



**Office-level Ecological Assessment Report  
for the  
Rowley Site  
Colorado Springs, Colorado**

April 2, 2025

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## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>1.0 INTRODUCTION .....</b>   | <b>1</b>  |
| 1.1 PURPOSE.....  | 1         |
| 1.2 SITE LOCATION.....  | 1         |
| 1.3 PROJECT DESCRIPTION.....  | 1         |
| <b>2.0 METHODOLOGY .....</b>  | <b>4</b>  |
| <b>3.0 ENVIRONMENTAL SETTING .....</b>                                    | <b>5</b>  |
| <b>4.0 FINDINGS.....</b>  | <b>6</b>  |
| 4.1 TOPOGRAPHY / NATURAL LANDFORM .....                                   | 6         |
| 4.2 SOILS .....   | 6         |
| 4.3 VEGETATION .....  | 7         |
| 4.4 WETLAND HABITAT AND WATERS.....                                       | 12        |
| 4.5 THREATENED AND ENDANGERED SPECIES .....                               | 13        |
| 4.6 RAPTORS AND MIGRATORY BIRDS .....                                     | 19        |
| <b>5.0 REGULATIONS AND RECOMMENDATIONS.....</b>                           | <b>19</b> |
| 5.1 CLEAN WATER ACT .....   | 19        |
| 5.2 ENDANGERED SPECIES ACT .....  | 22        |
| 5.3 MIGRATORY BIRD TREATY ACT & BALD AND GOLDEN EAGLE PROTECTION ACT..... | 22        |
| <b>6.0 REFERENCES .....</b>   | <b>24</b> |

## LIST OF FIGURES

|   |    |
|---|----|
| Figure 1. USGS Site Location Map.....                         | 2  |
| Figure 2. Existing Conditions Aerial Photo.....               | 3  |
| Figure 3. Riparian Areas Map.....                             | 9  |
| Figure 4. National Wetland Inventory Map .....                | 10 |
| Figure 5. Aquatic Resources Map.....                          | 11 |
| Figure 6. PMJM Block Clearance Map for Colorado Springs ..... | 17 |
| Figure 7. CNHP Landscape Disturbance Index.....               | 18 |

## LIST OF APPENDICES

|  |
|--|
| APPENDIX A – USFWS IPAC TRUST RESOURCES REPORT |
| APPENDIX B – USDA CUSTOM SOIL REPORT           |

## LIST OF ACROYNMS AND ABBREVIATIONS

|             |  |
|-------------|--|
| AMSL        | Above Mean Sea Level                                       |
| BCC         | Birds of Conservation Concern                              |
| BGEPA       | Bald and Golden Eagle Protection Act                       |
| CDA         | Colorado Department of Agriculture                         |
| CDPHE       | Colorado Department of Public Health and Environment       |
| CNHP        | Colorado Natural Heritage Program                          |
| CPW         | Colorado Parks and Wildlife                                |
| CWA         | Clean Water Act  |
| EA          | Ecological Assessment                                      |
| ECMC        | Colorado Energy and Carbon Management Commission           |
| ECOS        | Ecosystem Services, LLC                                    |
| EPC         | El Paso County   |
| ESA         | Endangered Species Act                                     |
| Classic     | Classic Consulting   |
| JD          | Jurisdictional Determination under the Clean Water Act     |
| LEDPA       | Least Environmentally Damaging and Practicable Alternative |
| MBTA        | Migratory Bird Treaty Act                                  |
| Non-JD      | Non-jurisdictional Determination under the Clean Water Act |
| NRCS        | Natural Resource Conservation Service                      |
| NTCHS       | Technical Committee for Hydric Soils                       |
| NWI         | National Wetland Inventory                                 |
| PCA         | CNHP Potential Conservation Area                           |
| PMJM        | Preble's meadow jumping mouse                              |
| Project     | Rowley Property Project                                    |
| Report      | Ecological Assessment Report                               |
| Site        | Project site   |
| T&E Species | Threatened and Endangered species                          |
| USACE       | U.S. Army Corps of Engineers                               |
| USDA        | U.S. Department of Agriculture                             |
| USFWS       | U.S. Fish and Wildlife Service                             |
| USGS        | U.S. Geological Survey                                     |
| WQCD        | Water Quality Control Division                             |

## **1.0 INTRODUCTION**

Ecosystem Services, LLC (ECOS) was retained by Classic Consulting (Classic) to perform an ecological assessment (EA) for the approximate 190-acre Rowley Site (Site) development project (Project) and prepare this Ecological Assessment Report (Report).

The contact information for the Vertex and ECOS representatives for this Report is provided below:

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## **1.1 Purpose**

The purpose of this EA is to compare background information with present-day conditions, describe the physical/ecological characteristics and conditions of the Site, identify potential environmental opportunities and constraints associated with the Site, and determine the presence/absence and approximate extent of the following features:

- Topography / Natural Landforms;
- Soils
- Plant Communities;
- Riparian Areas;
- Wetland Habitat and Waters Resources (i.e., lakes, ponds, streams)
- Federal listed Threatened and Endangered Species; and
- Migratory Birds and Raptors

## **1.2 Site Location**

The Site is located on the eastern edge of Colorado Springs, Colorado at the southwestern intersection of Constitution Avenue and Marksheffel Road. The southern Site boundary is an extension of Omaha Boulevard. The Site is specifically located within the northwest quarter of Section 5, Township 14 South, Range 65 West of the 6th P.M., El Paso County, Colorado. The center of the Site is located at approximately Latitude 38.860668° north, Longitude -104.685029° west at an elevation of approximately 6,400 feet above mean sea level (AMSL). Refer to Figure 1, USGS Site Location Map and Figure 2, Existing Conditions Aerial Photo.

## **1.3 Project Description**

No Site plan was provided. The Applicant is conducting a due diligence review of environmental conditions on the Site.


**Figure 1**

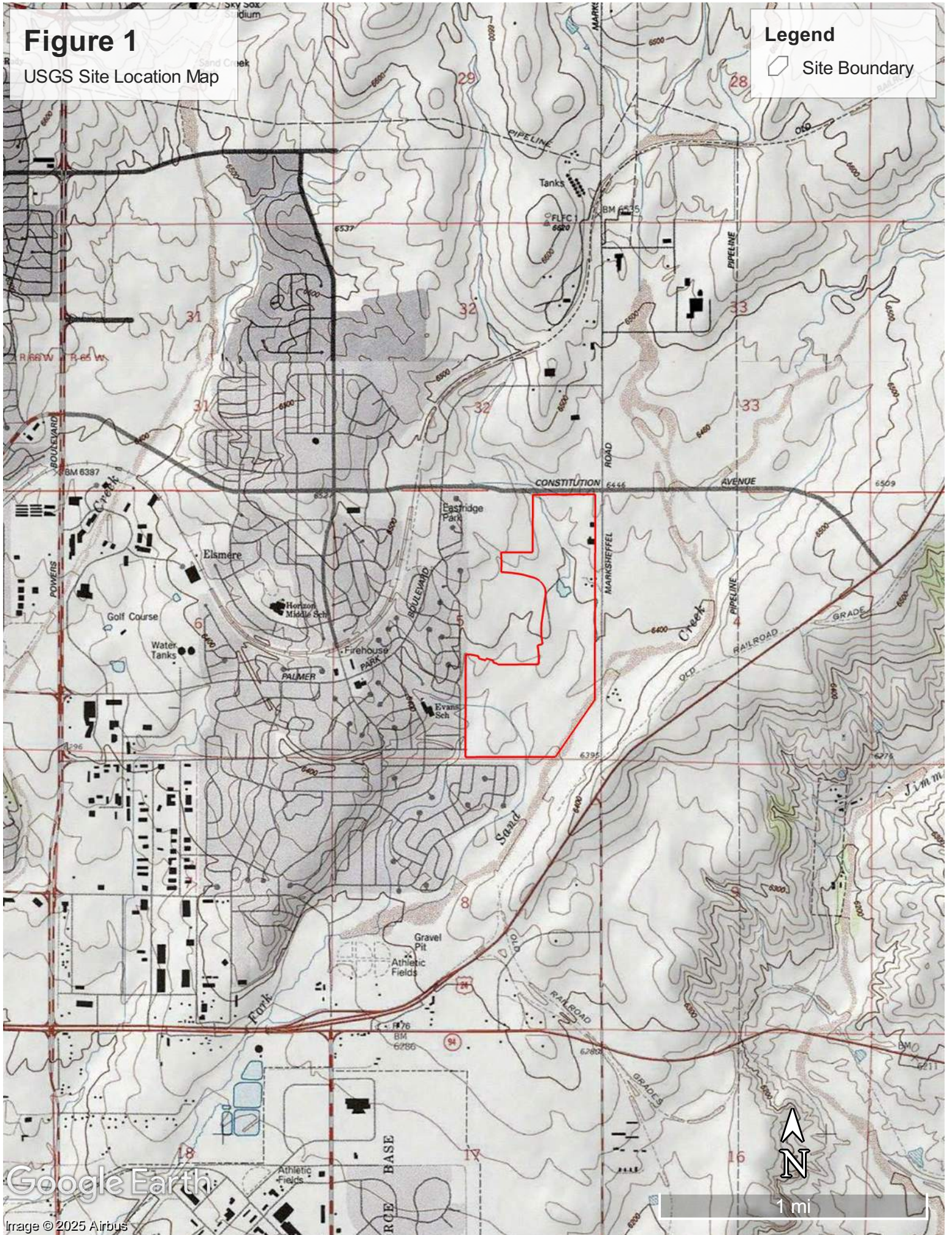
USGS Site Location Map

# Figure 1

USGS Site Location Map

## Legend

 Site Boundary



**Figure 2**  
Existing Conditions Aerial Photo

Figure 2 – Existing Conditions Aerial Photo



Source: Google Earth, 3/2/2025.

## 2.0 METHODOLOGY

ECOS performed an office-level assessment in which available databases, resources, literature and field guides on local flora and fauna were reviewed to gather background information on the environmental setting of the Site. We consulted several organizations, agencies, and their databases, including:

- Colorado Natural Heritage Program (CNHP) Wetland and Riparian Areas;
- Colorado Energy and Carbon Management Commission (ECMC) Online GIS;
- Colorado Parks and Wildlife (CPW);
- Google Earth current and historic aerial imagery;
- Survey of Critical Biological Resources, El Paso County, Colorado;
- Survey of Critical Wetlands and Riparian Areas in El Paso and Pueblo Counties, Colorado;
- U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetlands Delineation Manual;
- USACE 2008 Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast;
- U.S. Department of Agriculture (USDA) PLANTS Database;
- U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey;
- U.S. Fish and Wildlife Service (USFWS) Region 6 data;
- USFWS Information, Planning, and Conservation (IPaC) database;
- USFWS National Wetland Inventory (NWI);
- U.S. Geological Survey (USGS); and
- Site-specific background data and plans provided by the Classic.

At this stage in the process, a field assessment has not been performed to verify the office level review of existing data and background information of the following features:

- Topography / Natural Landforms;
- Vegetation Communities;
- Riparian Areas;
- Wetlands and waters resources (i.e., lakes, ponds, streams) regulated under the Federal Clean Water Act (CWA) and State of Colorado Water Quality Control Act; and
- Wildlife habitat, including:
  - Federal listed Threatened and endangered Species habitat regulated under the Endangered Species Act;
  - Migratory birds and raptors regulated under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BEGPA); and other

During the office assessment ECOS mapped the above features (if present) using a Google Earth aerial imagery. No on-site representative photographs of the ground conditions have been taken to assist in describing and documenting Site conditions.

### **3.0 ENVIRONMENTAL SETTING**

The Site is located in the following Ecoregions:

- Level 1 Great Plains (Region 9)
- Level 2 South Central Semi-arid Prairies (Region 9.4)
- Level 3 Southwestern Tablelands (Subregion 26)
- Level 4 Foothills Grasslands (Subregion 26j)

Southwestern Tablelands are primarily comprised of sub-humid grassland and semiarid rangeland. The Foothill Grasslands (26j) *ecoregion contains a mix of grassland types, with some small areas of isolated tallgrass prairie species that are more common much further east. The proximity to runoff and moisture from the Front Range and the more loamy, gravelly, and deeper soils are able to support more tallgrass and midgrass species than neighboring ecoregions. Big and little bluestem, yellow Indiangrass, and switchgrass occur, along with foothill grassland communities similar to those of Ecoregion 21d (Foothill Shrublands). Although grasslands dominate, scattered pine woodlands similar to those found in 26i (Pine-Oak Woodlands) also occur. The annual precipitation of 14 to 20 inches tends to be greater than in regions farther east. Soils are loamy, gravelly, moderately deep, and mesic. They are formed from weathered arkosic sedimentary rock, gravelly alluvium, and materials weathered from sandstone and shales. Rangeland and pasture are common, with small areas of cropland. Urban and suburban development has increased in recent years, expanding out from Colorado Springs and the greater Denver area (Chapman, 2006)*

The Site is located within the western margin of the Fountain Creek Colorado Natural Heritage Program (CNHP) Potential Conservation Area (PCA), a PCA defined by the Fountain Creek watershed, including the East Fork of Sand Creek and Jimmy Camp Creek minus most of the developed areas around Colorado Springs. This PCA is designated primarily for Bald Eagle that are known to occur in the area (CNHP, 2025). The Site is not located within a Critical Wetland or Riparian Area according to the Survey of Critical Wetlands and Riparian Areas in El Paso County (CNHP, 2001).

The Site contains an unnamed, urbanized tributary to East Sand Creek which is a tributary to Sand Creek, Fountain Creek, and the Arkansas River.

## **4.0 FINDINGS**

### **4.1 Topography / Natural Landform**

The topography/natural landform of the Site is somewhat concave, with gentle (1-9%) side slopes leading to a central valley that slopes from north to south between 0-5%. Elevations range roughly between 6,440 along the northern site boundary and 6,360 feet AMSL at the southern boundary, a fall of approximately 80 feet. A sandy wash (Sandy Wash) winds through the center of the Site from north to south, joining the East Fork of Sand Creek approximately 900 feet south of the Site. A remnant impoundment (Remnant Pond) constructed prior to 1999, which has since breached its embankment, is present in the north-central portion of the Site. A major stormwater channel (Stormwater Channel) enters the Site from an adjacent neighborhood to the west and is confluent with the Sandy Wash at the southern Site boundary. Numerous smaller stormwater detention ponds, ditches, and outfall structures emanating from adjacent development drop into the Sandy Wash along its entire length. Numerous land clearing, grading, and excavation operations have occurred over time altering the natural landform, ground surface and vegetation cover.

### **4.2 Soils**

ECOS utilized the USDA, Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS, 2025) to determine the types of soils present and if hydric soils are present within the Site, as this data assists in informing the presence/absence of potential wetland habitat regulated under the Clean Water Act (CWA). Please refer to the Custom Soil Report for the Site in Appendix B.

Pursuant to the Custom Soil Resource Report, 54% of the Site (103 acres) is comprised of 10 – Blendon sandy loam; 27% of the Site (51 acres) along the western edge is comprised of 8 – Blakeland loamy sand; and 19% of the Site (37 acres) is comprised of Ellicott loamy coarse sand along the sandy wash. These soils are somewhat excessively and well drained, have very low available water capacity, are not prone to ponding, and have very little to no silt or clay, all factors that support and sustain wetland vegetation. The frequency of flooding for Blakeland and Blendon soils is none. Ellicott soils are prone to frequent flooding. All sandy soils are highly erosive.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS, 1994) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in *Field Indicators of Hydric Soils in the United States* (USDA, NRCS, 2010). On a scale of 1-100%

the Blakeland, Blendon, and Ellicott soils present on site have a rating of 1-3% (not hydric).

### **4.3 Vegetation**

The NRCS associates soil types with ecological site descriptions of plant communities within Major Land Resources Areas (MLRA's). The Blakeland and Blendo soils on the Site are associated with the Sandy Foothill MLRA. Ellicott soils are associated with the Sandy Bottomland MLRA.

#### **4.3.1 Grassland**

The Sandy Foothill plant community can be characterized by four conditions: *Reference, Shortgrass Dominated, Increased Bare Ground, and Invaded States*. *The Reference State is characterized by dominant warm-season tallgrass (big bluestem, prairie sandreed), and secondary cool-season midgrass (needle and thread, western wheatgrass). The Shortgrass State is characterized by a warm-season short bunchgrass (blue grama). The Increased Bare Ground State is characterized by early successional warm-season bunchgrass (Fendler threeawn), cool-season short bunchgrass (squirreltail), annual grasses, annual forbs, and soapweed yucca. The Invaded State has been disturbed by equipment and includes early successional annual plants as well as invasive species such as knapweeds and yellow toadflax (NRCS, 2025).*

NRCS indicates the plant community composition of the Reference Condition of the Sandy Foothills *would be favorable to the production of mid and tallgrass species giving this range site a rolling, mixed prairie aspect. The plant community is about 75 to 85% grasses and grass-like plants, 10 to 15% forbs and 5 to 10% shrubs. Big bluestem, little bluestem, prairie sandreed, switchgrass, needleandthread and sideoats grama make up most of the plant community and provide about 60-75% of the total production. Grasses such as blue grama, western wheatgrass and prairie junegrass are secondary in the plant community. Small amounts of sand dropseed, sun sedge, purple prairieclover, spreading eriogonum and Louisiana sagewort are scattered throughout the plant community (NRCS, 2025).* Given that this Site has been disturbed, modified, or manipulated frequently over the years by earth moving and ground disturbance, it is likely that there are only remnant plants of the Sandy Foothills plant community Reference condition and the Site is mostly in a weed-infested condition, consisting of blue grama, western wheatgrass, prairie junegrass, Fendler threeawn, diffuse knapweed, spotted knapweed, cheatgrass, and toadflax (NRCS, 2025).

NRCS indicates the plant community composition of the Reference Condition of the Sandy Bottomlands would consist *chiefly of tall warm-season grasses. Principle dominants are sand bluestem, prairie sandreed, switchgrass, and yellow Indiangrass. Sub-dominant grasses include needle and thread and blue grama. Significant forbs and shrubs are silky prairie clover, lemon scurfpea, dotted gayfeather, leadplant, and western sandcherry. The potential vegetation is about 70 to 85 percent grasses or grass-like plants, 10 to 15 percent forbs and 5 to 15 percent shrubs with some occasional cottonwood (NRCS, 2025).*

Given that the valley floor and drainage of the Site has been disturbed, modified or altered frequently over the years, it is likely that there are only remnant plants of the Sandy Bottomlands plant community Reference condition. It is likely that sandy wash has down-cut and eroded, leaving the valley floor mostly in a weed-infested condition, consisting of cottonwood, sand sagebrush, soapweed yucca, sand dropseed, Fendler threeawn, cheatgrass along with other noxious and invasive weeds.

The above grassland communities and species are not visible on aerial imagery and would require field confirmation.

#### **4.3.2 Riparian Areas**

The Colorado Natural Heritage Center (CNHP) Colorado Wetland Information Center – Wetlands Mapper includes the option for illustrating potential riparian habitat based on aerial photo interpretation mapping produced by Colorado Parks and Wildlife (CPW). CNHP Riparian Area mapping indicates that there are several Open Water and Herbaceous riparian area patches along the Sandy Wash and Stormwater Channel that include sedges/rushes and mesic grasses (CNHP, 2025). Herbaceous riparian patches appear in now developed areas, indicating that the riparian mapping is based on older aerial imagery. Refer to Figure 3, Riparian Areas Map.

Riparian vegetation, including cottonwood and sandbar willow are visible on current aerial imagery (dated 10/6/2023 and 3/2/2025) within the footprint of the Remnant Pond, Stormwater Channel, and intermittently along the banks and point bars of the Sandy Wash. Refer to Figure 2 - Existing Conditions Aerial Photo and Figure 5 – Aquatic Resources Map.

**Figure 3**

Riparian Areas Map

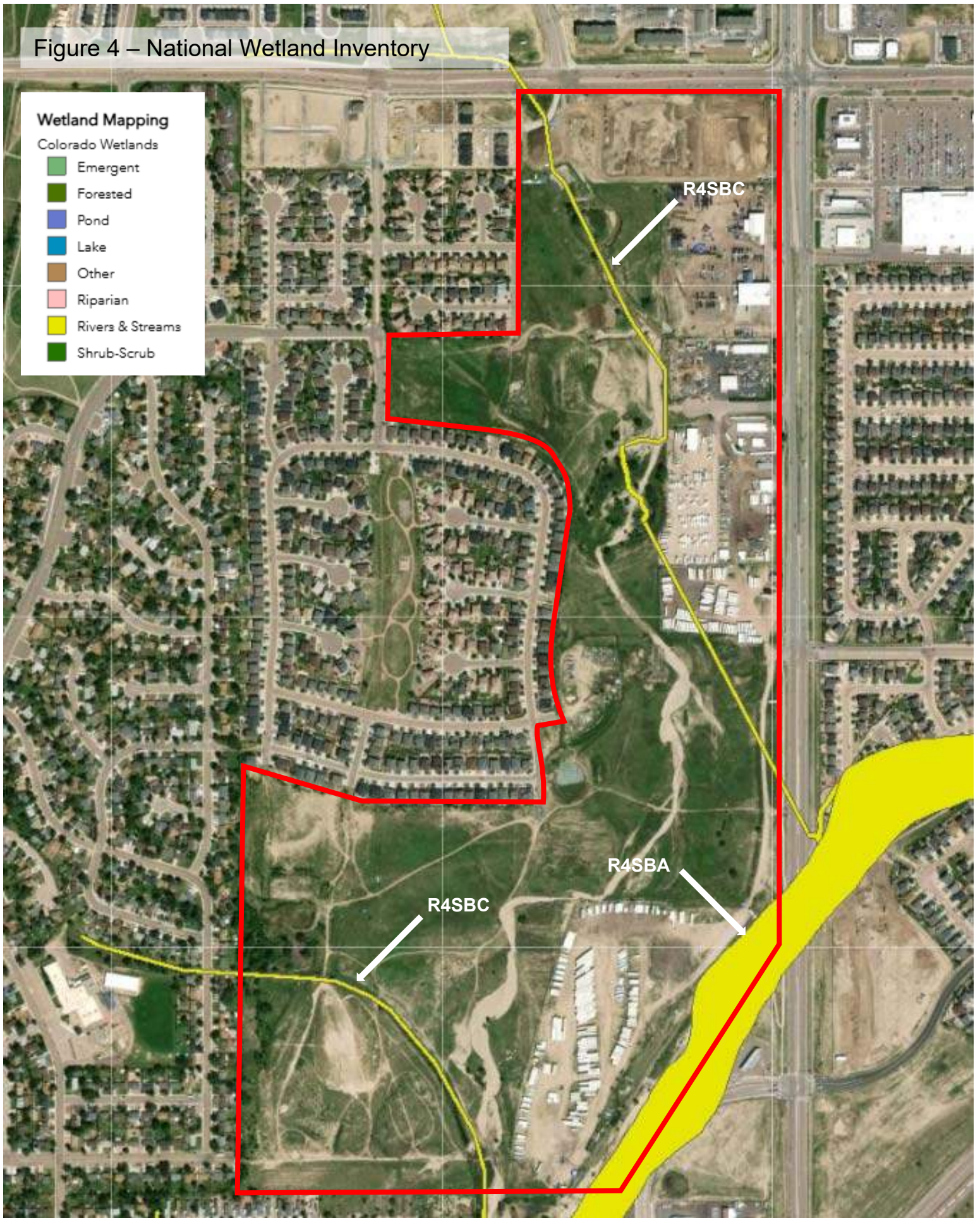
Figure 3 – Riparian Areas Map



Source: Colorado Natural Heritage Program (CNHP) Wetland Mapper

**Figure 4**  
National Wetland Inventory Map

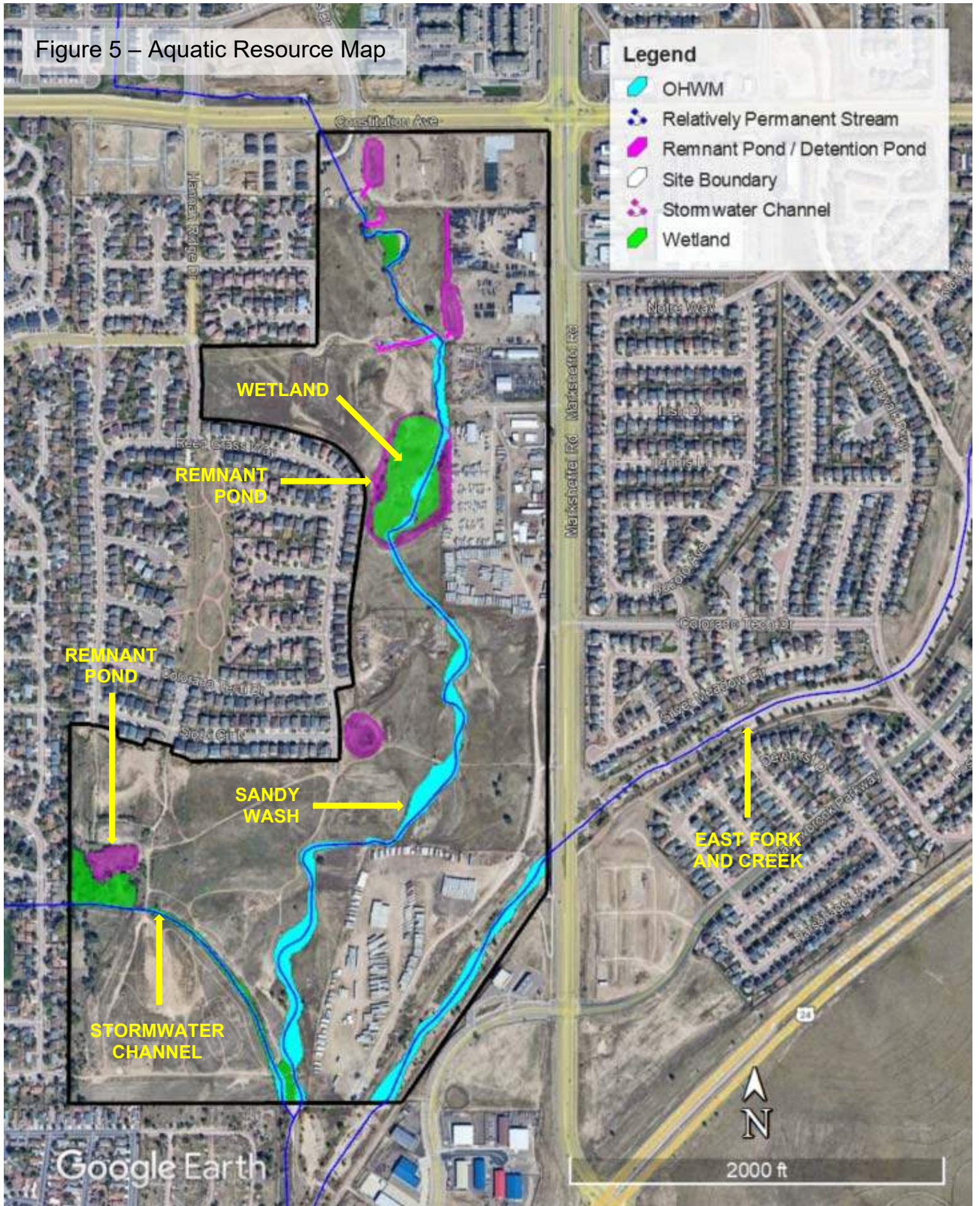
Figure 4 – National Wetland Inventory



Source: CNHP Wetland Mapper / USFWS National Wetland Inventory (NWI)

**FIGURE 5**  
Aquatic Resources Map

Figure 5 – Aquatic Resource Map



Source: Google Earth, 10/6/2023. Ecosystem Services, LLC aerial interpretation, 4/2/2025.

## 4.4 Wetland Habitat and Waters

### 4.4.1 Methodology

ECOS utilized USGS 7.5-minute topographic mapping, CNHP National Wetland Inventory (NWI) Wetlands Mapper, and historic and current Google Earth aerial photography to identify the approximate presence or absence, reach, and extent of potentially jurisdictional wetland habitat and Waters of the U.S. (WOTUS) and Waters of the State of Colorado (WOSOC) on the Site. Refer to Figure 4, National Wetland Inventory Map and Figure 5, Aquatic Resources Map.

If detectable, hydrophytic vegetation (i.e., wetland vegetation), one of the three indicators of wetland habitat was mapped/interpreted on aerial imagery to preliminarily delineate the location, configuration and extent of wetlands. A field delineation is required to refine and verify the mapping looking at all three indicators (i.e., wetland hydrology, hydric soils and a predominance of hydrophytic vegetation) using the USACE wetland delineation methodology as explained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplemented by the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (USACE, 2008). Indicators of an Ordinary High Water Mark (OHWM), if present, were also interpreted and mapped using aerial imagery following the National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams. The OHWM would also need to be field verified or modeled using the 1.5 or 2-year recurrence interval.

### 4.4.2 Office Assessment

USGS Mapping: As referenced in Section 4.1 Topography / Natural Landform, the Site slopes and drains south toward Omaha Blvd. USGS shows a perennial stream (solid blue line) draining north to south through the northwest corner of the site and then terminating in a pond (i.e., the Sandy Wash); a curvilinear perennial channel (solid blue line) in the southwest portion of the Site draining west to east from urbanized areas (i.e., the Stormwater Channel); and the East Fork of Sand Creek (Sand Creek) shown as a wash (speckled pattern). Refer to Figure 1, USGS Site Location Map.

CNHP National Wetland Inventory (NWI) Wetland Mapper: The NWI Wetland Mapper provides planning-scale identification of potential waters and wetlands (WOTUS and WOSOC), and indicates that the:

- Sandy Wash is an Intermittent Riverine Seasonally Flooded Stream (R4SBC) shown in a previous alignment;
- Stormwater Channel is an Intermittent Riverine Seasonally Flooded Stream (R4SBC); and the
- East Fork of Sand Creek is an Intermittent Riverine Temporarily Flooded Stream (R4SBA)
- No wetlands are present on the Site.

Refer to Figure 4, National Wetland Inventory Map.

These NWI designations are consistent with USGS designations and conditions of streams observed on aerial imagery. NWI mapping does not however reflect USDA NRCS Web Soil Survey: The custom soil report generated for the Site via the NRCS Web Soil Survey (USDA NRCS, 2025) does not rate any of the soils present on the Site as hydric (wetland) soil.

Google Earth aerial imagery review: ECOS reviewed the Site using the time-lapse function in Google Earth (GE) to get a look back in time from 1999 to the present. In 1999, the Sandy Wash draining into the pond had little definition downstream of the pond. The Stormwater Channel built before 1999 appears as a man-made feature with a trapezoidal profile that runs offsite in parallel with Sand Creek until they converge. In 1999, Sand Creek is in a relatively natural, unconfined state until approximately 2011 when it was channelized and stabilized with a series of drop structures. Between 2006 and 2022, the neighborhoods abutting the Site to the northwest are almost fully developed, including two detention ponds along the south-central southwest Site boundary. By 2015, the upstream, offsite reach of the Sandy Wash has been modified and piped under Constitution Ave. to the Site. The Pond embankment on the Sandy Wash had breached by 2015 and the Sandy Wash is almost fully formed through the entire Site, modified somewhat by industrial land used along the eastern margin of the Site adjacent to Marksheffell Road. By 2025, it is apparent that the Sandy Wash, Stormwater Channel, and the East Fork of Sand Creek all flow frequently as a result of increased stormwater inputs from the surrounding urbanized area. The Sandy Wash is currently downcutting and migrating laterally. Refer to Figure 2, Existing Conditions Aerial Photo.

Using current aerial imagery, ECOS delineated the following features:

- Relatively Permanent Streams (Intermittent or Perennial)
- Wetlands (abutting relatively permanent streams)
- Ordinary High Water Mark (OHWM of relatively permanent streams)
- Ponds (remnant or active detention ponds or impoundments)

Refer to Figure 5, Aquatic Resources Map and Regulations and Recommendations section below regarding the jurisdictional disposition of the aquatic resources present on the Site.

#### **4.5 Threatened and Endangered Species**

The purpose of this section is to document the potential presence or absence of Threatened and Endangered Species (T&E Species) on the Site and the level of existing disturbance of the Site to ensure that proposed Project is reviewed with consideration of the impacts to their habitat.

#### 4.5.2 Threatened and Endangered Species

A number of species that occur in El Paso County are listed as threatened and endangered (T&E Species) by the USFWS under the Endangered Species Act (ESA). ECOS compiled the data regarding T&E Species for the Site in Table 1 based on the Site-specific, USFWS IPaC Trust Resources Report (USFWS, 2025a) that we ran for the Project (Appendix A) and our onsite assessment. ECOS has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any of the species listed below is low to none. Most do not or are not expected to occur on the Site and no impacts are expected that would affect downstream listed species. The USFWS IPaC Report also states that No Critical Habitat of T&E Species, Wildlife Refuges or Hatcheries are present at or within the vicinity of the Site (USFWS, 2025a). Refer to Appendix A - USFWS IPaC Report.

| <b>TABLE 1 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT</b>     |               |  |   |
|---|---------------|--|---|
| <b>Species</b>  | <b>Status</b> | <b>Habitat Requirements and Presence</b>   | <b>Probability of Impact by Project</b>   |
| <b>BIRDS</b>  |               |  |   |
| Eastern Black Rail<br>( <i>Laterallus jamaicensis</i> ssp. <i>Jamaicensis</i> ) | Threatened    | Habitat includes tidally or non-tidally influenced marshes which range in salinity from salt to brackish to fresh. It requires dense overhead perennial herbaceous cover with underlying soils that are moist to saturated (occasionally dry) interspersed with or adjacent to very shallow water (typically ≤ 3 cm). Eastern black rails depend on this dense cover throughout their life cycle and is their primary strategy to avoid predation. | Low. Herbaceous wetland habitat is generally absent on the Site due to intermittent water supply and very well drained soils. |
| Piping plover<br>( <i>Charadrius melodus</i> )                                  | Threatened    | Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.   | None. The proposed project will not affect any of the listed river basins.  |
| <b>INSECTS</b>  |               |  |   |

| <b>TABLE 1 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT</b> |                     |   |  |
|---|---------------------|---|--|
| <b>Species</b>  | <b>Status</b>       | <b>Habitat Requirements and Presence</b>  | <b>Probability of Impact by Project</b>  |
| Monarch butterfly ( <i>Danaus plexippus</i> )                               | Proposed Threatened | Multigenerational migrant that breeds throughout North America and overwinters in dense congregations in Mexican montane fir forests. The larval hostplant is milkweed ( <i>Asclepias</i> spp.). Habitat includes areas with nectar for feeding and/or milkweed for laying eggs, especially grasslands and wetlands. Breeding habitat threats are widespread native grassland loss and herbicide use. In Colorado, they are present in low numbers from May to September. | Low. Riparian habitat and milkweed is not likely present.  |
| Suckley's Cuckoo Bumble Bee ( <i>Bombus suckleyi</i> )                      | Proposed Threatened | The USFWS will be developing consultation guidance for the Suckley's cuckoo bumble bee. They strive for consistency in our conservation approach to bumble bees. Partners can expect consultation guidance to be similar to the Rusty-patched bumble bee guidance and Franklin's bumble bee guidance.   | NA   |
| <b>PLANTS</b>   |                     |   |  |
| Ute ladies'-tresses orchid ( <i>Spiranthes diluvialis</i> )                 | Threatened          | Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands.   | Low. The site, stream channels, and flood terraces are highly disturbed and the substrate is very well drained prohibiting sub-irrigation. Wetland habitat is generally absent due to intermittent water supply and very well drained soils. |

### 4.5.3 Preliminary Effects Determination

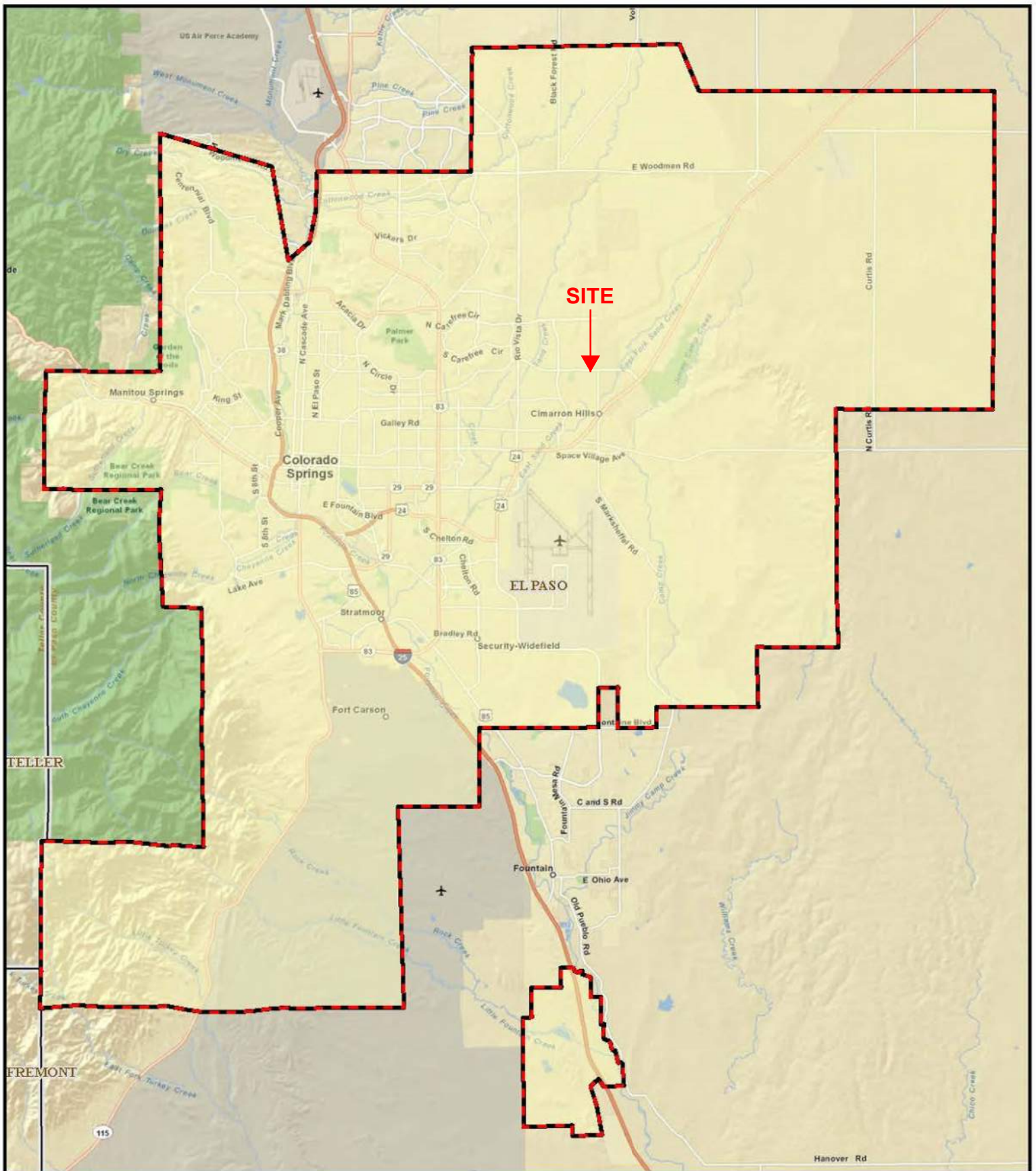
The USFWS IPaC Report (Appendix A) states that there is no Critical Habitat for T&E species in the Site. Based on the review of USFWS IPaC Report for the Site and our high level office assessment, it is ECOS' professional opinion that the likelihood that the Project would impact any of the species listed above in Table 1 is none. Most are not expected to occur in the Project area or on the Site; nor will they be affected by the indirect effects of the project as no downstream impacts to drainage basins supporting these T&E species are expected to affect them in offsite habitat. Therefore, ECOS' has preliminarily determined that the Project would have No Effect on any of the species listed above in Table 1.

Preble's meadow jumping mouse (PMJM) is a common concern in El Paso County and within their range along the Front Range of the Rockies. The USFWS does not list this T&E Species in the USFWS IPaC Report because the Site does not support the constituent elements and habitat requirement of PMJM. The site is not located within, adjacent, and is not connected to Occupied or designated Critical Habitat. Furthermore, this site falls within the Colorado Springs City-wide Block Clearance Zone for PMJM which has been extended multiple times since its establishment. Refer to Figure 6, PMJM Block Clearance Map for Colorado Springs which shows the location of the Site.

In addition, the plant communities and aquatic resources (habitat) on the Site have been disturbed and/or perturbed for many years by various on-site and adjacent land uses dating back to 1999, the latest Google Earth aerial photo on record.

Disturbance of the Site and vicinity is substantiated by the CNHP Landscape Disturbance Index (LDI). The LDI is a result of a CNHP collaboration with the Nature Conservancy to develop a prototype analysis of the status of Colorado's biodiversity, using a scorecard approach. The scorecard evaluated the status of ecological systems, animals, and rare plants under three broad categories: biodiversity status (size, quality and landscape integrity); threat status (both current and potential future impacts); and protection status. The Landscape Disturbance Index developed as part of this project to model ecological integrity against the negative effect of anthropogenic disturbance on the quality of habitats for species viability and conservation efforts. The model tests both distance-based and disturbance-density models in relation to ecological indicators. The model included roads, residential and commercial development, agricultural land use, mining, energy development infrastructure, and transmission structures as disturbance sources (CNHP, 2025c). The Landscape Disturbance Index for the Site and surrounding lands is rated as high (CNHP, 2025b). This means that the Site is already compromised or impaired and not a candidate or priority for conservation or protection of T&E Species. Refer to Figure 7, CNHP Landscape Disturbance Index Map.

**FIGURE 6**  
PMJM Block Clearance Map for Colorado Springs



**PREBLE'S MEADOW JUMPING MOUSE BLOCK CLEARANCE MAP: COLORADO SPRINGS**



Please contact the U.S. Fish & Wildlife Service, Colorado Field Office, at (303) 236-4773 for assistance using this map. Visit <http://1.usa.gov/n5r48y> for more information on Preble's and the Block Clearance.



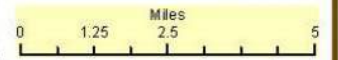
**Block Clearance Area**



**County Boundaries**



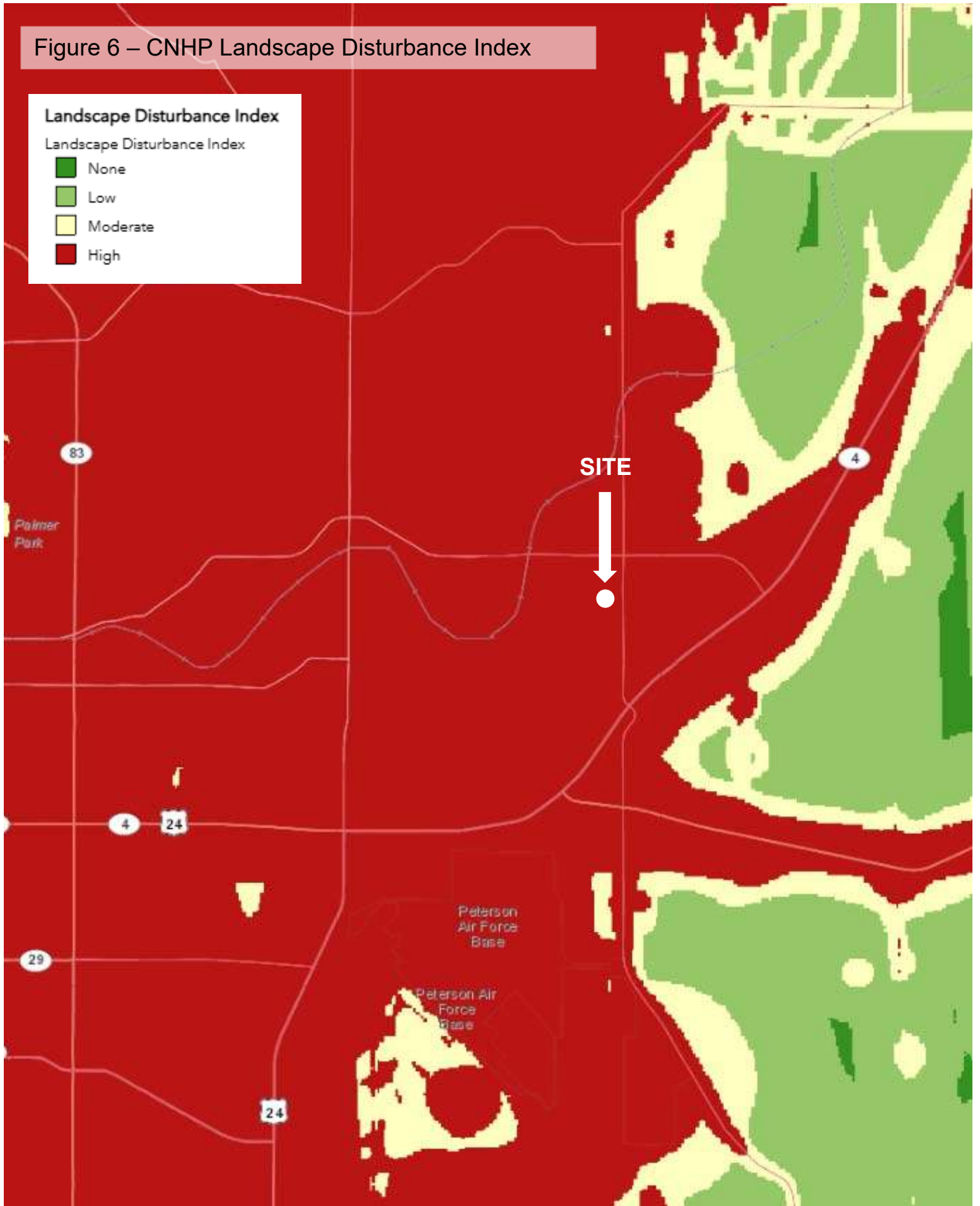
1:200,348



23 FEB 2012 | NAD83 UTM Z13N  
Basemap: World Street Map, ESRI Services

**FIGURE 7**  
CNHP Landscape Disturbance Index Map

Figure 6 – CNHP Landscape Disturbance Index



Source: CNHP Landscape Disturbance Index

## **4.6 RAPTORS AND MIGRATORY BIRDS**

Raptors and most songbirds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA).

### **4.6.1 ECMC Database**

ECOS utilized the Colorado Energy and Carbon Management Commission (ECMC) Online GIS data (ECMC, 2025) to screen the Site for potential raptor nests. No raptor nests have been mapped within two miles of the Site (ECMC, 2025). The closest nest site is an active bald eagle nest is located 3.0 miles to the northeast of the Site on the Banning Lewis Ranch, located further upstream on the East Fork of Sand Creek.

### **4.6.2 USFWS IPaC Data**

The USFWS IPaC data does not have data available at this time regarding the presence of raptors, migratory birds, or bald and golden eagles on the Site, but recommends that “any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitat, should follow appropriate regulations and consider implanting appropriate avoidance and minimization measures” as described in the various USFWS guidance documents. Refer to Appendix A, USFWS iPaC Report.

### **4.6.3 Office-level Assessment**

The grassland and particularly riparian habitats (trees and shrubs around water resources) on the Site provide cover, feeding, nesting, and breeding habitat for transient and resident migratory birds and raptors, including prairie dog colonies that can be utilized by burrowing owl. Tree nest sites cannot be observed via aerial imagery to determine the presence or absence of potential bird and raptors. Prairie dog burrows are detectable on aerial imagery and can be seed scattered throughout the Site. On-site nest and burrow surveys are needed to confirm the presence or absence of nesting birds and raptors. Further discussion and recommendations on the MBTA and BGEPA are provided below.

## **5.0 REGULATIONS AND RECOMMENDATIONS**

### **5.1 Clean Water Act**

#### **5.1.1 Jurisdictional Delineations**

The USACE and the State of Colorado rely on delineations of the Ordinary High Water Mark (OHWM) and wetlands to establish the limits of jurisdictional WOTUS and WOSOC. According to the USACE National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (USACE, 2022), the OHWM is that line on the shore or streambank established by the fluctuations of ordinary high water as indicated by physical characteristics, such as:

- a clear, natural line impressed on the bank;
- shelving;

- changes in the character of soil;
- destruction of terrestrial vegetation;
- the presence of litter and debris; or
- other appropriate means that consider the characteristics of the surrounding area.

Wetland delineations must include field assessment, documentation, and mapping of the presence or absence, location, and configuration of all three wetland indicators (i.e., wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation) using the USACE wetland delineation methodology as explained in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) and supplemented by the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region (USACE, 2008).

### **5.1.2 Jurisdictional Status**

Based on the office-level information documented above, and current Federal and State of Colorado rules, definitions, and field guides pertaining to WOTUS and WOSOC as outlined in the USACE Sackett Rules and State of Colorado House Bill 24-1379 (HB 24-1379), it is ECOS opinion that the following intermittent or perennial aquatic resources are jurisdictional as they meet the USACE definitions of a Relatively Permanent Stream (RPS), including any wetlands that may be directly abutting or have surface connections to these streams:

- Sandy Wash, including the online Remnant Pond and any minor tributaries;
- Stormwater Channel; and the
- *East Fork of Sand Creek*

It is ECOS opinion that the following do not meet the USACE definitions of a Relatively Permanent Stream (RPS) or are non-jurisdictional:

- All off-line storm water control features (remnant or active detention ponds, ditches, or outfall structures) that were constructed to convey, treat, or store storm water that were created in uplands;

Refer to Figure 7, Aquatic Resources Map below.

### **5.1.3 Federal CWA Permitting**

Section 404 of the CWA prohibits the discharge of dredged or fill material into jurisdictional WOTUS, including wetland habitat without a valid CWA Section 404 Permit. It is ECOS opinion that any proposed dredge, fill, stabilization, impacts, or modifications to the above listed jurisdictional aquatic resources, including wetlands will require a Federal CWA Section 404 Permit as regulated by the USACE. We do not recommend pursuit of an Approved Jurisdictional Determination (AJD). The USACE can verify the jurisdiction of aquatic resources during the permitting process.

#### 5.1.4 State CWA Permitting

Until the State of Colorado develops and passes specific regulations (i.e., pending Regulation 87), the State excludes the following types of waters under HB24-2379:

- (I) all portions of ditches and canals that are excavated in uplands that convey water or wastewater;*
- (II) storm water control features that are constructed to convey, treat, or store storm water and that are created in uplands;*
- (III) artificially irrigated areas that would revert to uplands if irrigation ceased;*
- (IV) artificial lakes, lagoons, or ponds that are created entirely by excavating or diking upland to collect and retain water and that are used exclusively for stock watering, irrigation, settling basins, or rice growing;*
- (V) wetlands that are adjacent to a ditch or canal and supported by water in the adjacent ditch or canal;*
- (VI) recharge facilities, including ponds, included in uplands for the purpose of facilitating 1 recharge of aquifers or streams;*
- (VII) artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking upland to retain water for primarily aesthetic reasons;*
- (VIII) water-filled depressions created in uplands incidental to mining or construction activity and pits excavated in uplands for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting water feature is state waters;*
- (IX) swales and erosional features, such as gullies, small washes, and rills that do not contain wetlands or an ordinary high watermark;*
- (X) Groundwater, meaning subsurface waters in a zone of saturation that are or can be brought to the surface of the ground or to surface waters through wells, springs, seeps, or other discharge areas. "Groundwater" does not include wetlands; and*
- (XI) Prior converted cropland*

In addition, the State of Colorado does not require an authorization/permit to discharge dredged or fill material that meet the following conditions:

- (i) Activities in receipt of an active CWA Section 404 Permit through the USACE that was issued prior to May 25, 2023;
- (ii) Activities in receipt of an approved jurisdictional determination issued by the USACE prior to May 25, 2023, finding that the state waters into which the proposed discharge of dredged or fill material will occur are not Waters of the United States unless there has been a significant hydrological change since the determination was issued; and
- (iii) Activities in receipt of an active CWA Section 404 Permit that was issued by the USACE on or after May 25, 2023, except to the extent that the project

area of the Section 404 permit involves a discharge of dredged or fill material into State waters that have been determined by the United States USACE to not be Waters of The United States.

Based upon the above exclusions and permit conditions, it is ECOS opinion that if a Federal Clean Water Act (CWA) Section 404 Permit is obtained for any proposed dredge, fill, stabilization, impacts, or modifications to the above listed jurisdictional WOTUS, a State CWA Permit is not required as it meets condition (iii) noted above.

## **5.2 Endangered Species Act**

The Site is not located within any Critical Habitat for T&E Species, Wildlife Refuges or Hatcheries according to the USFWS IPaC Trust Resources Report (USFWS, 2025a), nor does it exhibit any of the requisite or suitable habitat components to support T&E species listed for the area. As such, requests for concurrence with this report, clearance letters, or consultation with the USFWS under the ESA is not required.

Please note the following standard response from the USFWS in regard to ESA concurrence or clearance:

*“If you (the project proponent) have determined that your project will have no effect to listed species or their habitat, or if suitable habitat for a listed species does not occur within your project area, you may not receive any further response or notification from us, as neither section 7 of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C 1531 et seq.), nor implementing regulations under section 7 of the ESA, require us to review or concur with projects where “no effect” determinations have been made”.*

This means that the USFWS may or may not comment or concur with the findings of this report or effects determination as documentation of ESA compliance, regardless of the Project being constructed, funded or permitted by a federal agency, or requests for ESA concurrence by local jurisdictions, counties, or FEMA.

## **5.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act**

The Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) prohibits prohibits the "taking" of migratory birds or raptor, which includes pursuing, hunting, shooting, trapping, killing, capturing, or possessing them, or their eggs, parts, or nests, without prior authorization from the USFWS.

No raptor nests have been mapped within two miles of the Site. Activities on the Site will have no effect on the viability of the bald eagle nest located three miles away. No migratory bird nests were observable within the Site using aerial imagery. Potential burrowing owl habitat in scattered prairie dog colonies throughout the Site are visible on aerial imagery.

Given the seasonal and transitory nature of migratory birds and raptors and an field assessment and nest surveys have not been conducted in the preparation of

this Report. ECOS recommends a nesting bird survey prior to any proposed construction activities within the Site and within the CPW recommended buffers of the Site to identify any nests within the Site that could potentially be occupied, with eggs or chicks. If found, construction activities should be timed to avoid a taking and restricted during the breeding, egg laying, and fledging season near any identified migratory bird or raptors nests.

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## **Appendix A**

### USFWS IPaC Trust Resource Report

# 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 53 Room Fw100  
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<sup>1</sup> 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<sup>2</sup>).

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](#).

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:

## Birds

| NAME   | STATUS     |
|--|------------|
| <p>Eastern Black Rail <i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i><br/>Wherever found<br/>No critical habitat has been designated for this species.<br/><a href="https://ecos.fws.gov/ecp/species/10477">https://ecos.fws.gov/ecp/species/10477</a></p>   | Threatened |
| <p>Piping Plover <i>Charadrius melodus</i><br/>This species only needs to be considered if the following condition applies:<br/>• 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.<br/><br/>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.<br/><a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a></p> | Threatened |

## Insects

| NAME   | STATUS              |
|--|---------------------|
| <p>Monarch Butterfly <i>Danaus plexippus</i><br/>Wherever found<br/>There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical habitat.<br/><a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a></p> | Proposed Threatened |
| <p>Suckley's Cuckoo Bumble Bee <i>Bombus suckleyi</i><br/>No critical habitat has been designated for this species.<br/><a href="https://ecos.fws.gov/ecp/species/10885">https://ecos.fws.gov/ecp/species/10885</a></p>  | Proposed Endangered |

## Flowering Plants

| NAME | STATUS |
|------|--------|
|------|--------|

Ute Ladies'-tresses *Spiranthes diluvialis*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2159>

## 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 <sup>2</sup> and the Migratory Bird Treaty Act (MBTA) <sup>1</sup>. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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-incident-take-migratory-birds>
- Nationwide avoidance and minimization 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 Bald Eagles and/or Golden Eagles in your [project](#) area.

### Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

### Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

### Review the FAQs

The FAQs below provide important additional information and resources.

| NAME  | BREEDING SEASON         |
|---|-------------------------|
| Bald Eagle <i>Haliaeetus leucocephalus</i><br>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.   | Breeds Oct 15 to Jul 31 |
| Golden Eagle <i>Aquila chrysaetos</i><br>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.<br><a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a> | 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.



## Bald & Golden Eagles FAQs

### 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 an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

### Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 line or no data line (red horizontal) 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 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 and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

### How do I know if eagles are 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 resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), 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.

## Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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  $0.05/0.25 = 0.2$ .

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.

### 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.

### 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.

## Migratory birds

The Migratory Bird Treaty Act (MBTA) <sup>1</sup> prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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 avoidance and minimization measures for birds
- 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>

### Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

### Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

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.

### Review the FAQs

The FAQs below provide important additional information and resources.

| NAME  | BREEDING SEASON         |
|---|-------------------------|
| Bald Eagle <i>Haliaeetus leucocephalus</i><br>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. | Breeds Oct 15 to Jul 31 |





### 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 look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 does not represent all birds present in your project area. 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 and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

### Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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  $0.05/0.25 = 0.2$ .

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.

### 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.

### 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.

## 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:

RIVERINE

[R4SBA](#)  
[R4SBC](#)  
[R5UBH](#)

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 tubercid 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.

NOT FOR CONSULTATION

## **Appendix B**

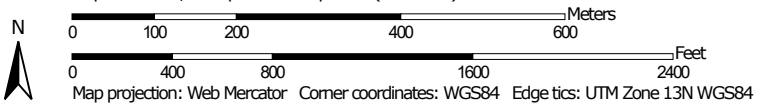
### USDA Custom Soil Resource Report

Map Unit Name—El Paso County Area, Colorado  
(ROWLEY SITE)




Soil Map may not be valid at this scale.

Map Scale: 1:9,200 if printed on A portrait (8.5" x 11") sheet.







## MAP LEGEND

### Area of Interest (AOI)





 Area of Interest (AOI)

### Soils




#### Soil Rating Polygons


-  Blakeland loamy sand, 1 to 9 percent slopes
-  Blendon sandy loam, 0 to 3 percent slopes
-  Ellicott loamy coarse sand, 0 to 5 percent slopes
-  Not rated or not available

#### Soil Rating Lines

-  Blakeland loamy sand, 1 to 9 percent slopes
-  Blendon sandy loam, 0 to 3 percent slopes
-  Ellicott loamy coarse sand, 0 to 5 percent slopes
-  Not rated or not available

#### Soil Rating Points






-  Blakeland loamy sand, 1 to 9 percent slopes
-  Blendon sandy loam, 0 to 3 percent slopes
-  Ellicott loamy coarse sand, 0 to 5 percent slopes

 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado  
Survey Area Data: Version 22, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 23, 2024—Aug 4, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Name

| Map unit symbol                    | Map unit name                                     | Rating  | Acres in AOI | Percent of AOI |
|------------------------------------|---|---|--------------|----------------|
| 8                                  | Blakeland loamy sand, 1 to 9 percent slopes       | Blakeland loamy sand, 1 to 9 percent slopes       | 51.0         | 26.6%          |
| 10                                 | Blendon sandy loam, 0 to 3 percent slopes         | Blendon sandy loam, 0 to 3 percent slopes         | 102.8        | 53.7%          |
| 28                                 | Ellicott loamy coarse sand, 0 to 5 percent slopes | Ellicott loamy coarse sand, 0 to 5 percent slopes | 37.6         | 19.7%          |
| <b>Totals for Area of Interest</b> |   |   | <b>191.5</b> | <b>100.0%</b>  |

## Description

A soil map unit is a collection of soil areas or nonsoil areas (miscellaneous areas) delineated in a soil survey. Each map unit is given a name that uniquely identifies the unit in a particular soil survey area.

## Rating Options

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower