# THREATENED & ENDANGERED SPECIES HABITAT ASSESSMENT

# Approximately 25.0 Acres

# 200 South Frontage Road

# Pecos, Reeves County, Texas

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**PREPARED FOR:**

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# Contents

## FIGURES



## APPENDICES

# ABBREVIATIONS

| | |
|---|---|
| BGEPA | Bald and Golden Eagle Protection Act |
| BMPs | Best Management Practices |
| C | Candidate |
| E | State-listed Endangered |
| EMST | Ecological Mapping System of Texas |
| EO | Element Occurrence |
| ESA | Endangered Species Act |
| ESE | Environmental Science and Engineering Partners, LLC |
| IPaC | Information for Planning and Consulting |
| IRT | Information Request Tool |
| LE | Federally-listed Endangered |
| LT | Federally-listed Threatened |
| MBTA | Migratory Bird Treaty Act |
| T | State-listed Threatened |
| TAC | Texas Administrative Code |
| TPWD | Texas Parks and Wildlife Department |
| TXNDD | Texas Natural Diversity Database |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |

# EXECUTIVE SUMMARY

ESE was retained by Pecos Power Plant, LLC (client) to perform an evaluation of biological resources for the property located on approximately 25.0 acres at 200 South Frontage Road, in the Town of Pecos City (Pecos), Reeves County, Texas (referred to herein as the Site) in order to assess potential for impacts to protected species including threatened and endangered species and their habitats. The following summarizes ESE's significant findings.

## Findings

The Site, located at 200 South Frontage Road, consists of approximately 25.0 acres of undeveloped land located within the Chihuahuan Basins and Playas Level IV Ecoregion. Species considered in this evaluation are currently listed as threatened or endangered by United States Fish and Wildlife Service (USFWS) and/or Texas Parks and Wildlife Department (TPWD).

ESE conducted a search of Texas Natural Diversity Database (TXNDD) for Element Occurrence (EO) records within one (1) mile of the Site. The TXNDD identified no EO records for federally-listed species, however TXNDD did identify one EO record for a state-listed species, Pecos Pupfish (state listed as threatened) within the vicinity of the Site. Note that there is no waterbody on or adjacent to the Site and no habitat for Pecos Pupfish. Of the species listed by USFWS and TPWD for Reeves County, the Northern Aplomado Falcon (federally listed as endangered), Monarch Butterfly (federal candidate species), Texas Horned Lizard (state listed as threatened) and Zone-tailed Hawk (state listed as threatened) have the potential to occur within the Site. However, the Site does not contain unique habitat that differs from the surrounding landscape and the low-quality habitat present at the Site is unlikely to be occupied by any of the protected species.

## Conclusions

ESE concludes the following:

- An EO record exists within the Site for a state listed species, the Pecos Pupfish. However, as the Site does not contain aquatic features and the species is not likely to occur within the Site.
- The Northern Aplomado Falcon, a species federally listed as endangered, has the potential to utilize the Site for foraging habitat. However, the Site does not contain unique habitat that differs from the surrounding landscape and does not have structures for nesting. The proposed project is not likely to have an adverse effect on Northern Aplomado Falcon.
- The Monarch Butterfly, a candidate for federal listing, has the potential to occupy the Site. Since the listing has not been finalized, the species is not currently protected under the ESA and no statutory protections exist for Monarch Butterfly as a candidate species.

Voluntary BMPs for these species are identified in Section 7 of this report to help avoid potential effects to these species.

- No species currently protected by the federal ESA are likely to be directly impacted as a result of the proposed project.
- Species listed only by the state such as the Texas Horned Lizard and Zone-tailed Hawk, may occupy the Site. However, as the property is not owned by the State of Texas, no trigger for TPWD review has been identified. Additionally, the state does not regulate potential removal of habitat for state-listed species. No impacts are anticipated to Zone-tailed Hawk. Potential impacts to Texas Horned Lizard can be minimized by implementing Beneficial Management Practices (BMPs) in Section 7 of this report.

# 1 INTRODUCTION

ESE was retained by Pecos Power Plant, LLC to perform a biological resources evaluation (BRE) for the property located at 200 South Frontage Road in the Town of Pecos City (Pecos), Reeves County, Texas (referred to herein as the Site) in order to assess potential for impacts to protected species including threatened and endangered species and their habitats (**Figure 1 and 2**).

The purpose of this BRE is to provide an evaluation of habitats, potential for species occurrence, and impacts to endangered, threatened, or otherwise protected species associated with the Site. The scope of work for this ESA was detailed in ESE's proposal (PROP-20-0909-005 Rev 0), dated July 16, 2024.

Site reconnaissance was conducted on September 17, 2024. The Site consists of generally undeveloped land previously utilized for agricultural purposes. The Site contained open arid land consisting of desert scrub species.

# 2 ECOLOGICAL SITE DESCRIPTION

The Site is located within the Southern Desertic Basins, Plains, and Mountains (MLRA 83B) of the Western Range and Irrigated Region (LRR D). This ecoregion is in the Chihuahuan DesertsLevel III Ecoregion of Texas, specifically the Chihuahuan Basins and Playas Level IV Ecoregion (**Figure 3**).

According to Griffith, et al (2007), the Chihuahuan Basins and Playas ecoregion includes alluvial fans, internally drained basins, and river valleys below 3500 feet. The major Chihuahuan basins in the Chihuahuan Basins and Playas, such as the Hueco, Salt, and Presidio basins, formed during the Basin and Range tectonism when the Earth's crust stretched and fault collapse resulted in sediment-filled basins. These low elevation areas represent the hottest and most arid habitats in Texas, with less than 12 inches of precipitation per year. Precipitation amounts are highest in July, August, and September, and winter precipitation is relatively sparse. The playas and basin floors have saline or alkaline soils and areas of salt flats, dunes, and windblown sand. The typical desert shrubs and grasses growing in these environments, such as creosotebush, tarbush, fourwing saltbush, blackbrush, gyp grama, and alkali sacaton, must withstand large diurnal ranges in temperature, low available moisture, and an extremely high evapotranspiration rate. The alien saltcedar and common reed have invaded riparian areas. Land use, particularly grazing, is limited in desert areas due to sparse vegetation and lack of water. However, limited areas of agriculture exist near El Paso and Dell City, where irrigation water is available to produce cotton, pecans, alfalfa, tomatoes, onions, and chile peppers.

According to the Ecological Mapping System of Texas (EMST), two (2) habitat types are mapped within the Site (**Figure 4**). Descriptions of these habitat types are included in the table below:

| EMST Type | Description | Acreage | Percent of Total |
|---|---|---|---|
| **Trans-Pecos: Salty Desert Grassland** | This type is mapped on salty, moist soils, especially along the Pecos River but also in other salty basins and alluvial fans. Alkali sacaton is often dominant, and species such as Russian thistle, false Rhodes grass, pink pappusgrass, tobosa, burrow grass, desert seepweed and pickle-weed are often present. Shrubs and small trees such as mesquite, four-wing saltbush, allthorn, lotebush, and saltcedar are often present. | 14.94 | 59.8% |
| **Trans-Pecos: Salty Desert Scrub** | This type is mapped on salty, moist soils, especially along the Pecos River but also in other salty basins and alluvial fans. Shrubs such as mesquite, four-wing saltbush, saltcedars, allthorn, pickle-weed, southern Jimmy-weed, and lotebush are common components. Herbaceous species may include species such as alkali sacaton, Russian thistle, false Rhodes grass, pink pappusgrass, and desert seepweed. | 10.04 | 40.2% |

# 3 METHODS

Species considered in this evaluation are currently listed as threatened or endangered by USFWS and/or TPWD. These data were accessed through the Rare, Threatened, and Endangered Species of Texas page on the TPWD website (TPWD, 2024) (***Appendix A***) and through the USFWS Information Planning and Conservation (IPaC) project planning tool available through Environmental Conservation Online System (ECOS) service (USFWS, 2024) on September 9, 2024 (***Appendix B***). The TPWD list for Reeves County was last revised on August 22, 2024.

A literature search was conducted to identify endangered, threatened, or other protected species with potential to occur within the Site. The literature search included review of studies and reports related to the ecology of the area and species having potential to occur within Reeves County, as well as a review of TPWD's Texas Natural Diversity Database (TXNDD), which was obtained through the online Information Request Tool (IRT) portal in ArcGIS Online. ESE conducted a reconnaissance of the Site to identify general habitats present on the Site for comparison to habitat requirements for protected species on September 17, 2024.

# 4 REGULATIONS

## 4.1 Federal Regulatory Background

**Endangered Species Act**

The USFWS has legislative authority to list and monitor the status of species whose populations are considered to be imperiled. This federal legislative authority for the protection of threatened and endangered species derives from the Endangered Species Act of 1973 (ESA) (USFWS 1973) and subsequent amendments. Regulations supporting this act are codified and regularly updated in Sections 17.11 and 17.12 of Title 50 of the Code of Federal Regulations. The federal process stratifies potential candidates based upon the species' biological vulnerability. Species listed as endangered or threatened by the federal government are provided full protection under the law. This protection not only prohibits the direct possession (take) of a protected species, but also includes a prohibition of indirect take, such as encroachment and/or destruction of designated critical habitat. Listed plant species are not protected from take, however collecting or maliciously harming plant species on Federal land is illegal. The ESA and accompanying regulations provide the necessary authority and incentive for individual states to establish their own regulatory vehicle for the management and protection of threatened and endangered species.

**Migratory Bird Treaty Act**

The USFWS has legislative authority to prohibit, unless permitted by regulations, the kill, capture, collect, possess, buy, sell, trade, or transport of any migratory bird, nest, young, feather, or egg in part or in whole. The Migratory Bird Treaty Act of 1918 (MBTA) (MBTA 1918) and subsequent amendments (16 U.S.C. 703-712) give the federal legislative authority for protection of migratory bird species. Regulations supporting this act are codified and regularly updated in Part 10 and 21 of Title 50 of the Code of Federal Regulations.

**Bald and Golden Eagle Protection Act**

Under the provisions of the Bald and Golden Eagle Protection Act (BGEPA), the taking or possession of and commerce of Bald and Golden Eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*, respectively), parts, feathers, nests, or eggs, with limited exceptions, is prohibited. The term "disturb" under the BGEPA was defined via a final rule published in the Federal Register on June 5, 2007 as "means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity by substantially interfering with normal breeding, feeding or sheltering behavior, or 3) nest abandonment by substantially interfering with normal breeding, feeding or sheltering behavior" (USFWS, 2018).

## 4.2 State Regulatory Background

**Section 12.0011 of the Texas Parks and Wildlife Code**

Endangered species legislation was passed in Texas in 1973 (USFWS 1973). Subsequently, revisions to the TPWD code in 1975, 1981, and 1985 established a state regulatory vehicle for the management and protection of threatened and endangered species. Chapters 67 and 68 (1975 revisions) of the code authorize the TPWD to formulate lists of threatened and endangered fish and wildlife species and to regulate the taking or possession of those species. A 1981 revision (and 1985 amendment) to the code provides authority for the TPWD to designate plant species as threatened or endangered and to prohibit commercial collection or sale of these species without permits. The TXNDD catalogs, monitors, and provides information on rare species and communities of concern.

The ensuing TPWD regulations are Sections 65.171-177 and 69.1-9 of the Texas Administrative Code (TAC) (Chapters 67, 68, and 88 of the TPWD Code). These sections regulate the taking, possessing, transporting, exporting, processing, selling/offering for sale, or shipping of endangered or threatened species of fish, wildlife, or plants. Neither specific criteria for the listing of plant and animal species nor protection from indirect take (i.e. destruction of habitat or unfavorable management practices) is found in either of the above-mentioned statutes or regulations. Based on this information, unlike the federally listed species, there is no protection of habitat afforded to species that are only listed by the state.

Rare species are those that “carry a global conservation status indicating a species is critically imperiled, very rare, vulnerable to extirpation, or uncommon” (TPWD, 2024). These species do not carry regulatory status and any efforts to protect them are not required by law.

Additionally, Chapter 64 TPWD Code Title 5, Subtitle B Chapter 64 Birds, Subchapter A, Section 64.002 states that no person may: (1) catch, kill, injure, pursue, or possess, dead or alive, or purchase, sell, expose for sale, transport, ship, or receive or deliver for transportation, a bird that is not a game bird; (2) possess any part of the plumage, skin, or body of a bird that is not a game bird; or (3) disturb or destroy the eggs, nest, or young of a bird that is not a game bird. No exemptions to this regulation exist for incidental take. Additionally, there is no permitting process for incidental take of non-game birds.

# 5 SPECIES REVIEW

## 5.1 Reeves County Threatened and Endangered Species

According to TPWD and USFWS, there are twenty-two (22) federal- and/or state-listed species/subspecies that have the potential to, or have historically occurred within Reeves County, Texas. The table below summarizes species listed as endangered or threatened by USFWS or TPWD, their listing status, a brief description of potential habitat, and the potential for occurrence based on review of data sources listed above, species' habitat descriptions, and field review. No critical habitat designated by USFWS is located in or adjacent to the Site (USFWS, 2024). For a complete annotated list of species considered threatened, endangered, or rare by TPWD and/or USFWS, see ***Appendix A*** and ***Appendix B***.

| Species | USFWS | TPWD | Description | Potential for Occurrence |
|---|---|---|---|---|
| **Birds** | | | | |
| Bald Eagle (*Haliaeetus leucocephalus*) | **Not listed with USFWS or TPWD but protected under the BGEPA* | | Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds (TPWD 2024a). | **No Habitat.** Site does not contain suitable aquatic and riverine features that serve as suitable habitat; no eagles nests were found. |
| Mexican Spotted Owl (*Strix occidentalis lucida*) | LT | | Owls occur in both forested and rocky-canyon habitats. Forests used for roosting and nesting often contain mature or old-growth stands with complex structure. Forests used by spotted owls are typically uneven-aged, are multistoried, and have high canopy cover. In parts of its range, the Mexican spotted owl occupies a variety of steep, rocky-canyon habitats (USFWS 2012). | **No Habitat.** Site does not contain forested or rocky-canyon habitats. |
| Northern Aplomado Falcon (*Falco femoralis septentrionalis)* | LE | | Falcon habitat consists of open terrain with scattered trees or shrubs. In the United States, the species was found along yucca-covered sand ridges in coastal prairies, riparian woodlands in open grasslands, and in desert grasslands with scattered mesquite and yucca (USFWS 1990). | **Potential Habitat.** Site contains desert grasslands with scattered mesquite and yucca, which may be utilized as foraging habitat. However, the Site does not contain unique habitat that differs from the surrounding landscape |

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| | | | | and does not have structures for nesting. |
| Piping Plover (*Charadrius melodus*) | LT** | T | Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat (TPWD 2024a). | **No Habitat.** Site lacks beaches, bays, and tidal flats. |
| Rufa Red Knot (*Calidris canutus rufa)* | LT** | T | Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes (TPWD 2024a). | **No Habitat.** Site lacks beaches, bays, and tidal flats. |
| White-faced Ibis (*Plegadis chihi*) | | T | Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats (TPWD 2024a). | **No Habitat.** Site lacks freshwater marshes and sloughs. |
| Zone-tailed Hawk (*Buteo albonotatus*) | | T | Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions (TPWD 2024a). | **Potential Habitat.** Site contains open arid county, which may provide foraging habitat. However, the Site does not contain unique habitat that differs from the surrounding landscape. |
| **Crustaceans** | | | | |
| Diminutive Amphipod (*Gammarus hyalelloides)* | LE (but, not listed by USFWS in for the Site) | E | Known only from Phantom Lake Spring; omnivorous; amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover; vulnerable to reduction of springflow resulting from declining levels of groundwater (TPWD 2024a). | **No Habitat.** No springs are located within the Site. |
| **Fish** | | | | |
| Comanche Springs Pupfish (*Cyprinodon elegans*) | LE (but, not listed by USFWS in for the Site) | E | Restricted to small series of springs and their outflows, and man-made irrigation canals in the area of Balmorhea, Texas, including Phantom Springs (Jeff Davis County), San Solomon Springs, Giffin Springs and Toyah Creek (Reeves County). Native range: Comanche, Phantom | **No Habitat.** No waterbodies are located within the Site. |

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| | | | Cave, San Solomon springs (Pecos and Reeves counties). Prefers fast-flowing water. Originally in Comanche Springs, San Solomon, and Phanton [sic] Cave, presently restricted to San Solomon and Phantom Cave and associated springs, and downstream irrigation canals; found in constantly discharging springs and in swift-flowing water of canals and earthen ditches (TPWD 2024a). | |
| Headwater Catfish (*Ictalurus lupus*) | | T | Originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Pecos Gambusia (*Gambusia nobilis*) | LE | E | Endemic to the Pecos River basin in southeastern New Mexico and western Texas. Restricted to two locations in Texas (Balmorhea springs complex and Diamond Y Draw). Stenothermal springs, runs, ciénegas and irrigation canals carrying spring waters (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Pecos Pupfish (*Cyprinodon pecosensis*) | | T | Originally Pecos River basin, presently restricted to upper basin only; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Roundnose Minnow (*Dionda episcopa*) | | T | Pecos River and Limpia Creek. Restricted to clear, spring-fed waters having little temperature variation (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Speckled Chub (*Macrhybopsis aestivalis*) | | T | Found throughout the Rio Grande and lower Pecos River but occurs most frequently between the Río Conchos confluence and the Pecos River. Flowing water over coarse sand and fine gravel substrates in streams; typically found in raceways and runs (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| **Insects** | | | | |
| Monarch Butterfly (*Danaus plexippus*) | C | | Whether a field, roadside area, open area, wet area, or urban garden; milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers, but they breed only where milkweeds are found (TPWD 2024a). | **Potential Habitat.** Site contains flowering plant species. |

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| **Mammals** | | | | |
| Black Bear (*Ursus americanus*) | | T | Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. luteolus, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas (TPWD 2024a). | **No Habitat.** While desert scrub is located within the Site, the Site lacks high elevations and pinyon-oaks. Additionally, the Site is located approximately 130 miles north of the Black Gap Wildlife Management Area. |
| **Mollusks** | | | | |
| Pecos Assiminea Snail (*Assiminea pecos*) | E (but, not listed by USFWS in for the Site) | E | A member of the marine snail family, but represents the most inland snail of the genus; semiaquatic, usually found on moist ground or beneath emergent plants within a few centimeters of flowing water; only known remaining Texas population at near Fort Stockton, Pecos County; historical to the Pecos River Valley of New Mexico and Texas (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Pecos Springsnail (*Pyrgulopsis texana*) | E (but, not listed by USFWS in for the Site) | E | Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Phantom Tryonia (*Tryonia cheatumi*) | E (but, not listed by USFWS in for the Site) | E | Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |
| Texas Hornshell (*Popenaias popeii*) | E (but, not listed by USFWS in for the Site) | E | Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019] (TPWD 2024a). | **No Habitat.** No waterbodies are located within the Site. |

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| **Reptiles** | | | | |
| Texas Horned Lizard *(Phrynosoma cornutum*) | | T | Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area (TPWD 2024a). | **Potential Habitat**. Open, arid and semiarid regions with sparse vegetation are present within the Site. However, the Site does not contain unique habitat that differs from the surrounding landscape. |
| **Plants** | | | | |
| Pecos (=puzzle, =paradox) Sunflower (*Helianthus paradoxus*) | LT | T | Restricted to saline, calcareous, heavy-textured soils around cienegas; usually most abundant on perennially wet soils of subirrigated terraces just above the wettest sites; flowering August-November (TPWD 2024a). | **No Habitat.** Perennially wet soils are not present within the Site. |

*LE: Federally-listed Endangered; LT: Federally-listed Threatened; C: Candidate; E: State-listed, endangered; T: State-listed, threatened.
** Only to be considered for wind-energy projects.

## 5.2 TXNDD Records

A list of EOs recorded within the TXNDD was retrieved on September 9, 2024 (depicted in **Figure 5**). A search of TXNDD records within one (1) mile of the project Site found no EO records for any federally-listed species within the Site or within the vicinity of the Site. However, the search did identify a singular EO record for the state-listed Pecos Pupfish within and surrounding the Site. Due to a lack of aquatic features on or adjacent to the Site, Pecos Pupfish are unlikely to occur within the Site. As such, this species will not be reviewed further.

As noted by TPWD, EO results, based on the stated limitations of the TXNDD, do not indicate that there is an absence of other endangered, threatened or protected species and should not be used for presence/absence determinations.

## 5.3 Potentially Occurring Species

Based on the habitat present at the Site, the Northern Aplomado Falcon (federally listed as endangered), Monarch Butterfly (federal candidate species), Texas Horned Lizard (state listed as threatened) and Zone-tailed Hawk (state listed as threatened) have the potential to occur within the Site. Each of these species are discussed further below.

### 5.3.1 Northern Aplomado Falcon

The Northern Aplomado Falcon, a non-migratory intermediate sized bird, was federally listed as endangered on February 25, 1986 (USFWS 1986). During the falcon's nesting season from January through September, the species utilize platform stick nests built by other bird species, typically laying eggs in April or May. Pairs work together to find and flush prey from cover and prefer to feed on birds, rodents, snakes, and insects. The Northern Aplomado Falcon can be found in open terrain with scattered trees or shrubs, along yucca-covered sand ridges in coastal prairies, riparian woodlands in open grasslands, and in desert grasslands with scattered mesquite and yucca (USFWS 1990).

The Site lacks tall structures or trees which may support platform stick nests, however, the Site does contain open grasslands with scattered mesquite trees which may provide potential foraging habitat for this species. The Site does not contain unique habitat that differs from the surrounding landscape.

### 5.3.2 Monarch Butterfly

The Monarch Butterfly, a candidate species for federal listing, is large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult Monarch Butterflies are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of the Monarch Butterfly serves as a warning to predators that eating them can be toxic. This species is a generalist and prefers to feed on flowering plants that can be found in fields, roadside areas, open areas, wet areas or urban gardens. Adult Monarch Butterflies feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants (USFWS 2020). Monarch Butterflies located in eastern North American fly south using several flyways that merge into a single flyway in Central Texas (USFWS 2020).

The Site is located in the Monarch Butterfly flyway corridor (USFWS 2020) and contains habitat for this species, as flowering plant species are present within the Site. However, as the species is a candidate for federal listing, the Monarch Butterfly is not protected from incidental take under the ESA until the listing is finalized. Additionally, the Site does not contain unique habitat that differs from the surrounding landscape.

### 5.3.3 Texas Horned Lizard

The Texas Horned Lizard is a state-listed threatened species that can be found on many soil types, but prefers sandy loam and loamy sand soils to allow for bedding, nesting, and hibernation. This species is known to be less abundant in areas of predominantly clay soils (TPWD 2024b). Associated vegetation is typically sparse with patches of grass, cacti, and scattered brush or

scrubby trees. The lizard breeds from March through September and is most active from April to July. Harvester ants are considered the primary food source for the Texas Horned Lizard (TPWD 2024b).

According to the USGS National Resource Conservation Service Web Soil Survey for Reeves County (USGS 2024), the Site is comprised of Saratoga association, nearly level, a soil series comprised of clay loam and gypsiferous material. Though clay loam soils are less desirable to the species, the Texas Horned Lizard may utilize the Site, as the Site contains sparse arid grasslands, which may provide habitat for the Texas Horned Lizard. At this time, the species is state listed as threatened. As the Site is not state-owned land, no TPWD review is necessary. Additiaonlly, the Site does not contain unique habitat that differs from the surrounding landscape.

### 5.3.4 Zone-tailed Hawk

The Zone-tailed Hawk, state listed as threatened, is known to nest in Texas from February through May, although active nests have been documented in later months. According to TPWD (TPWD 2024a), the species nest in a variety of habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions. The Zone-tailed Hawk is known to occur in arid open country, including open deciduous or pine-oak woodland, mesa or mountain county and can often be found near watercourses, wooded canyons, and tree-lined rivers along middle-slopes of desert mountains (TPWD 2024a).

The Site contains arid, open grasslands, which may provide foraging habitat for the species. However, the Site does not contain unique habitat that differs from the surrounding landscape. At this time, the species is state listed as threatened. As the Site is not state-owned land, no TPWD review is necessary.

# 6 CONCLUSIONS

ESE concludes the following:

- An EO record exists within the Site for a state listed species, the Pecos Pupfish. However, as the Site does not contain aquatic features and the species is not likely to occur within the Site.
- The Northern Aplomado Falcon, a species federally listed as endangered, has the potential to utilize the Site for foraging habitat. However, the Site does not contain unique habitat that differs from the surrounding landscape and does not have structures for nesting. The proposed project is not likely to have an adverse effect on Northern Aplomado Falcon.
- The Monarch Butterfly, a candidate for federal listing, has the potential to occupy the Site. Since the listing has not been finalized, the species is not currently protected under the ESA and no statutory protections exist for Monarch Butterfly as a candidate species. Voluntary BMPs for these species are identified in Section 7 of this report to help avoid potential effects to these species.
- No species currently protected by the federal ESA are likely to be directly impacted as a result of the proposed project.
- Species listed only by the state such as the Texas Horned Lizard and Zone-tailed Hawk, may occupy the Site. However, as the property is not owned by the State of Texas, no trigger for TPWD review has been identified. Additionally, the state does not regulate potential removal of habitat for state-listed species. No impacts are anticipated to Zone-tailed Hawk. Potential impacts to Texas Horned Lizard can be minimized by implementing Beneficial Management Practices (BMPs) in Section 7 of this report.

# 7 RECOMMENDATIONS

The following voluntary mitigation measures for migratory birds, Monarch Butterfly, and the Texas Horned Lizard are recommended to reduce impacts to these species with potential to occur in the project site.

## 7.1 Migratory Birds, Northern Aplomado Falcon, and Zone-tailed Hawk

To minimize impacts to the migratory birds and the Northern Aplomado Falcon and Zone-tailed Hawk during nesting season, ESE recommends the following mitigation measures (TPWD 2021):

- In accordance with the MBTA, construction activities and vegetation clearing should be conducted outside peak-nesting seasons (March to August) to avoid any adverse effects to the migratory birds and their habitat.
- Should construction and vegetation clearing occur from March 15 to September 15, active bird nest surveys should be conducted by a biologist no more than five (5) days prior to planned construction.
- In the event that migratory birds or their nests are present prior to or during construction, actions should be implemented to ensure migratory birds, their nests, eggs, and young will not be harmed. This can be achieved by establishing buffer distances from active nests in which clearing and construction should not occur until the nests are no longer active. These distances will be determined on a case-by-case basis as different birds require varying buffer distances (i.e. raptor or passerine). Consultation with a qualified biologist will be necessary to determine these buffer distances.

## 7.2 Monarch Butterfly

To minimize impacts to the Monarch Butterfly ESE recommends the following mitigation measures (TPWD 2021):

- Mowing should only be applied to 30% or less of a site in a given year when practical. In general, mowing is inadequate for the management of native insect pollinator habitat in the long term, except to remove annual non-native plants during establishment (i.e., high-mowing before they flower) or to facilitate a light disking. When conducted, mowing or disking should be done post bloom or when host plants have gone dormant for the growing season. This can also be done by leaving strips of habitat farthest from road or highway corridors un-mowed when practical. If required during periods of active bloom or high pollinator activity, mowing should be implemented during the heat of the day and with a high mower deck to allow for pollinators to escape and to give late-season blooming species a chance to recover and bloom.

- Where available and economical, native plants and seed should be procured from local eco-type providers. Seed mixes should be diverse and include as many ecoregion natives as possible, ensuring full-season floral resources. Species by Texas ecoregion can be found in the Texas Management Recommendations for Native Insect Pollinators in Texas document:https://tpwd.texas.gov/publications/pwdpubs/media/ pwd_bk_w7000_1813.pdf. In drier regions of the state, a target of three native flowering plants within each of two blooming periods can be used.

- Habitat enhancements for native pollinators should include at least one native bunchgrass adapted to the site.

- Utilize an Integrated Pest Management Strategy (IPM) strategy for controlling weedy or invasive plants by minimizing broad use of certain herbicides and surfactants in close proximity to intact habitats utilized by native pollinators. Reduce application timing to periods of low pollinator activity and not during peak bloom season.

### 7.3 Terrestrial Amphibians (Texas Horned Lizard)

To minimize impacts to the Texas Horned Lizard, ESE recommends the following (TPWD 2021):

- For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling

- Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.

- Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.

- Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.

- When designing roads with curbs, consider using Type I or Type III curbs to provide a gentle slope to enable turtles and small animals to get out of roadways.

- After the project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product

should not contain netting but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.

- Avoid exposure to harvester ant mounds by inspecting fill dirt brough into Site.

# 8 REFERENCES

ESE does not warrant the data of regulatory agencies or other third parties supplying information used in the preparation of this report. Documents and commercial information services used in the preparation of this report, as listed below, are all current as most recently published.

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# 9 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

**THREATENED & ENDANGERED SPECIES HABITAT ASSESSMENT**

**PECOS POWER PLANT, LLC**

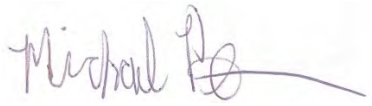
**APPROXIMATELY 25.0 ACRES**

**REEVES COUNTY, TEXAS**

**OCTOBER 4, 2024**

Mason Finley

Staff Biologist II



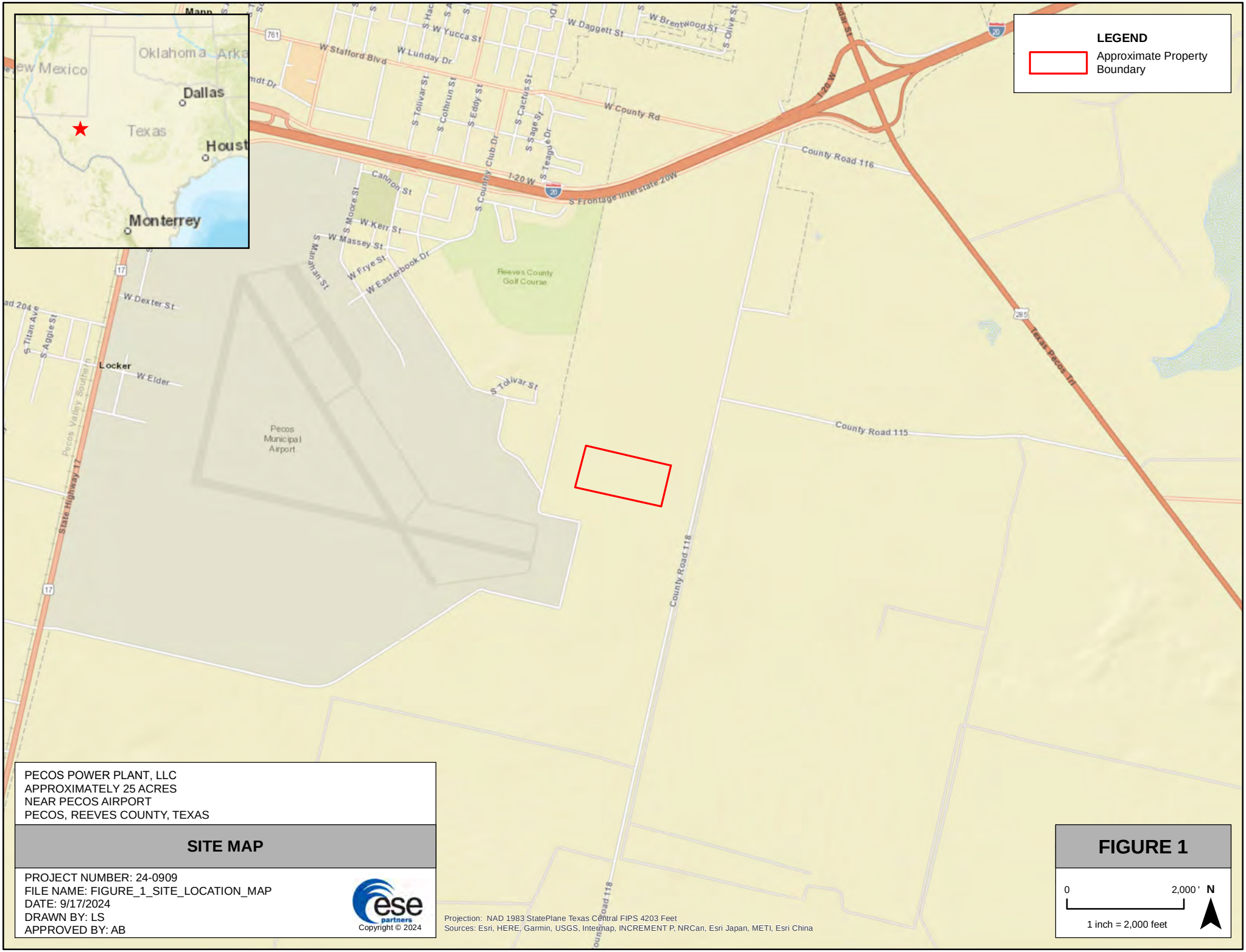
Michael Pebworth

Staff Biologist II

Aaron Brewer, P.G.

Managing Director of Natural Resources

# FIGURES


Oklahoma
Dallas
Texas
Houst
Monterrey
LEGEND
Approximate Property Boundary
W Stafford Blvd
W Lunday Dr
W Yucca St
W Daggett St
W Brentwood St
W County Rd
I-20 W
S Frontage Interstate 20W
County Road 116
Canyon St
W Kerr St
W Massey St
W Frye St
W Easterbook Dr
Reeves County Golf Course
W Dexter St
Locker
W Elder
S Tolivar St
Pecos Municipal Airport
State Highway 17
County Road 115
County Road 118
Texas Pecos Trl
PECOS POWER PLANT, LLC
APPROXIMATELY 25 ACRES
NEAR PECOS AIRPORT
PECOS, REEVES COUNTY, TEXAS
SITE MAP
PROJECT NUMBER: 24-0909
FILE NAME: FIGURE_1_SITE_LOCATION_MAP
DATE: 9/17/2024
DRAWN BY: LS
APPROVED BY: AB
Copyright © 2024
Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China
FIGURE 1
0
2,000 '
N
1 inch = 2,000 feet


PECOS POWER PLANT, LLC
APPROXIMATELY 25 ACRES
NEAR PECOS AIRPORT
PECOS, REEVES COUNTY, TEXAS

## AERIAL MAP

PROJECT NUMBER: 24-0909
FILE NAME: FIGURE_2_AERIAL
DATE: 9/17/2024
DRAWN BY: LS
APPROVED BY: AB

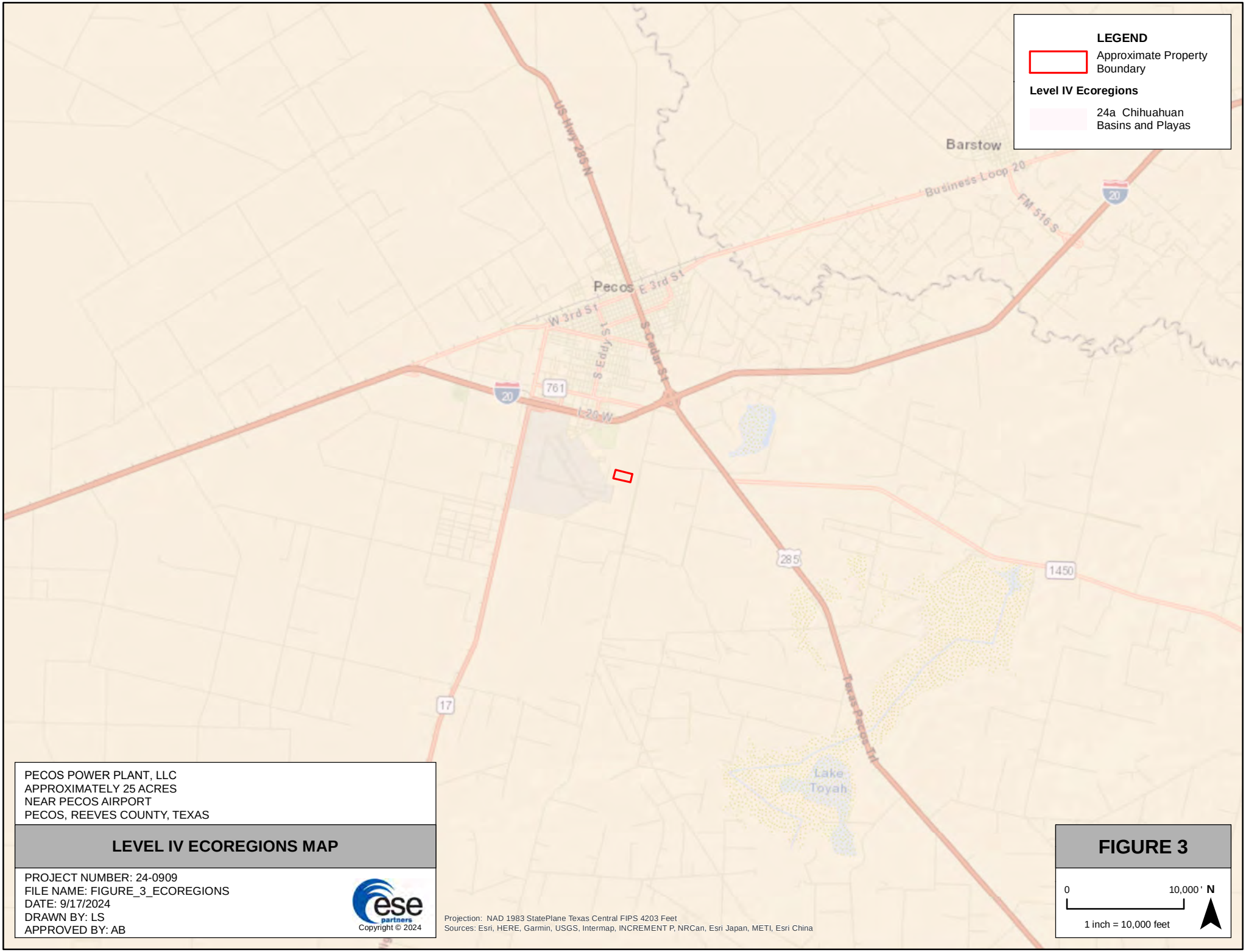


Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Source: Esri, Maxar, Earthstar Geographics, and the GIS User CommunitySource: Aerial Imagery Provided

## FIGURE 2

0 400' N

1 inch = 400 feet




PECOS POWER PLANT, LLC
APPROXIMATELY 25 ACRES
NEAR PECOS AIRPORT
PECOS, REEVES COUNTY, TEXAS

## LEVEL IV ECOREGIONS MAP

PROJECT NUMBER: 24-0909
FILE NAME: FIGURE_3_ECOREGIONS
DATE: 9/17/2024
DRAWN BY: LS
APPROVED BY: AB

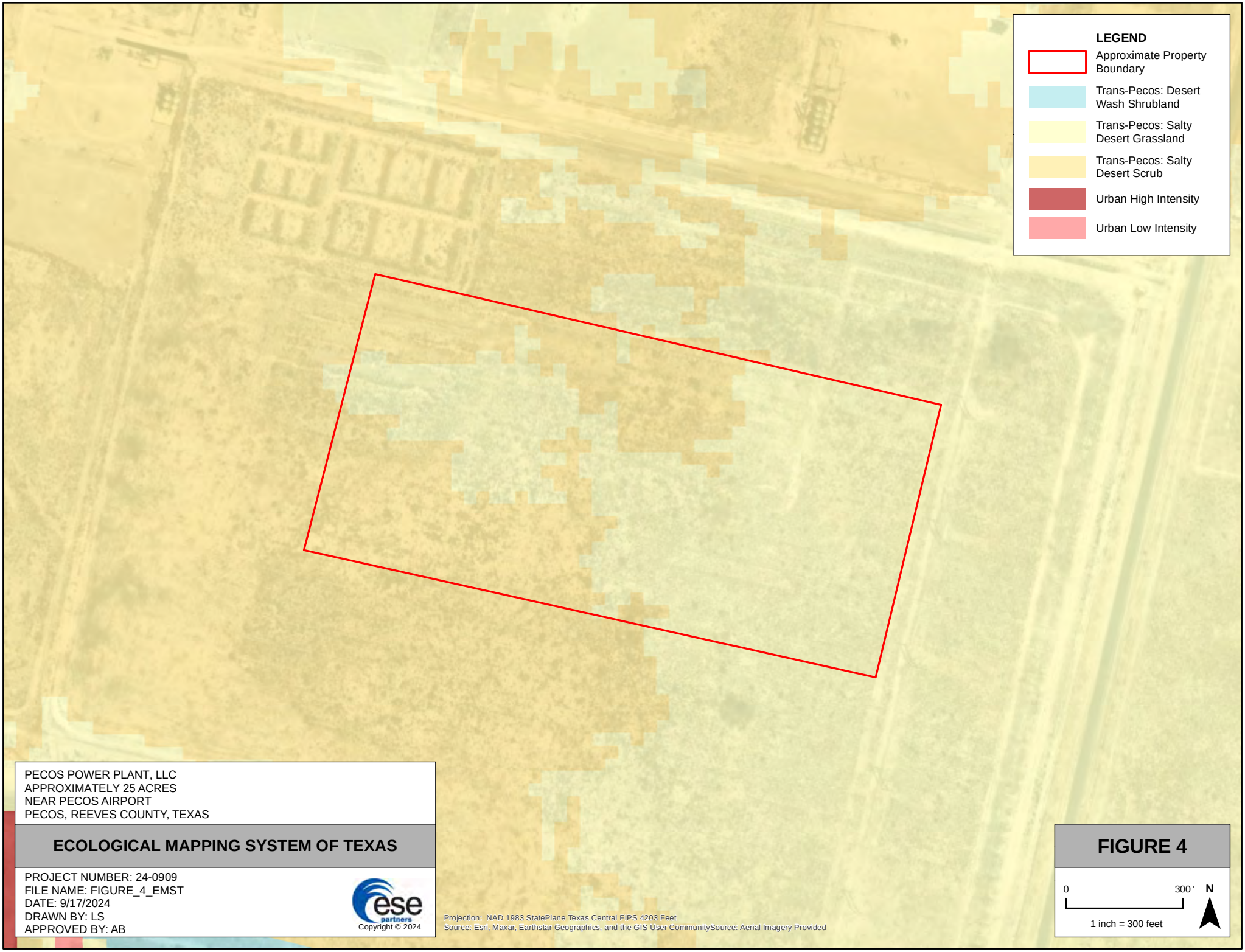


Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China

## FIGURE 3

0 10,000 ' N

1 inch = 10,000 feet




PECOS POWER PLANT, LLC
APPROXIMATELY 25 ACRES
NEAR PECOS AIRPORT
PECOS, REEVES COUNTY, TEXAS

## ECOLOGICAL MAPPING SYSTEM OF TEXAS

PROJECT NUMBER: 24-0909
FILE NAME: FIGURE_4_EMST
DATE: 9/17/2024
DRAWN BY: LS
APPROVED BY: AB

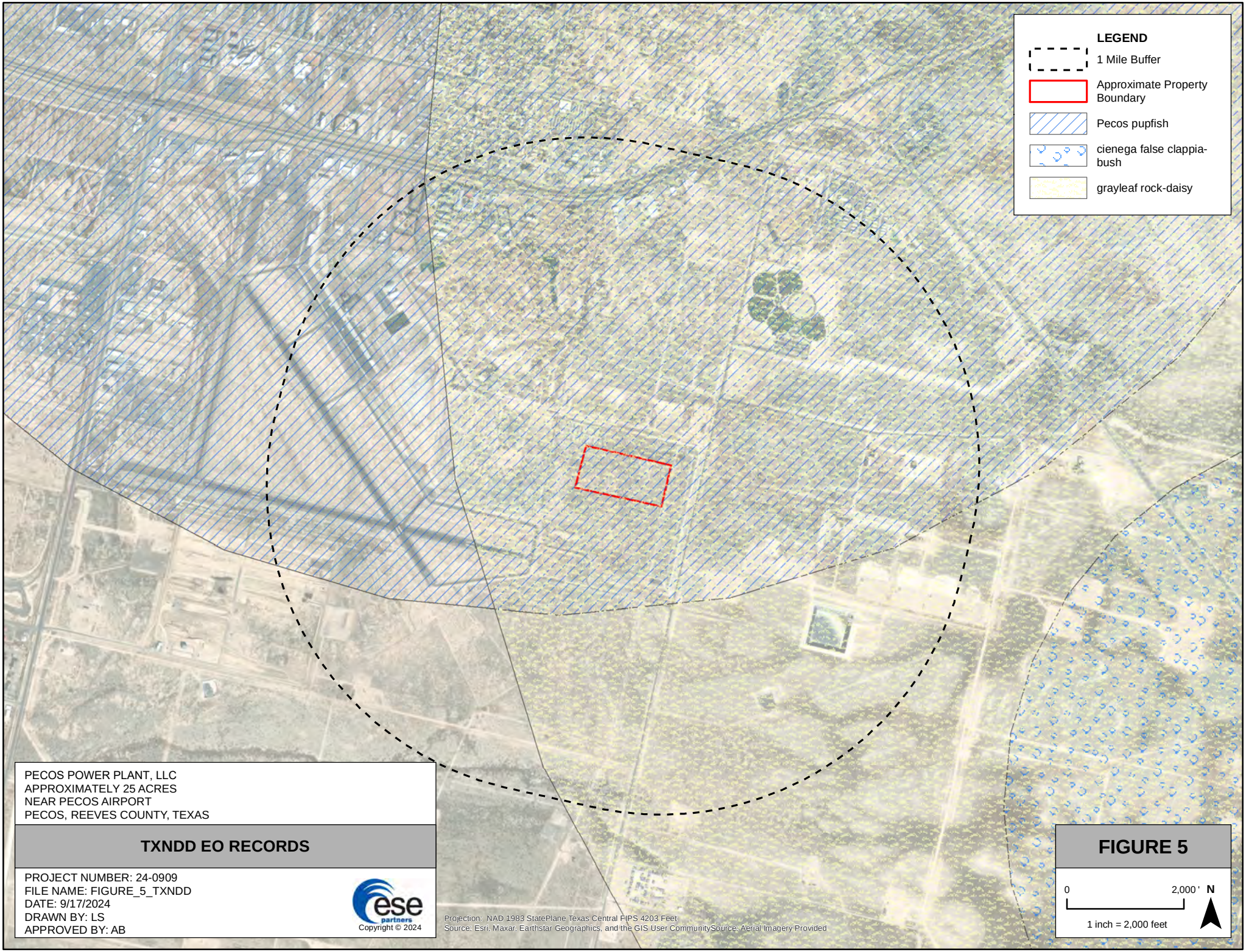


Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Source: Esri, Maxar, Earthstar Geographics, and the GIS User CommunitySource: Aerial Imagery Provided

## FIGURE 4

0 300 ' N

1 inch = 300 feet




PECOS POWER PLANT, LLC
APPROXIMATELY 25 ACRES
NEAR PECOS AIRPORT
PECOS, REEVES COUNTY, TEXAS

## TXNDD EO RECORDS

PROJECT NUMBER: 24-0909
FILE NAME: FIGURE_5_TXNDD
DATE: 9/17/2024
DRAWN BY: LS
APPROVED BY: AB



Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Source: Esri, Maxar, Earthstar Geographics, and the GIS User CommunitySource: Aerial Imagery Provided

## FIGURE 5

0 2,000 ' N

1 inch = 2,000 feet

# APPENDICES

# APPENDIX A

# RARE, THREATENED, AND ENDANGERED SPECIES OF TEXAS – REEVES COUNTY

Last Update: 8/22/2024

# REEVES COUNTY

## AMPHIBIANS

**Woodhouse's toad** *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |

## BIRDS

**Baird's Sparrow** *Centronyx bairdii*

Shortgrass prairie with scattered low bushes and matted vegetation; mostly migratory in western half of State, though winters in Mexico and just across Rio Grande into Texas from Brewster through Hudspeth counties

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: SUN |

**Bank Swallow** *Riparia riparia*

Bank Swallows live in low areas along rivers, streams, ocean coasts, and reservoirs. Their territories usually include vertical cliffs or banks where they nest in colonies of 10 to 2,000 nests. Though in the past Bank Swallows were most commonly found around natural bluffs or eroding streamside banks, they now often nest in human-made sites, such as sand and gravel quarries or road cuts. They forage in open areas and avoid places with tree cover.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2B,S4N |

**Brewer's Blackbird** *Euphagus cyanocephalus*

Shrubby and bushy areas (especially near water), riparian woodland, aspen parklands, cultivated lands, marshes, and around human habitation; in migration and winter also in pastures and fields (AOU 1983).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |

**Cactus Wren** *Campylorhynchus brunneicapillus*

Desert (especially with cholla cactus or yucca), mesquite, arid scrub, coastal sage scrub, and in trees in towns in arid regions (Tropical to Subtropical zones) (AOU 1983). Nests in OPUNTIA cactus, or in twiggy, thorny, trees and shrubs, sometimes in buildings. Nest may be relined and used as a winter roost.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**chestnut-collared longspur** *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

# REEVES COUNTY

## BIRDS

**Common Nighthawk** *Chordeiles minor*

Common Nighthawks nest in both rural and urban habitats including coastal sand dunes and beaches, logged forest, recently burned forest, woodland clearings, prairies, plains, sagebrush, grasslands, open forests, and rock outcrops. They also nest on flat gravel rooftops, though less often as gravel roofs are being replaced by smooth, rubberized roofs that provide an unsuitable surface.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**Franklin's gull** *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2N |

**golden eagle** *Aquila chrysaetos*

Golden eagles generally inhabit open and semi-open country such as prairies, sagebrush, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions, in areas with sufficient mammalian prey base and near suitable nesting sites.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: N |
| Endemic: N | Global Rank: G5 | State Rank: S3B |

**lark bunting** *Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**Loggerhead Shrike** *Lanius ludovicianus*

Loggerhead Shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead Shrikes are often seen along mowed roadsides with access to fence lines and utility poles.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S4B |

**mountain plover** *Charadrius montanus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2 |

# REEVES COUNTY

## BIRDS

**Northern Bobwhite** *Colinus virginianus*

Inhabits a wide variety of vegetation types, particularly early successional stages. Occurs in croplands, grasslands, pastures, fallow fields, grass-brush rangelands, open pinelands, open mixed pine-hardwood forests, and habitat mosaics (Brennan 1999).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4G5 | State Rank: S4B |

**Pyrrhuloxia** *Cardinalis sinuatus*

Pyrrhuloxias live in upland deserts, mesquite savannas, riparian (streamside) woodlands, desert scrublands, farm fields with hedgerows, and residential areas with nearby mesquite. When not breeding, some Pyrrhuloxias wander into urban habitats, mesquite-hackberry habitats, and riparian habitats with Arizona sycamore and cottonwood.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**Sanderling** *Calidris alba*

Nonbreeding: primarily sandy beaches, less frequently on mud flats and shores of lakes or rivers (AOU 1983) also on exposed reefs (Pratt et al. 1987). Sleeps/loafs on upper beach or on salt pond dike.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |

**Scaled Quail** *Callipepla squamata*

In general, preferred habitat is arid-semiarid, mixed shrub-grassland. Common shrubs of preferred habitat include acacia (ACACIA spp.), sand sagebrush (ARTEMISIA FILIFOLIA), four-winged saltbush (ATRIPLEX CANESCENS), cacti (OPUNTIA spp.), honey mesquite (PROSOPIS GLANDULOSA), sumacs (RHUS AROMATICA, R. MICROPHYLLA, R. TRILOBATA), yucca (YUCCA spp.), and snakeweed (XANTHOCEPHALUM SAROTHRAE).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**Snowy Plover** *Charadrius nivosus*

Algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. An optimal site characteristic would be large in size. The size of populations appear to be roughly proportional to the total area of suitable habitat used. Formerly an uncommon breeder in the Panhandle; potential migrant; winter along coast.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3B |

**Virginia's Warbler** *Leiothlypis virginiae*

In summer higher elevations and oak woodland. In migration riparian areas, woodlands, brush.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3B |

# REEVES COUNTY

## BIRDS

**western burrowing owl** *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: N |
| Endemic: N | Global Rank: G4T4 | State Rank: S2 |

**white-faced ibis** *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: N |
| Endemic: N | Global Rank: G5 | State Rank: S4B |

**Willet** *Tringa semipalmata*

Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland (AOU 1983, Stiles and Skutch 1989).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5B |

**Wilson's Warbler** *Cardellina pusilla*

Wilson’s warblers key in on forests and scrubby areas along streams to fatten up during migration. During the nonbreeding season they use many types of habitats from lowland thickets near streams to high-elevation cloud forests in Mexico and Central America.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4 |

**yellow-billed cuckoo** *Coccyzus americanus*

In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.

| | | |
|---|---|---|
| Federal Status: T | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4S5B |

# REEVES COUNTY

## BIRDS

**zone-tailed hawk** *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3B |

## CRUSTACEANS

**diminutive amphipod** *Gammarus hyalelloides*

Known only from Phantom Lake Spring; omnivorous; amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover; vulnerable to reduction of springflow resulting from declining levels of groundwater

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |

## FISH

**Comanche Springs pupfish** *Cyprinodon elegans*

Restricted to small series of springs and their outflows, and man-made irrigation canals in the area of Balmorhea, Texas, including Phantom Springs (Jeff Davis County), San Solomon Springs, Giffin Springs and Toyah Creek (Reeves County). Native range: Comanche, Phantom Cave, San Solomon springs (Pecos and Reeves counties). Prefers fast-flowing water. Originally in Comanche Springs, San Solomon, and Phanton Cave, presently restricted to San Solomon and Phantom Cave and associated springs, and downstream irrigation canals; found in constantly discharging springs and in swift-flowing water of canals and earthen ditches

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |

**headwater catfish** *Ictalurus lupus*

Originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S1S2 |

**Pecos gambusia** *Gambusia nobilis*

Endemic to the Pecos River basin in southeastern New Mexico and western Texas. Restricted to two locations in Texas (Balmorhea springs complex and Diamond Y Draw). Stenothermal springs, runs, ciénegas and irrigation canals carrying spring waters.

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: N | Global Rank: G2 | State Rank: S2 |

# REEVES COUNTY

## FISH

**Pecos pupfish** *Cyprinodon pecosensis*

Originally Pecos River basin, presently restricted to upper basin only; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G2 | State Rank: S1 |

**roundnose minnow** *Dionda episcopa*

Pecos River and Limpia Creek. Restricted to clear, spring-fed waters having little temperature variation.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S1 |

**speckled chub** *Macrhybopsis aestivalis*

Found throughout the Rio Grande and lower Pecos River but occurs most frequently between the Río Conchos confluence and the Pecos River. Flowing water over coarse sand and fine gravel substrates in streams; typically found in raceways and runs.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S1S2 |

## INSECTS

**American bumblebee** *Bombus pensylvanicus*

Habitat description is not available at this time.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: | Global Rank: G3G4 | State Rank: SNR |

**Balmorhea saddle-case caddisfly** *Protoptila balmorhea*

Oviparous; larvae make turtle-shaped cases of small pebbles attached to the underside of stones in swift-flowing streams and rivers

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G1 | State Rank: S1 |

## MAMMALS

**big free-tailed bat** *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

# REEVES COUNTY

## MAMMALS

**black bear** *Ursus americanus*

Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. luteolus, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

**black-tailed prairie dog** *Cynomys ludovicianus*

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |

**cave myotis bat** *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4G5 | State Rank: S2S3 |

**Davis Mountains cottontail** *Sylvilagus robustus*

Primarily limited to the Davis Mountains in the Trans Pecos . Brushy pastures, brushy edges of cultivated fields, and well-drained streamsides; active mostly at twilight and at night, where they may forage in a variety of habitats, including open pastures, meadows, or even lawns; rest during daytime in thickets or in underground burrows and small culverts; feed on grasses, forbs, twigs and bark; not sociable and seldom seen feeding together

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G1G2 | State Rank: S3 |

**fringed myotis** *Myotis thysanodes*

Higher elevations of the Trans-Pecos, cliffs, rock crevices.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |

**ghost-faced bat** *Mormoops megalophylla*

Winter roosts are in large limestone caves. Buildings and rock crevasses provide roosts, as well.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2 |

**gray-footed chipmunk** *Tamias canipes*

High elevation (1800-2500 meters) forest-dwelling chipmunk occurring in dense stands of mixed timber and on brushy hillsides with rock crevices or downed logs along forest edges. Occurs in Texas only in the Sierra Diablo and Guadalupe Mountains in the Trans-Pecos; favorite habitat is downed logs near edges of clearings; also occur in dense stands of mixed timber (oaks, pines, firs) and on brushy hillsides, especially with rock crevices.

# REEVES COUNTY

## MAMMALS

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G4 | State Rank: S2S3

**hoary bat** *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: S3

**hooded skunk** *Mephitis macroura*

Rocky canyons & riparian corridors at low elevations, rarely to 6000 feet. Avoids man-made habitations. Only known from the Trans-Pecos regions along the Rio Grande.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S1S2

**kit fox** *Vulpes macrotis*

Open desert grassland; avoids rugged, rocky terrain and wooded areas.

Federal Status: | State Status: | SGCN: N
Endemic: N | Global Rank: G4 | State Rank: S1S2

**long-legged myotis bat** *Myotis volans*

Found in pine-oak woodland to grassland ecotone, higher elevations of Trans-Pecos.High, open woods and mountainous terrain; nursery colonies (which may contain several hundred individuals) form in summer in buildings, crevices, and hollow trees; apparently does not use caves as day roosts, but may use such sites at night; single offspring born June-July.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G4G5 | State Rank: S1S2

**mountain lion** *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S2S3

**pale Townsend's big-eared bat** *Corynorhinus townsendii pallescens*

Habitat description is not available at this time.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G4T3T4 | State Rank: S3?

# REEVES COUNTY

## MAMMALS

**pronghorn** *Antilocapra americana*

Prefers hilly and plateau areas of open grassland, desert-grassland, and desert-scrub, where it frequents south-facing slopes and other sheltered areas.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

**Townsend's big-eared bat** *Corynorhinus townsendii*

In Texas, habitat ranges from desert scrub to pinyon-juniper woodland, consistently in areas with canyons or cliffs (Schmidly 1991). Roosts in caves, crevases, trees, and buildings in the Panhandle and Trans-Pecos.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3? |

**Western pipistrelle** *Parastrellus hesperus*

Desert to pine-oak woodland. Cliffs and rock crevices provide roosts.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3S4 |

**western small-footed myotis bat** *Myotis ciliolabrum*

Mountainous regions of the Trans-Pecos, usually in wooded areas, also found in grassland and desert scrub habitats; roosts beneath slabs of rock, behind loose tree bark, and in buildings; maternity colonies often small and located in abandoned houses, barns, and other similar structures; apparently occurs in Texas only during spring and summer months; insectivorous

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

**Yuma myotis** *Myotis yumanensis*

Caves, mines, tunnels and buildings in Trans-Pecos.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3? |

## MOLLUSKS

**Brune's tryonia** *Tryonia brunei*

Endemic freshwater snail; benthic; currently only found in modified waters Phantom Lake Spring; abundant on firm substratum and in soft mud before modification; vulnerable to declining groundwater resulting in reduction of springflow

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |

# REEVES COUNTY

## MOLLUSKS

**Pecos assiminea snail** *Assiminea pecos*

A member of the marine snail family, but represents the most inland snail of the genus; semiaquatic, usually found on moist ground or beneath emergent plants within a few centimeters of flowing water; only known remaining Texas population at near Fort Stockton, Pecos County; historical to the Pecos River Valley of New Mexico and Texas

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: | Global Rank: G1 | State Rank: S1 |

**Phantom springsnail** *Pyrgulopsis texana*

Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |

**Phantom tryonia** *Tryonia cheatumi*

Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |

**Texas hornshell** *Popenaias popeii*

Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

| | | |
|---|---|---|
| Federal Status: E | State Status: E | SGCN: Y |
| Endemic: N | Global Rank: G1 | State Rank: S1 |

## REPTILES

**gray-checkered whiptail** *Aspidoscelis dixoni*

Terrestrial: The habitat comprises rocky plains, dry washes, canyon bottoms, and desert scrub (ocotillo, creosotebush, opuntia) (Bartlett and Bartlett 1999); generally on rocky soils of desert shrublands and degraded grasslands on alluvial benches, canyon bottoms, and lower southwestern mountain slopes (Scudday 1973, Degenhardt et al. 1996).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2 |

**Rio Grande river cooter** *Pseudemys gorzugi*

Aquatic: Habitat includes rivers and their more permanent spring-fed tributary streams, beaver ponds, and stock tanks (Garrett and Barker 1987). Occupied waters may have a muddy, sandy, or rocky bottom, and may or may not contain aquatic vegetation (Degenhardt et al. 1996).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |

# REEVES COUNTY

## REPTILES

**Texas horned lizard** *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

| | | |
|---|---|---|
| Federal Status: | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G4G5 | State Rank: S3 |

**western box turtle** *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |

**western massasauga** *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |

## PLANTS

**Bigelow's desert grass** *Blepharidachne bigelovii*

Restricted to xeric limestone or various gypsum-influenced habitats; Perennial; Flowering March-Dec; Fruiting March-Dec

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |

**cienega false clappia-bush** *Pseudoclappia arenaria*

Mostly in alkali sacaton (Sporobolus airoides) grasslands on alkaline, gypseous or saline soils of alluvial flats around cienegas, playa lakes and other desert wetlands; Perennial; Flowering spring-summer

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |

**desert night-blooming cereus** *Peniocereus greggii var. greggii*

Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations, 1200-1500 m (3900-4900 ft), on slopes, benches, arroyos, flats, and washes; flowering synchronized over a few nights in early May to late June when almost all mature plants bloom, flowers last only one day and open just after dark, may flower as early as April

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3G4T3 | State Rank: S2 |

# REEVES COUNTY

## PLANTS

**grayleaf rock-daisy** *Perityle cinerea*

Crevices in dry limestone caprock of mesas; flowering spring-fall

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: Y | Global Rank: G2 | State Rank: S2 |

**gyp locoweed** *Astragalus gypsodes*

Gypsum or stiff gypseous clay soils on low rolling hills, mostly low elevations in the middle Pecos River valley; many of the known locations are on the Castile Formation (Permian); flowering March-June

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2 |

**Hinckley's spreadwing** *Eurytaenia hinckleyi*

Loose sandy soils of the Monahans/Kermit Sandhills; Annual; Flowering/Fruiting May-July

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: Y | Global Rank: G3 | State Rank: S3 |

**Jones' selenia** *Selenia jonesii*

Wet clayey soils of stream margins, playa lakes, and roadsides, mostly in the western Edwards Plateau; Annual; Flowering Feb-April; Fruiting March-April

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: Y | Global Rank: G3 | State Rank: S3 |

**lyreleaf twistflower** *Streptanthus carinatus ssp. carinatus*

Occurs on igneous and limestone slopes and alluvial fans (Carr 2015).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G4T3T4 | State Rank: S3 |

**neglected sunflower** *Helianthus neglectus*

Deep sands on rolling hills and dunes of Pleistocene sand sheets, often associated with Havards shin oak dwarf woodlands or mesquite-sand sage woodlands; flowering July-September

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G2Q | State Rank: S2 |

**Pecos sunflower** *Helianthus paradoxus*

Restricted to saline, calcareous, heavy-textured soils around cienegas; usually most abundant on perennially wet soils of subirrigated terraces just above the wettest sites; flowering August-November

| | | |
|---|---|---|
| Federal Status: T | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G2 | State Rank: S1 |

**Texas claret-cup cactus** *Echinocereus coccineus var. paucispinus*

# REEVES COUNTY

## PLANTS

Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedin 2004).

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G5T3 | State Rank: S3 |

**Wright's beardtongue** *Penstemon wrightii*

Occurs mostly in montane grasslands and woodlands; Perennial; Flowering April-Aug; Fruiting May-Aug

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S3 |

**Wright's trumpets** *Acleisanthes wrightii*

Open semi-desert grasslands and shrublands on shallow stony soils over limestone on low hills and flats; Perennial; Flowering spring-fall, probably also in response to rains

| | | |
|---|---|---|
| Federal Status: | State Status: | SGCN: Y |
| Endemic: N | Global Rank: G2 | State Rank: S2 |

# APPENDIX B

# IPAC REPORT

**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

Reeves County, Texas


## Local office

Austin Ecological Services Field Office

(512) 937-7371

1505 Ferguson Lane

Austin, TX 78754-4501

# 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.

---

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 |
|---|---|
| **Mexican Spotted Owl** *Strix occidentalis lucida*<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/8196 | Threatened |
| **Northern Aplomado Falcon** *Falco femoralis septentrionalis*<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/1923 | Endangered |
| **Piping Plover** *Charadrius melodus*<br>This species only needs to be considered if the following condition applies:<br>• Wind Energy Projects<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/6039 | Threatened |
| **Rufa Red Knot** *Calidris canutus rufa*<br>Wherever found<br>This species only needs to be considered if the following condition applies:<br>• Wind Energy Projects<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/1864 | Threatened |

# Insects

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

# Flowering Plants

| NAME | STATUS |
| --- | --- |
| Pecos (=puzzle, =paradox) Sunflower *Helianthus paradoxus*<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/7211 | 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

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

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

**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 |
|---|---|
| Cactus Wren Campylorhynchus brunneicapillus guttatus<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8834 | Breeds Mar 5 to Sep 30 |
| Cassin's Sparrow Peucaea cassinii<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/9512 | Breeds Aug 1 to Oct 10 |
| Eastern Meadowlark Sturnella magna<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds Apr 25 to Aug 31 |

Ferruginous Hawk Buteo regalis — Breeds Mar 15 to Aug 15
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

Henry's Common Nighthawk Chordeiles minor henryi — Breeds May 21 to Aug 25
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.

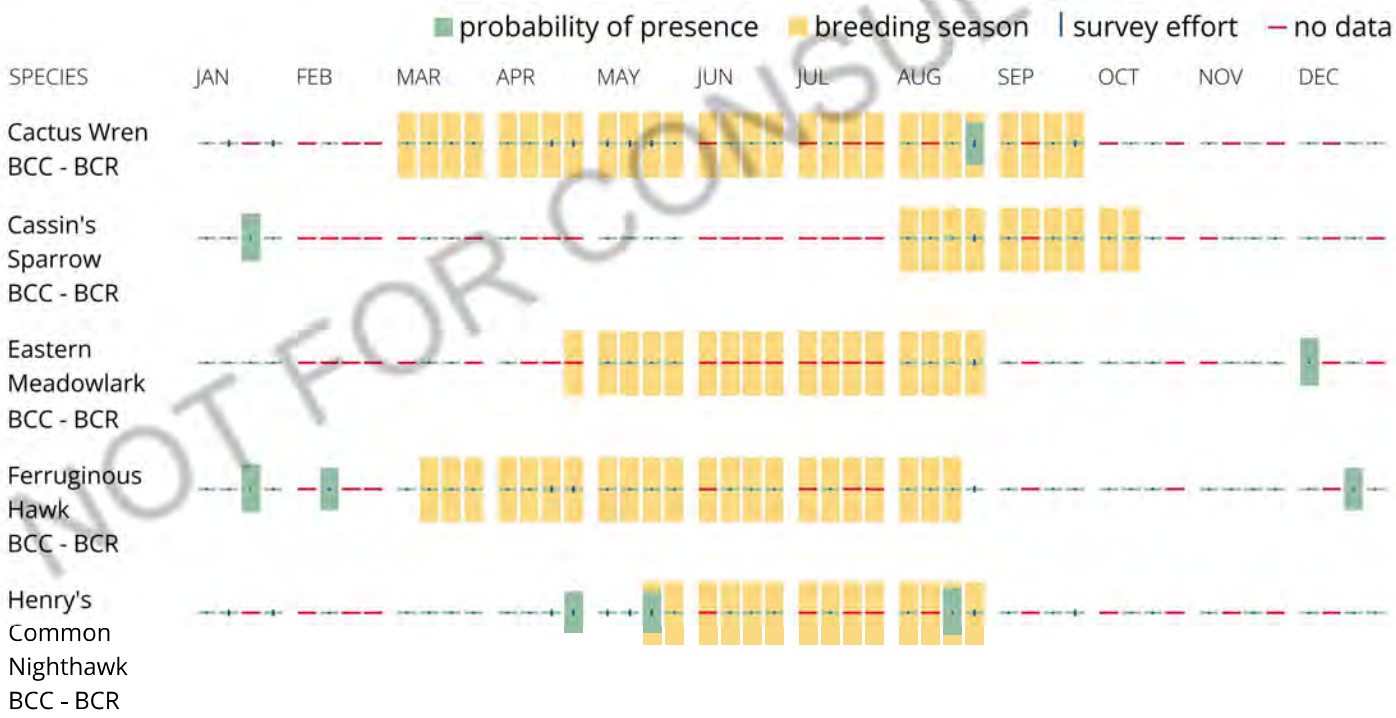
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### 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.

This location did not intersect any wetlands mapped by NWI.

**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.