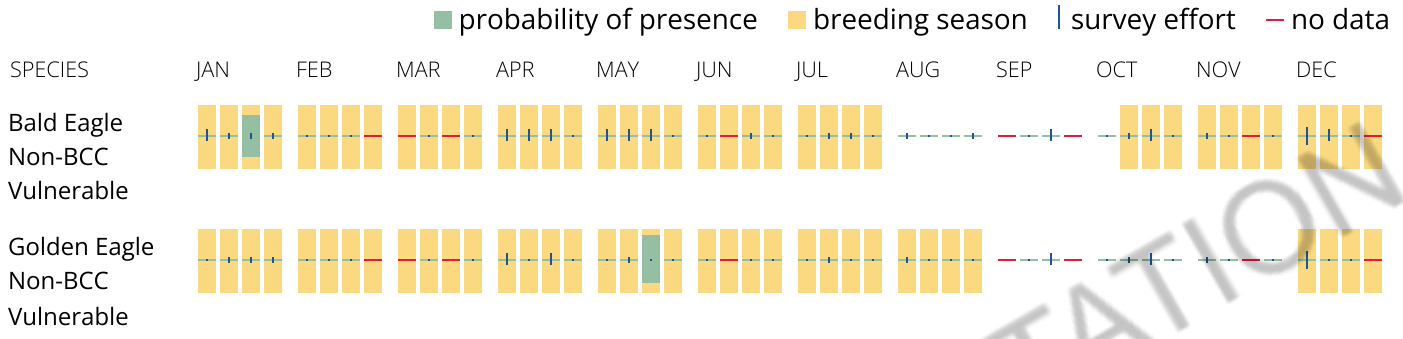
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Ferruginous Hawk *Buteo regalis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6038	Breeds Mar 15 to Aug 15
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15

Whimbrel Numenius phaeopus hudsonicus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

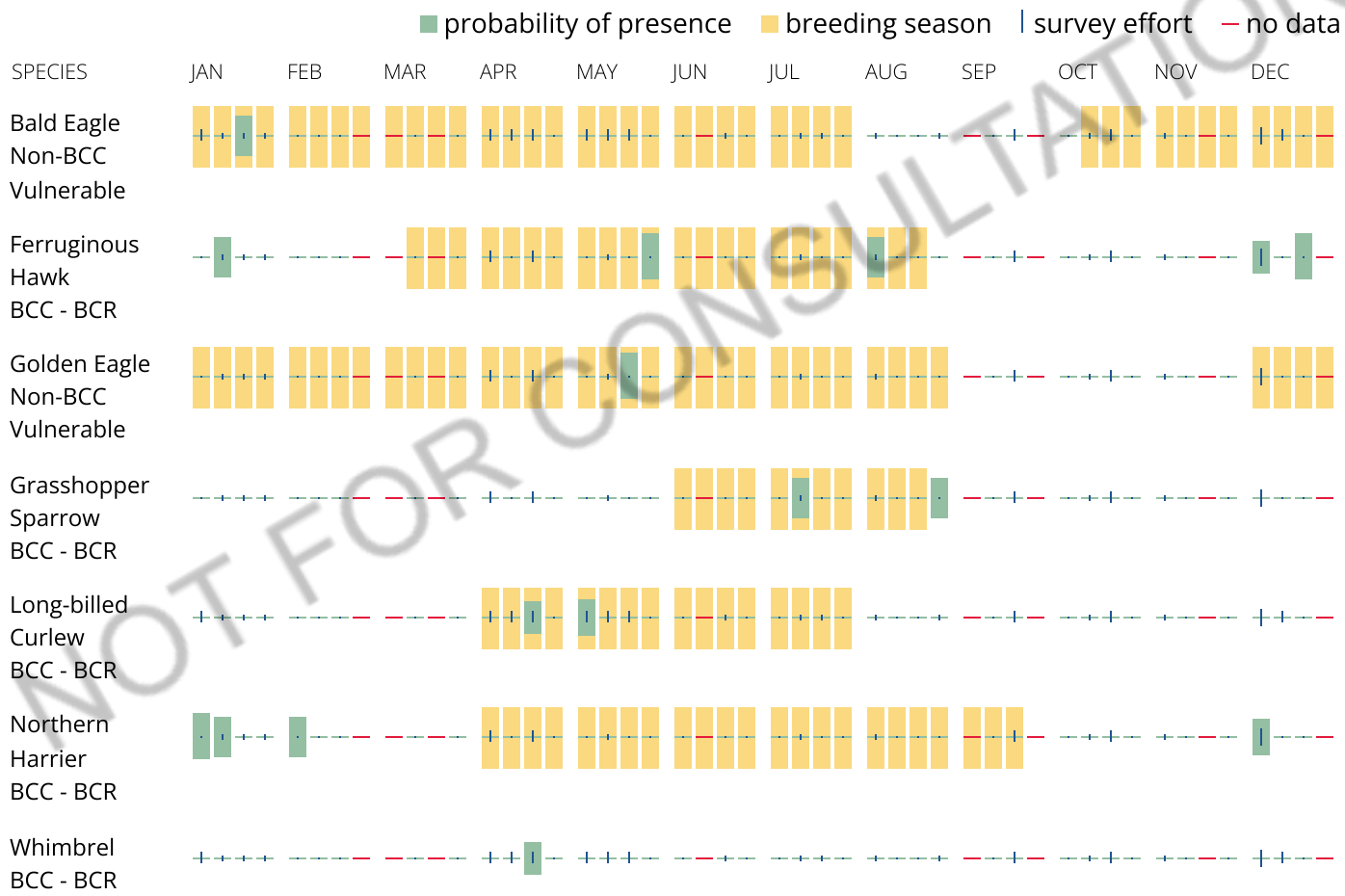
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure.

To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in

offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1A

FRESHWATER POND

PUSA

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.