

Protected Species Assessment Report

Oriana Solar Project

Approximately 3,027 Acres

Victoria County, Texas

March 11, 2022



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TABLE OF CONTENTS

1.0 - INTRODUCTION	1
2.0 - BACKGROUND REGULATORY INFORMATION.....	1
3.0 – RESOURCE REVIEW AND FIELD ASSESSMENT.....	3
3.1 – MAPPING AND BACKGROUND INFORMATION.....	3
3.2 – TOPOGRAPHY AND SURFACE WATER.....	3
3.3 – VEGETATION CHARACTERISTICS	4
3.4 – T&E SPECIES RESOURCES	4
3.5 – MIGRATORY BIRD AND BALD AND GOLDEN EAGLE RESOURCES.....	11
3.6 – WILDLIFE UTILIZATION.....	11
4.0 - SUMMARY OF RESULTS.....	11
DISCLAIMER	13

APPENDICES

APPENDIX A: FIGURES

APPENDIX B: PHOTO LOCATION MAP AND SITE VISIT PHOTOGRAPHS

APPENDIX C: USFWS IPAC OFFICIAL SPECIES LIST

APPENDIX D: TPWD ANNOTATED COUNTY LIST OF RARE SPECIES FOR VICTORIA COUNTY

APPENDIX E: TXNDD MAP AND DATA

APPENDIX F: USFWS IPAC RESOURCE LIST AND MIGRATORY BIRDS

APPENDIX G: MIGRATORY BIRD HABITAT MAP

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1.0 - INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Oriana Solar LLC (Client) to perform a Protected Species Assessment which included an evaluation of potential impacts to threatened and endangered (T&E) species, migratory bird species, and bald and golden eagles on approximately 3,027 acres of mostly undeveloped land in Victoria County, Texas (site or study area). The location of the study area can be seen on Figure 1 in Appendix A. The study area consists mainly of undeveloped agricultural land and upland pasture. The proposed project consists of the development of a solar development. Kimley-Horn conducted site visits at the study area on August 2-4 and 11-12, 2021 with the objective of identifying potential protected species and/or their habitats. Vegetation within the study area generally consisted of agricultural land (rice), and open pastures dominated by bermudagrass (*Cynodon dactylon*).

The majority of the site appeared to be utilized for agricultural purposes. Site photographs depicting onsite observed conditions are provided in Appendix B. Figure 1 in Appendix B provides the general location of the site visit photographs, with the photographs labeled and corresponding to the photo numbers on the photo sheets in Appendix B.

The purpose of performing the Protected Species Assessment was to characterize the existing site conditions, observe the site for listed T&E species, migratory birds, and bald and golden eagles and their habitats, and provide an opinion regarding whether or not proposed development onsite would result in impacts to the protected species.

2.0 - BACKGROUND REGULATORY INFORMATION

Federally Listed Threatened and Endangered Species

The purpose of the federal Endangered Species Act (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) administer the ESA. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife. Under the ESA, species may be listed as threatened or endangered. "Threatened" means a species is likely to become endangered within the foreseeable future. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. Under the ESA, individual species and their habitat are protected.

USFWS current policy makes it incumbent on the project proponent to ascertain the potential for impact to a T&E species for each project and then notify the USFWS for formal consultation if a proposed project "may affect" a listed species. The USFWS notes that "a qualified biologist should use the USFWS website and other current information to make this determination". For non-federally funded projects that "may affect" or are likely to adversely affect T&E species or their habitat, a Section 10(a)(1)(B) permit would be required. The USFWS also notes that for those projects with a

federal (government) nexus, it is the responsibility of the federal action agency [under Section (7)(a)] to determine if a proposed project “may affect” T&E species or their habitat.

State-Listed Threatened and Endangered Species

Section 65.171 of the Texas Administrative Code states that no person may take, possess, propagate, transport, export, sell or offer for sale, or ship any species of fish or wildlife listed by the Texas Parks and Wildlife Department (TPWD) as endangered or threatened. Sections 69.01 – 69.9 of the Texas Administrative Code provides laws and regulations pertaining to threatened or endangered plant species. Unlike the ESA, state laws make no provision for habitat protection or regulation of indirect takes, but do outlaw killing or maiming individuals of listed species and regulates other aspects such as trade and transportation. Therefore, state listed species are typically a development constraint if they are identified onsite and will be directly impacted.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to “take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations by the USFWS.” Typically, if active nests of bird species protected by the MBTA are identified, the USFWS recommends avoiding tree clearing or nest removal until at least the peak of the nesting season (generally March through August) has passed or until the nest is abandoned.

The U.S. Department of the Interior, Office of the Solicitor, published a memorandum (M-37050) dated December 22, 2017 regarding the MBTA and how “incidental take” is viewed by the Department. The memorandum analyzes whether the MBTA prohibits the accidental or “incidental” taking or killing of migratory birds. “Incidental take” is take that results from an activity, but is not the purpose of that activity. In this memorandum, the Department of the Interior concluded that *“the MBTA’s prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control”*. Therefore, according to the Department of the Interior, the MBTA does not prohibit “incidental take”. Courts have disagreed with respect to including or excluding “incidental take” when considering the prohibitions under the MBTA. In 2015, the Fifth Circuit in *United States v. Citgo Petroleum Corp.* issued an opinion that agreed with the Eighth and Ninth circuits that a taking is limited to deliberate acts done directly and intentionally to migratory birds. Therefore, the Fifth Circuit decided that the MBTA only prohibits intentional take and does not prohibit incidental take. This decision by the Fifth Circuit set precedent within the Fifth Circuit’s jurisdiction, including Texas.

On January 7, 2021, the USFWS published a final rule (“MBTA rule”) defining the scope of the MBTA which excluded incidental take of migratory birds from being unlawful. This interpretation of the MBTA was effective as of March 8, 2021. On May 7, 2021, the USFWS proposed to revoke the January 7, 2021 final regulation and opened a public comment period which closed on June 7, 2021.

On September 29, 2021, the U.S. Department of Interior announced a series of actions to unwind the most recent rulemaking in an effort “to ensure that the MBTA conserves birds today and into the future.” On October 4, 2021, the USFWS published a final rule revoking the most recent rule enacted by the Trump Administration that limited the scope of the MBTA. According to the Federal Register, the final MBTA revocation rule went into effect on December 3, 2021. It is our understanding that as of December 3, 2021, incidental take is enforceable under the MBTA.

In addition, on October 4, 2021, the USFWS published an Advanced Notice of Proposed Rulemaking announcing the intent to solicit public comments and information to help develop proposed regulations that would establish a permitting system to authorize the incidental take of migratory birds in certain circumstances. The USFWS issued a Director's Order establishing criteria for the types of conduct that will be a priority for enforcement activities with respect to incidental take of migratory birds.

It should be noted that the regulatory climate with respect to the MBTA is changing; however, it is our understanding that as of December 3, 2021 incidental take of migratory birds is enforceable under the MBTA.

Bald and Golden Eagles

According to the USFWS, the Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs.

In addition to immediate impacts, this definition also covers "impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment."

Kimley-Horn conducted a preliminary review of the potential for bald and golden eagle habitat to occur on the proposed project location or be affected by the proposed project for the purposes of due diligence in complying with the BGEPA.

3.0 – RESOURCE REVIEW AND FIELD ASSESSMENT

3.1 – MAPPING AND BACKGROUND INFORMATION

The Protected Species Assessment was completed using a combination of existing information obtained from public readily available sources including reports, published literature, online databases, GIS data, and site reconnaissance.

The following data sources were used to complete this study:

- U.S. Geological Survey (USGS) topographic mapping/data;
- Current aerial imagery;
- USFWS Information for Planning and Consultation (IPaC) report;
- USFWS National Wetlands Inventory (NWI) data;
- Texas Parks and Wildlife Department Rare, Threatened, and Endangered Species of Texas by County;
- Federal Emergency Management Agency (FEMA) Flood Map Service Center and floodplain data; and
- TPWD Texas Natural Diversity Database.

3.2 – TOPOGRAPHY AND SURFACE WATER

The U.S. Geological Survey (USGS) 7.5-Minute Topographic Map (Inez NW, Texas quadrangle) of the project site was reviewed to identify potentially suitable T&E species, migratory birds, and bald and golden eagles and/or habitats within the project site. Based on the review of the topographic map, the site elevation is depicted to range between approximately 112 and 125 feet above mean sea level, and slopes towards the south. The topographic map depicts the project site as mostly undeveloped, vacant land, as evidenced by a lack of shading. Two small, forested areas are depicted onsite; one in

the central and one in the northwestern portions of the study area, as evidenced by green shading. The wooded areas depicted on the USGS topographic map are potentially suitable habitat for some T&E species or migratory birds. Six apparent ponds, fifteen “blue-line” features, several unimproved roads are depicted throughout the study area. The topographic layout of the project site is displayed on Figure 2 in Appendix A.

The National Wetlands Inventory (NWI) Map of the project site was reviewed to identify suspect wetland areas and waterbodies within the project site boundaries, which can sometimes provide suitable habitat for listed T&E species. A review of the NWI Map (Figure 3 in Appendix A) indicated the presence of 53 suspect wetland and/or waterbody features on the project site. Suspect wetlands and/or waterbodies were identified on the NWI map that could be utilized by listed species.

According to the FEMA Flood Insurance Rate Map (FIRM) (Panel Number 4806370150B, effective September 18, 1987, the majority of the study area is located within Zone X: Area of Minimal Flood Hazard. The northern portion of the study area is designated as Zone A: Within the 100-Year Floodplain (see Figure 4 in Appendix A).

3.3 – VEGETATION CHARACTERISTICS

According to the TPWD’s Vegetation Types of Texas maps, the entirety of the site is located in an area designated as “Bluestem Grassland” (Code 3 (reference Vegetation Types of Texas Map, Figure 5 in Appendix A)).

Based on the results of the site visit, the project site generally consists of open fields and agricultural fields. The study area can best be categorized into two distinct vegetation types: open field and agricultural field. This vegetation type is a result of current and historic land use practices. The open field makes up approximately 70 percent of the study area and is characterized by Canada goldenrod (*Solidago altissima*), dallisgrass (*Paspalum dilatatum*), goatweed (*Capraria biflora*), bermudagrass (*Cynodon dactylon*), and other ruderal species. The agricultural fields make up approximately 30 percent of the study area and appeared to have been utilized for rice production. The agricultural fields can be described as wetland areas as hydrology indicators were identified in these areas.

3.4 – T&E SPECIES RESOURCES

Literature and agency file searches were conducted to identify the potential occurrence of federally or state listed T&E species in the vicinity of the proposed project. Threatened and Endangered species are listed on the USFWS Texas Coastal Ecological Services Field Office’s Endangered Species List by County for Texas web page (originally accessed July 2021), the USFWS Information, Planning, and Consultation System (IPaC) (accessed July 2021), and the TPWD Rare, Threatened, and Endangered Species of Texas by County web page (accessed July 2021). Additional information detailing typical habitat was obtained from the USFWS and TPWD websites (accessed July 2021). The USFWS has record of an official species request made through the USFWS’ IPaC by Kimley-Horn on July 26, 2021. An official species list document dated July 26, 2021 was generated by IPaC and transmitted to Kimley-Horn on behalf of the Texas Coastal Ecological Services Field Office.

The list of T&E species compiled by the USFWS on the IPaC for Victoria County, Texas includes four species (reference USFWS IPaC Official Species List in Appendix C). However, according to the USFWS, two of the four species should only be considered in the effects analysis under certain conditions (wind related projects within the migratory route). Table 1, below, includes the species listed by the USFWS in Victoria County, Texas, their federal status, habitat descriptions, conditions, and effect determinations.

Table 1: USFWS Species Listed for Victoria County, Texas

Species	USFWS Status	Habitat Description	Comments	Condition(s)	Findings
Attwater's Greater Prairie chicken (<i>Tympanuchus cupido attwateri</i>)	Endangered	Open prairies of mostly thick grass one to three feet tall; sandhill country with bunch grass, sage, and shinnery oak. From near sea level to 200 feet along coastal plain on upper two-thirds of Texas coast; males form communal display flocks during late winter-early spring; booming grounds important; breeding February-July	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	-	No effect
Piping plover (<i>Charadrius melodus</i>)	Threatened	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud flats.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Wind related project within migratory route	No effect
Red knot (<i>Calidris canutus rufa</i>)	Threatened	Migrate long distances in flocks northward through the U.S. mainly April to June, southward July to October. Prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters; Primarily inhabits seacoasts on tidal flats and beaches, herbaceous wetlands, and tidal flat/shore	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Wind related project within migratory route	No effect
Whooping crane (<i>Grus americana</i>)	Endangered	Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	Observed On-site: No Observed in Proximity: No Habitat present: Yes Habitat Type: Migratory Foraging	-	No effect

Source: USFWS IPaC Official Species List requested and received July 26, 2021.

The list of Rare, Threatened, and Endangered Species compiled by the TPWD for Victoria County, Texas includes 68 species (reference full list and definitions of state and federal ranks on TPWD Rare, Threatened, and Endangered Species in Victoria County in Appendix D). However, only 20 species are given a state designation of threatened or endangered. Table 2, below, includes the 20 species listed by the TPWD as threatened or endangered, their federal and state statuses (when provided), habitat descriptions, and effect/impact determinations.

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Table 2: TPWD List of Rare, Threatened, and Endangered Species for Victoria County, Texas

Species	USFWS Status	TPWD Status	Habitat Description	Comments	Likelihood of Occurrence
BIRDS					
Attwater's greater prairie chicken (<i>Tympanuchus cupido attwateri</i>)	LE	E	Open prairies of mostly thick grass one to three feet tall; sandhill country with bunch grass, sage, and shinnery oak. From near sea level to 200 feet along coastal plain on upper two-thirds of Texas coast; males form communal display flocks during late winter-early spring; booming grounds important; breeding February-July	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
black rail (<i>Laterallus jamaicensis</i>)	LT	T	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Interior least tern (<i>Sternula antillarum athalassos</i>)	DL	E	Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also known to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc.); eats small fish and crustaceans, when breeding, forages within a few hundred feet of colony.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Piping plover (<i>Charadrius melodus</i>)	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. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Reddish egret (<i>Egretta rufescens</i>)	-	T	Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brush thickets of yucca and prickly pear.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low

Table 2: TPWD List of Rare, Threatened, and Endangered Species for Victoria County, Texas

Species	USFWS Status	TPWD Status	Habitat Description	Comments	Likelihood of Occurrence
rufa red knot (<i>Calidris canutus rufa</i>)	LT	T	The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (<i>Donax</i> spp.) on beaches and dwarf surf clam (<i>Mulinia lateralis</i>) in bays, at least in the Laguna Madre. Wintering Range includes Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Swallow-tailed kite (<i>Elanoides forficatus</i>)	-	T	Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearings or on forest woodland edge, usually in pine, cypress, or various deciduous trees.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Tropical parula (<i>Setophaga pitiayumi</i>)	-	T	Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
White-faced ibis (<i>Plegadis chihi</i>)	-	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.	Observed On-site: No Observed in Proximity: No Habitat present: Yes Habitat Type: Foraging	Medium
White-tailed hawk (<i>Buteo albicaudatus</i>)	-	T	Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral.	Observed On-site: Yes Observed in Proximity: Yes Habitat present: Yes Habitat Type: Foraging	High
Whooping crane (<i>Grus americana</i>)	LE	E	Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	Observed On-site: No Observed in Proximity: No Habitat present: Yes Habitat Type: Migratory Foraging	Medium
Wood stork (<i>Mycteria americana</i>)	-	T	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.	Observed On-site: No Observed in Proximity: Yes Habitat present: Yes Habitat Type: Foraging	Medium
Zone-tailed hawk (<i>Buteo albonotatus</i>)	-	T	Arid open country, including open deciduous or pine-oak woodland, mesa or mountain country, 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	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low

Table 2: TPWD List of Rare, Threatened, and Endangered Species for Victoria County, Texas

Species	USFWS Status	TPWD Status	Habitat Description	Comments	Likelihood of Occurrence
FISH					
Guadalupe darter (<i>Percina apristis</i>)	-	T	Endemic to the Guadalupe River Basin; Found in riffles; most common under or around 25-30 cm boulders in the main current; seems to prefer moderately turbid water.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
MAMMALS					
White-nosed coati (<i>Nasua narica</i>)	-	T	Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
MOLLUSKS					
False Spike (<i>Fusconaia mitchelli</i>)	-	T	Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Guadalupe Orb (<i>Cyclonaias necki</i>)	-	T	Species' distribution is limited to the Guadalupe River basin. Occurs in both mainstem and tributary habitats. Often found in substrates composed of sand, gravel, and cobble, including mud-silt or gravel-filled cracks in bedrock slabs. Considered intolerant of reservoirs, but are known to occur in them.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
REPTILES					
Cagle's map turtle (<i>Graptemys caglei</i>)	-	T	Aquatic: shallow water with swift to moderate flow and gravel or cobble bottom, connected by deeper pools with a slower flow rate and a silt or mud bottom; gravel bar riffles and transition areas between riffles and pools especially important in providing insect prey items; nests on gently sloping sand banks within 30 feet of waters edge.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Texas horned lizard (<i>Phrynosoma cornutum</i>)	-	T	Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; deep sandy soils.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low
Texas tortoise (<i>Gopherus berlandieri</i>)	-	T	Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.	Observed On-site: No Observed in Proximity: No Habitat present: No Habitat Type: N/A	Low

Legend/Notes: State County list accessed July 2021 and reviewed August 2021; List last updated June 22, 2021

T = State Listed Threatened
PT = Federally Proposed Threatened
LT = Federally Listed Threatened

E = State Listed Endangered
DL = Federally Delisted
LE = Federally Listed Endangered

C = Federal Candidate for listing
- No Federal and/or State regulatory listing status

Following the review of the IPaC and Victoria County TPWD list, a site visit was performed to make preliminary observations of potentially suitable habitat for listed species. One white-tailed hawk was observed foraging on the boundary of the study area and one wood stork was observed perched in a tree within the vicinity of the project area. Both species are state-listed threatened species. Federally-listed species were not observed during the site visits.

Birds

Habitat for the Attwater's greater prairie-chicken has been severely fragmented and degraded by urban sprawl and agricultural practices throughout much of their range. The species is generally limited to the Attwater Prairie Chicken National Wildlife Refuge approximately 67-miles north east of the study area. Thus, adverse impacts to this species would not be anticipated.

The project is not a wind related project; therefore, the Piping Plover and the Red Knot should not be considered in the effects analysis. Habitat for the black rail, interior least tern, reddish egret, swallow-tailed kite, tropical parula, and the zone-tailed hawk was not observed, and no individuals were observed during site reconnaissance. It is Kimley-Horn's analysis that these species are unlikely to occur within the project site.

Foraging habitat for the white-faced ibis and wood stork was observed within the study area in the form of irrigated rice fields, prairie ponds, and flooded pastures. One wood stork was observed perched in a tree with a flock of cattle egrets approximately 1-mile from the project site. Nesting habitat for these species was not observed within the project site. It is Kimley-Horn's analysis that these species have the potential to occur within the project site; however, it is our analysis that these species would not be impacted by construction activities associated with the project as the species would disperse during construction activities.

Foraging habitat for the white-tailed hawk was observed within the project site in the form of pastures and freshwater marshes. One adult white-tailed hawk was observed predating along the southwestern edge of the study area. It is Kimley-Horn's analysis that this species has the potential to occur within the project site; however, it is our analysis that this species would not be impacted by construction activities associated with the project as this species would disperse during construction activities.

Whooping cranes have the potential to migrate over the study area. Marginal migratory foraging habitat in the form of cropland was observed; however, individual species were not identified during site reconnaissance. It is Kimley-Horn's analysis that this species has the potential to occur within the project site; however, it is our analysis that this species would not be impacted by construction activities associated with the project as this species would disperse during construction activities. The USFWS has designated critical habitat for the whooping crane; however, the IPaC states there are no critical habitats within the project area under the Texas Coastal Ecological Field Office's Jurisdiction. Thus, adverse impacts to this species would not be anticipated.

Fish

The Guadalupe darter is endemic to the Guadalupe River basin and prefers moderately turbid water. Based on a review of the iNaturalist database, one Guadalupe darter site was documented in March 2020 (iNaturalist ID: 39782127) within the Guadalupe River approximately 7 miles from the project area. Habitat for this species was not observed within the project area. Thus, adverse impacts to this species would not be anticipated.

Mammals

Habitat for the white-nosed coati in Texas has been adversely impacted by development. Recent sightings of this species within Texas have been limited to the Big Bend and Padre Island regions (*The Mammals of Texas, Seventh Edition*). Habitat for the white-nosed coati was not observed within the study area. Based on a review of the iNaturalist database, white-nosed coati sightings were limited to one individual, released by TPWD personnel, south of Santa Maria, TX (www.inaturalist.org/observations).

Mollusks

Habitat for the false spike and the Guadalupe orb was not observed within the project site. The TXNDD data documents one false spike observation and three Guadalupe orb sightings within the Guadalupe River (see Element Occurrences report, Appendix E). Based on a review of the iNaturalist database, there are no documented sightings of the false spike or the Guadalupe orb. Thus, adverse impacts to these species would not be anticipated.

The TXNDD and iNaturalist have documented sightings of the Cagle's map turtle within the Guadalupe River. However, habitat for the Cagle's map turtle was not observed within the project area. Thus, adverse impacts to this species would not be anticipated.

Habitat for the Texas horned lizard and the Texas tortoise were not observed within the project site and individual species were not identified during field reconnaissance. Based on a review of the iNaturalist database, one Texas tortoise was documented August 2011 (iNaturalist ID: 196218) approximately 9 miles from the project site. Thus, adverse impacts to these species would not be anticipated.

In addition to the county list, a request for a review of the TXNDD for the Inez NW, Nursery, Victoria East, and Victoria West, Texas USGS topographic quadrangles by TPWD was submitted for known occurrences of listed species. TXNDD provided an Element Occurrences report, data files of known Element Occurrences, and County List FAQ generated on August 13, 2021 (Appendix E).

Information files were reviewed for known locations of listed species on the topographic quadrangle map representing the site and also on adjacent quadrangles (if applicable). There was one documented occurrence of listed species, the Attwater's greater prairie-chicken, within a 0.25-mile radius of the site (See Figure 1 in Appendix E). The Element Occurrence Report (Appendix E) documented 16 male chickens during the spring booming season of 1985 (Occurrence #24). Additionally, 31 male chickens were documented approximately two miles northwest of the study area during the same booming season (Occurrence #25). One documented bald eagle nest (TPWD Nest #235-5A) is located approximately 1.4 miles east of the study area. The Element Occurrence Report documents the nest was last active in 1996, fell in 1997, and was unable to be located in 2002. The TXNDD results also document occurrences of the Cagle's map turtle within the Guadalupe River, approximately four miles from the study area. TXNDD search results are not available for public review. Note that, given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Data from the TXNDD do not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within your project area. Absence of information in the TXNDD does not, therefore, mean absence of occurrence.

3.5 – MIGRATORY BIRD AND BALD AND GOLDEN EAGLE RESOURCES

Kimley-horn conducted a preliminary review of the potential for migratory bird and bald and golden eagle habitat (focusing primarily on trees and shrubs for migratory birds and trees for bald and golden eagles; however, it should be noted that some birds protected under the MBTA are ground nesting) to occur on the proposed project location or be affected by the proposed project for the purposes of due diligence in complying with the MBTA. Kimley-Horn downloaded the Resource List Migratory Birds List from the IPaC online planning tool (see IPaC Resource List in Appendix F). According to this resource, there were no Birds of Conservation Concern (BBC) in the area; however, the bald eagle was listed due to its protection under the Eagle Act. No bald eagles or their nests were observed during field reconnaissance.

Based on the IPaC Resource List, the bald eagle has the highest potential to breed within the vicinity of the study area in April. Nesting habitat for bald eagles was not observed within or immediately adjacent to the project site. Additionally, no bald eagles were observed during field reconnaissance. Kimley-Horn identified approximately 699 acres of potential migratory bird habitat in the southwestern, central, and southern portions of the site and one inactive nest (See Figure 1 in Appendix G).

3.6 – WILDLIFE UTILIZATION

Direct observation of wildlife utilization or signs of wildlife (sightings, burrows, tracks, scat, etc.) included black vultures (*Coragyps atratus*), mourning doves (*Zenaida macroura*), crested caracara (*Caracara cheriway*), northern cardinal (*Cardinalus cardinalus*), cattle egret (*Bubulcus ibis*), green heron (*Butorides virescens*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), one white-tailed hawk, one wood stork, various songbird and hawk species, white-tailed deer (*Odocoileus virginianus*) tracks, and wild boar (*Sus scrofa*) tracks.

4.0 - SUMMARY OF RESULTS

Based on the results of the resource review and the preliminary site visit, Kimley-Horn has concluded the following.

Threatened and Endangered Species

The list of T&E species compiled by the USFWS on the IPaC for Victoria County, Texas includes four species; however, two of the four species should be considered in the effects analysis only for wind related projects within the migratory route. The project is not a wind related project; therefore, the piping plover and red knot should not be considered in the effects analysis. Habitat for the Attwater's greater prairie chicken was not observed within the study area and no individuals were observed during site reconnaissance. The whooping crane has the potential to migrate over the site. Marginal foraging habitat for the whooping crane, in the form of rice fields and pasture was observed during field reconnaissance. However, this species was not observed during field reconnaissance. Thus, it is our analysis that the project would have no effect on federally-listed T&E species. Therefore, consultation with the USFWS is not required.

The list of T&E species compiled by the TPWD for Victoria County, Texas includes 68 species. Only 20 of these listed species are given a state designation of threatened or endangered. Habitat for the Attwater's greater prairie chicken, black rail, interior least tern, piping plover, reddish egret, rufa red knot, swallow-tailed kite, tropical parula, zone-tailed hawk, Guadalupe darter, white-nosed coati, false spike, Guadalupe orb, Cagle's map turtle, Texas horned lizard, and Texas tortoise was not observed during site reconnaissance. Additionally, individual species were not identified during site

reconnaissance. It is Kimley-Horn's analysis that no further action is recommended for the above listed species at this time.

Kimley-Horn biologists observed one white-tailed hawk onsite and one wood stork within the project vicinity. Foraging habitat for these species and the white-faced ibis was also observed onsite. While foraging habitat for these state-listed species was identified onsite, nesting habitat was not identified onsite. Further, the habitat for these species is not protected by state law. However, individual species are protected. If species are present at the time of construction activities and the species will be impacted, coordination and/or permitting with TPWD may be necessary prior to construction activities commencing. TPWD does not provide readily available management guidelines or survey protocol for the white-tailed hawk, wood stork, or the white-faced ibis on the TPWD.texas.gov website. It is Kimley-Horn's analysis that these species have the potential to occur within the project site; however, it is our analysis that these species would not be impacted by construction activities associated with the project as these species would disperse during construction activities. If the Client would prefer concurrence with TPWD that management guidelines or survey protocol for the white-faced ibis do not exist, the Client can contact the appropriate TPWD Regional Biologist; however, this is not required.

Migratory Birds

The IPaC Resource List did not identify any birds of concern within the project vicinity. However, the bald eagle was listed due to its protection under the Eagle Act (Appendix F). Kimley-Horn observed multiple black vultures, mourning doves, herons, egrets, and various songbird species protected under the MBTA, utilizing the site during field reconnaissance.

On September 29, 2021, the U.S. Department of Interior announced a series of actions to unwind the most recent rulemaking in an effort "to ensure that the MBTA conserves birds today and into the future." On October 4, 2021, the USFWS published a final rule revoking the most recent rule enacted by the Trump Administration that limited the scope of the MBTA. According to the Federal Register, the final MBTA revocation rule will go into effect on December 3, 2021. It is our understanding that as of December 3, 2021, incidental take would be enforceable under the MBTA.

In addition, on October 4, 2021, the USFWS published an Advanced Notice of Proposed Rulemaking announcing the intent to solicit public comments and information to help develop proposed regulations that would establish a permitting system to authorize the incidental take of migratory birds in certain circumstances. The USFWS issued a Director's Order establishing criteria for the types of conduct that will be a priority for enforcement activities with respect to incidental take of migratory birds.

It should be noted that the regulatory climate with respect to the MBTA is changing; however, it is our understanding that as of December 3, 2021 incidental take of migratory birds is enforceable under the MBTA.

Although not required under the MBTA, the Client may elect to have a pre-construction nest survey performed in areas to be impacted by construction activities.

Bald and Golden Eagles

Kimley-Horn downloaded and reviewed the IPaC Official Species List (Appendix C) to check for the potential for bald and golden eagles at the study area location. Based on the reviewed documentation, one bald eagle nest was documented on the TXNDD EO list, approximately 1.4 miles east of the

project site. However, the list had record that the nest fell in 1997 and was unable to be located in 2002. No eagles or their nests were identified during site reconnaissance. Therefore, no further action is recommended with respect to the BGEPA and consultation with the USFWS is not required.

DISCLAIMER

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as scientists, of applicable regulations and agency guidance. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the appropriate regulatory agencies. Regulatory agencies occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusions and/or recommendations and may cause a need to reevaluate our conclusions and/or recommendations. Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the applicable regulatory agencies. The Client acknowledges that they have the opportunity to submit documentation to the regulatory agencies for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.

Please contact Carland Holstead by phone at (469) 914-8717 or by email at carland.holstead@kimley-horn.com if you have questions or need additional information.

Sincerely,



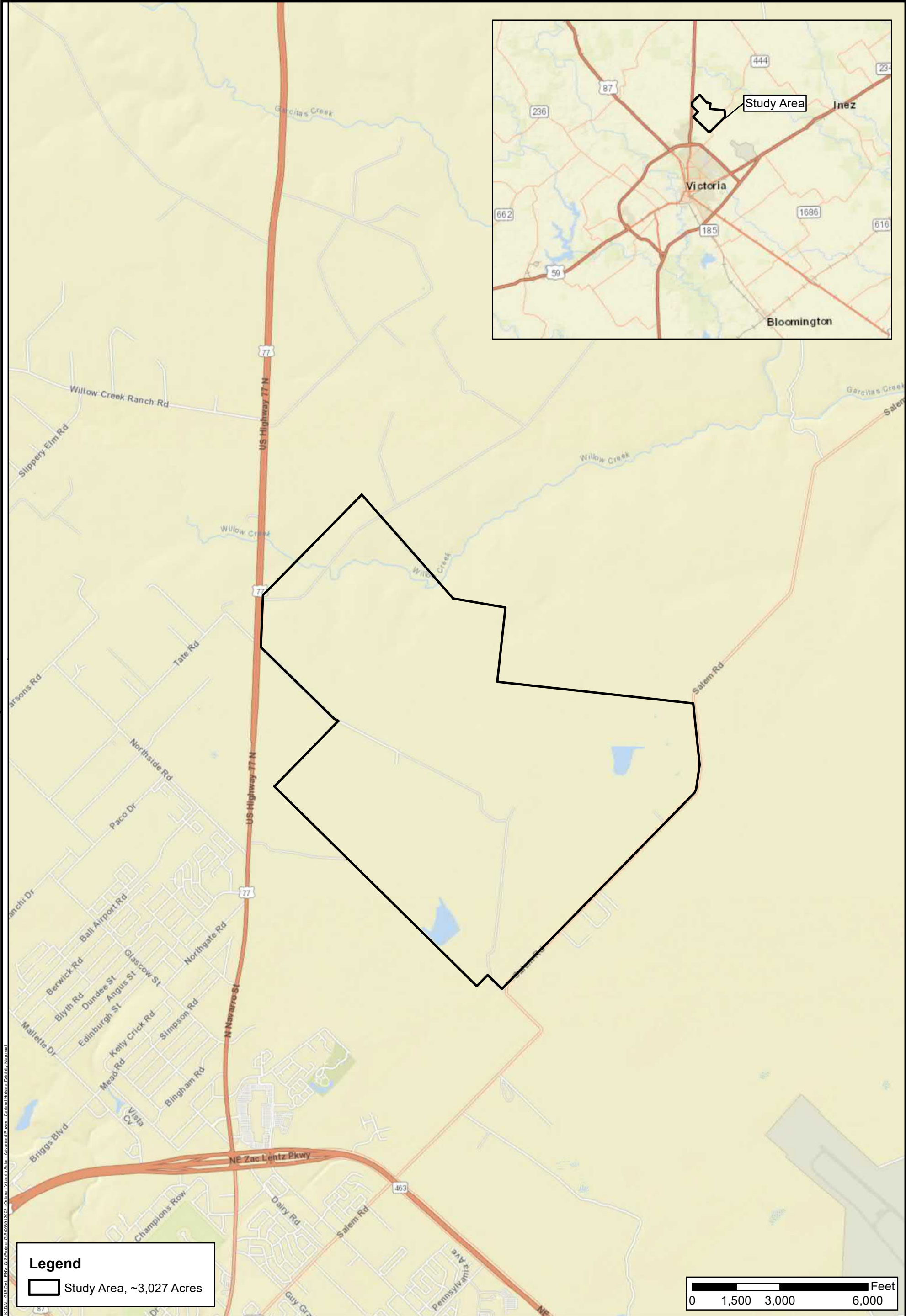
Meredith Aiken
Environmental Scientist



Carland G. Holstead, PWS
Senior Environmental Project Manager

Appendix A

FIGURES



\\CGH-CISDAL-ENV-GIS\Projects\GIS\068913002_Oriana_Victoria_Solar\Approved\Draw-Centroid\1081616_Victoria_Memo.dwg

FIGURE

1

DATE:	08/12/2021
DRAWN:	MREA
CHECKED:	CGH
KHA NO.:	068913002

VICINITY MAP

Source: ESRI Basemap

ORIANA SOLAR

Victoria County, Texas



Kimley»Horn

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

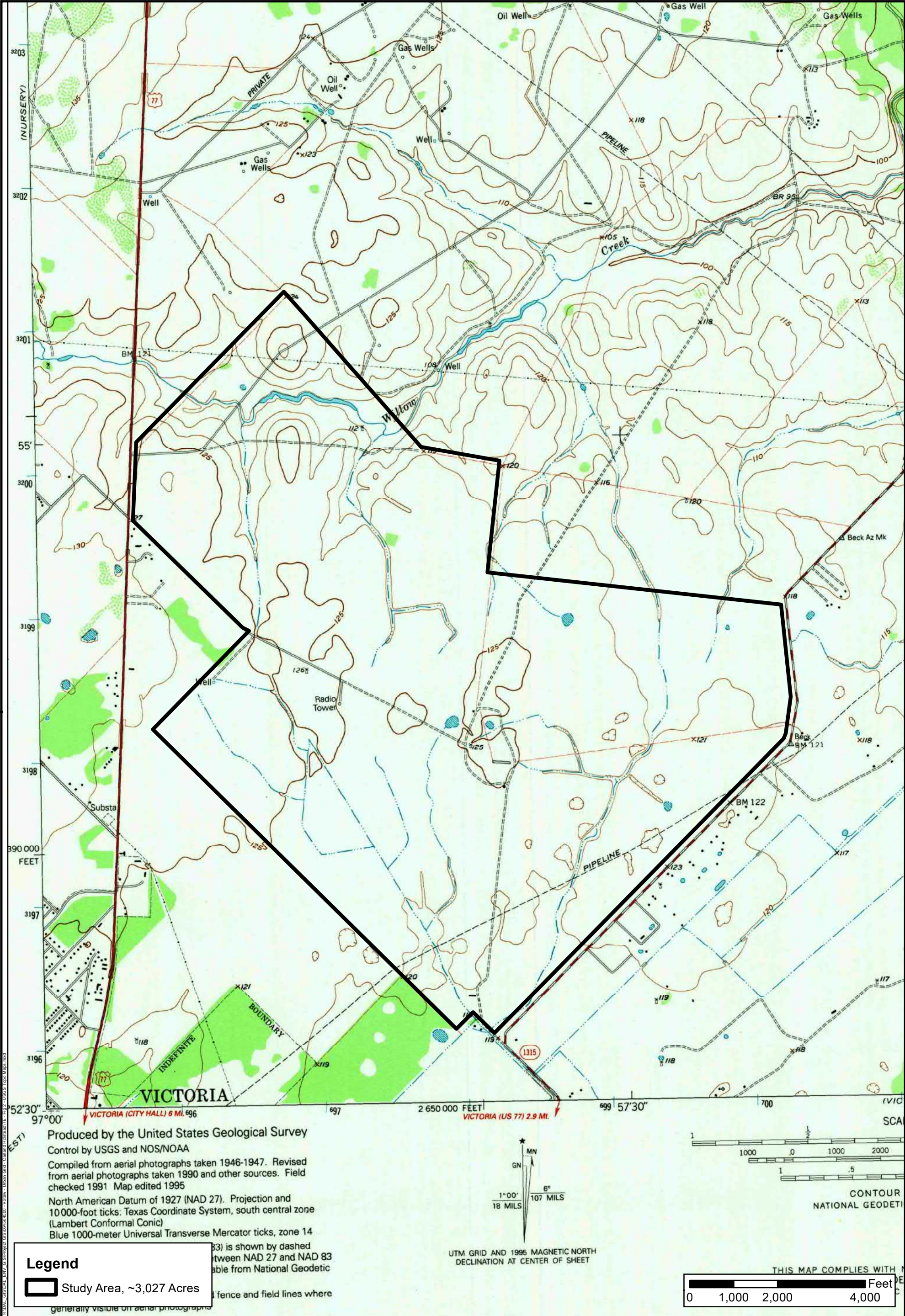
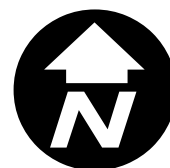
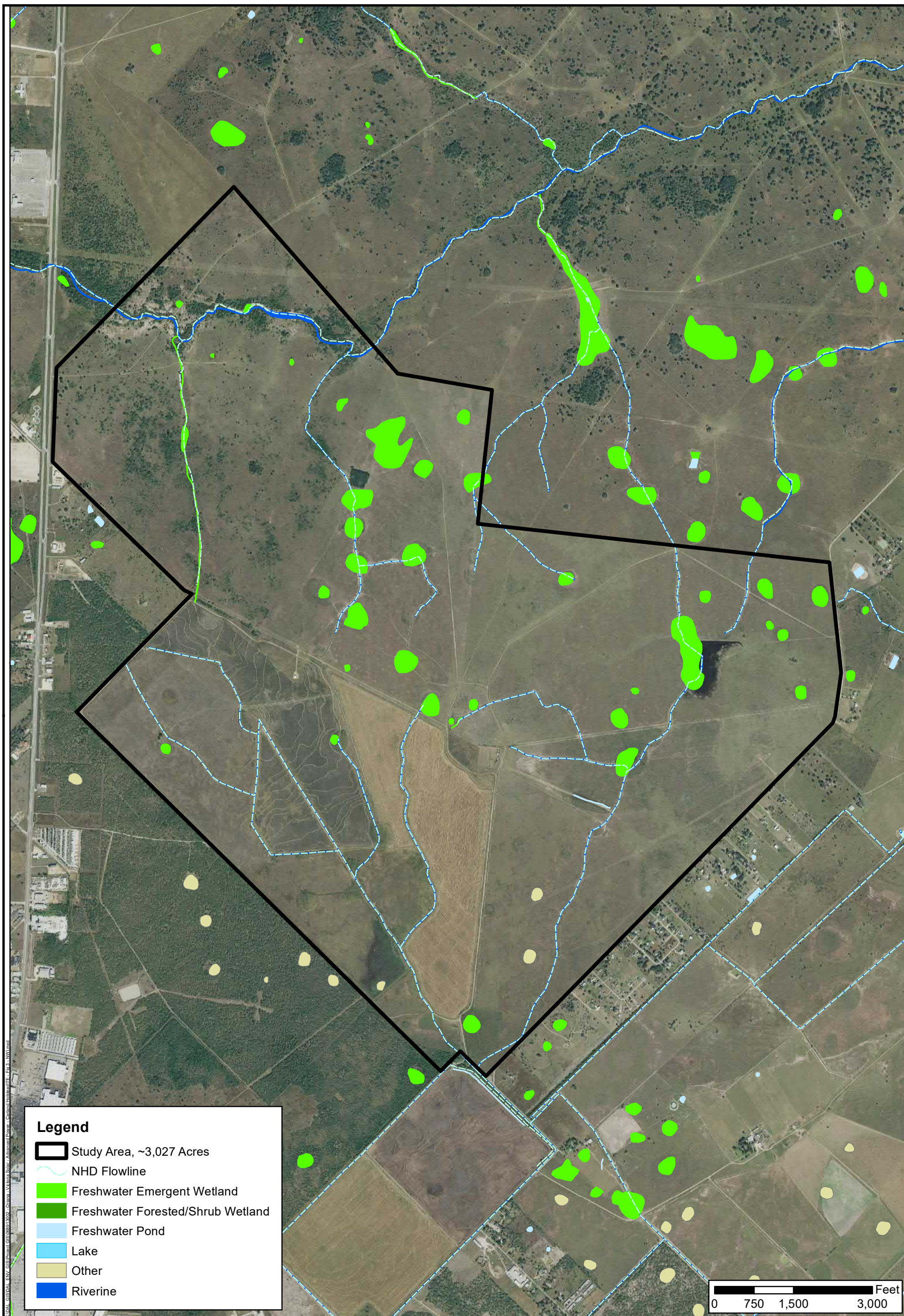
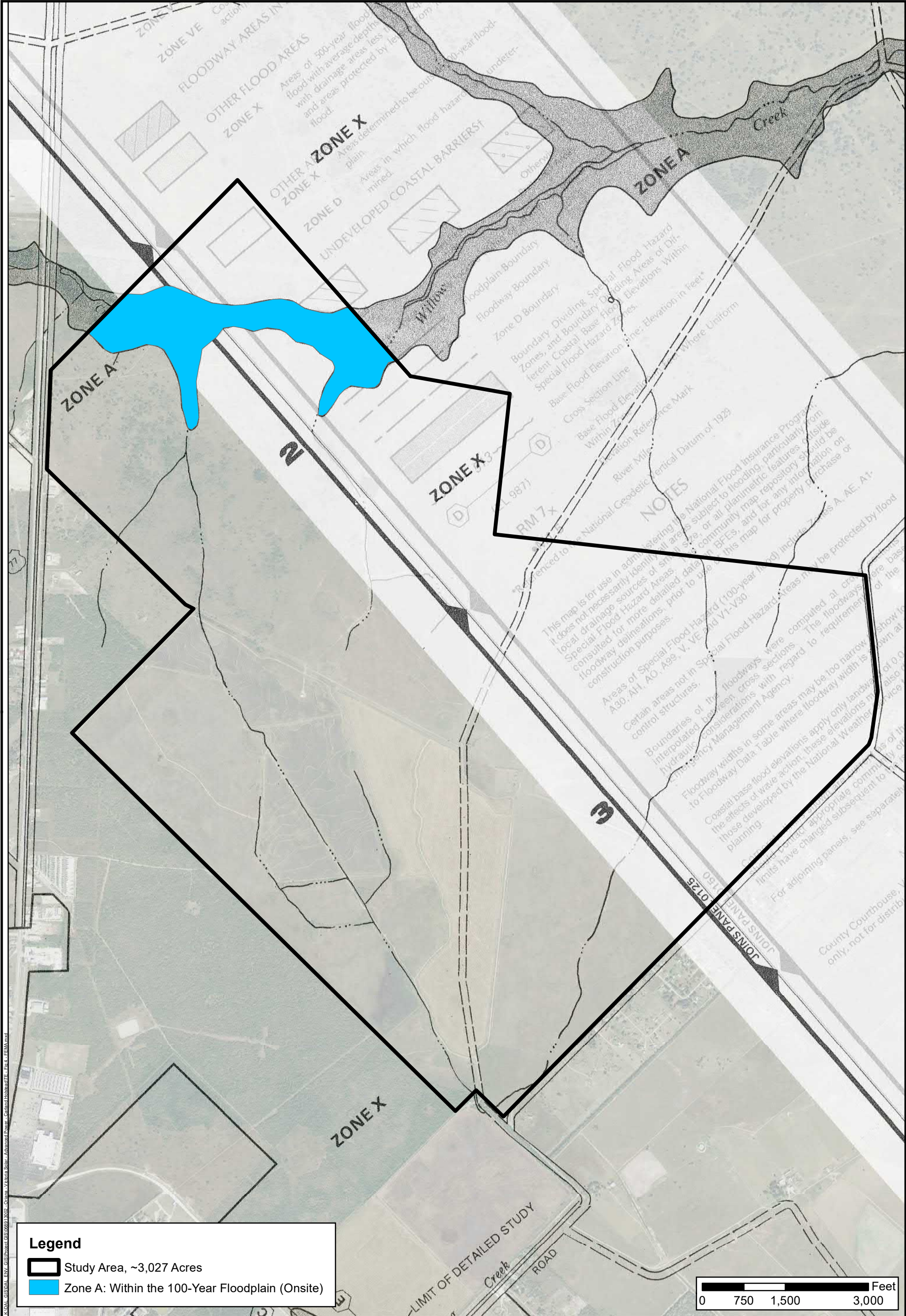


FIGURE 2	DATE: 08/12/2021	USGS TOPOGRAPHIC MAP Quadrant Name: Inez NW	ORIANA SOLAR Victoria County, Texas		Kimley»Horn This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.
	DRAWN: MREA				
	CHECKED: CGH				
	KHA NO.: 068913002				





Legend

Study Area, ~3,027 Acres

Zone A: Within the 100-Year Floodplain (Onsite)

Appendix B

PHOTO LOCATION MAP AND SITE VISIT PHOTOGRAPHS



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004



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Photos taken on 08/02/2021



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Photos taken on 08/02/2021



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Appendix C

USFWS IPAC OFFICIAL SPECIES LIST



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411

Phone: (281) 286-8282 Fax: (281) 488-5882

<http://www.fws.gov/southwest/es/TexasCoastal/>
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To:

July 26, 2021

Consultation Code: 02ETTX00-2021-SLI-2693

Event Code: 02ETTX00-2021-E-06040

Project Name: Oriana Solar Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Tx, and Corpus Christi, Tx, have combined administratively to form the Texas Coastal Ecological Services Field Office. A map of the Texas Coastal Ecological Services Field Office area of responsibility can be found at: <http://www.fws.gov/southwest/es/TexasCoastal/Map.html>. All project related correspondence should be sent to the field office responsible for the area in which your project occurs. For projects located in southeast Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058. For projects located in southern Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; P.O. Box 81468; Corpus Christi, Texas 78468-1468. For projects located in six counties in southern Texas (Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata) please write: Santa Ana NWR, ATTN: Ecological Services Sub Office, 3325 Green Jay Road, Alamo, Texas 78516.

The enclosed species list identifies federally threatened, endangered, and proposed to be listed species; designated critical habitat; and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project.

New information from updated surveys, changes in the abundance and distribution of species, changes in habitat conditions, or other factors could change the list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation for updates to species list and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Candidate species have no protection under the Act but are included for consideration because they could be listed prior to the completion of your project. The other species information should help you determine if suitable habitat for these listed species exists in any of the proposed project areas or if project activities may affect species on-site, off-site, and/or result in "take" of a federally listed species.

"Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if the activity results in the death or injury of wildlife by removing essential habitat components or significantly alters essential behavior patterns, including breeding, feeding, or sheltering.

Section 7

Section 7 of the Act requires that all Federal agencies consult with the Service to ensure that actions authorized, funded or carried out by such agencies do not jeopardize the continued existence of any listed threatened or endangered species or adversely modify or destroy critical habitat of such species. It is the responsibility of the Federal action agency to determine if the proposed project may affect threatened or endangered species. If a "may affect" determination is made, the Federal agency shall initiate the section 7 consultation process by writing to the office that has responsibility for the area in which your project occurs.

Is not likely to adversely affect - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial.

Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. The Federal agency or the designated non-Federal representative should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

Is likely to adversely affect - adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal section 7 consultation with this office.

No effect - the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No further coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

Regardless of your determination, the Service recommends that you maintain a complete record of the evaluation, including steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles.

Please be advised that while a Federal agency may designate a non-Federal representative to conduct informal consultations with the Service, assess project effects, or prepare a biological assessment, the Federal agency must notify the Service in writing of such a designation. The Federal agency shall also independently review and evaluate the scope and contents of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

The Service's Consultation Handbook is available online to assist you with further information on definitions, process, and fulfilling Act requirements for your projects at: http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Section 10

If there is no federal involvement and the proposed project is being funded or carried out by private interests and/or non-federal government agencies, and the project as proposed may affect listed species, a section 10(a)(1)(B) permit is recommended. The Habitat Conservation Planning Handbook is available at: http://www.fws.gov/endangered/esa-library/pdf/HCP_Handbook.pdf

Service Response

Please note that the Service strives to respond to requests for project review within 30 days of receipt, however, this time period is not mandated by regulation. Responses may be delayed due to workload and lack of staff. Failure to meet the 30-day timeframe does not constitute a concurrence from the Service that the proposed project will not have impacts to threatened and endangered species.

Proposed Species and/or Proposed Critical Habitat

While consultations are required when the proposed action may affect listed species, section 7(a)(4) was added to the ESA to provide a mechanism for identifying and resolving potential conflicts between a proposed action and proposed species or proposed critical habitat at an early planning stage. The action agency should seek concurrence from the Service to assist the action agency in determining effects and to advise the agency on ways to avoid or minimize adverse effect to proposed species or proposed critical habitat.

Candidate Species

Candidate species are species that are being considered for possible addition to the threatened and endangered species list. They currently have no legal protection under the ESA. If you find you have potential project impacts to these species the Service would like to provide technical assistance to help avoid or minimize adverse effects. Addressing potential impacts to these species at this stage could better provide for overall ecosystem health in the local area and avert potential future listing.

Several species of freshwater mussels occur in Texas and four are candidates for listing under the ESA. The Service is also reviewing the status of six other species for potential listing under the ESA. One of the main contributors to mussel die offs is sedimentation, which smothers and suffocates mussels. To reduce sedimentation within rivers, streams, and tributaries crossed by a

project, the Service recommends that that you implement the best management practices found at: <http://www.fws.gov/southwest/es/TexasCoastal/FreshwaterMussels.html>.

Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements between the Service and public or private entities to implement conservation measures to address threats to candidate species. Implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. A CCAA can provide participants with assurances that if they engage in conservation actions, they will not be required to implement additional conservation measures beyond those in the agreement. For additional information on CCAs/CCAAs please visit the Service's website at <http://www.fws.gov/endangered/what-we-do/cca.html>.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Many may nest in trees, brush areas or other suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals or eggs. If project activities must be conducted during this time, we recommend surveying for active nests prior to commencing work. A list of migratory birds may be viewed at <http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtandx.html>.

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the Act on August 9, 2007. Both the bald eagle and the golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For more information on bald and golden eagle management guidelines, we recommend you review information provided at <http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf>.

The construction of overhead power lines creates threats of avian collision and electrocution. The Service recommends the installation of underground rather than overhead power lines whenever possible. For new overhead lines or retrofitting of old lines, we recommend that project developers implement, to the maximum extent practicable, the Avian Power Line Interaction Committee guidelines found at <http://www.aplic.org/>.

Meteorological and communication towers are estimated to kill millions of birds per year. We recommend following the guidance set forth in the Service Interim Guidelines for Recommendations on Communications Tower Siting, Construction, Operation and Decommissioning, found online at: <http://www.fws.gov/habitatconservation/communicationtowers.html>, to minimize the threat of avian mortality at these towers.

Monitoring at these towers would provide insight into the effectiveness of the minimization measures. We request the results of any wildlife mortality monitoring at towers associated with this project.

We request that you provide us with the final location and specifications of your proposed towers, as well as the recommendations implemented. A Tower Site Evaluation Form is also available via the above website; we recommend you complete this form and keep it in your files.

If meteorological towers are to be constructed, please forward this completed form to our office.

More information concerning sections 7 and 10 of the Act, migratory birds, candidate species, and landowner tools can be found on our website at: <http://www.fws.gov/southwest/es/TexasCoastal/ProjectReviews.html>.

Wetlands and Wildlife Habitat

Wetlands and riparian zones provide valuable fish and wildlife habitat as well as contribute to flood control, water quality enhancement, and groundwater recharge. Wetland and riparian vegetation provides food and cover for wildlife, stabilizes banks and decreases soil erosion.

These areas are inherently dynamic and very sensitive to changes caused by such activities as overgrazing, logging, major construction, or earth disturbance. Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands in carrying out the agency's responsibilities. Construction activities near riparian zones should be carefully designed to minimize impacts. If vegetation clearing is needed in these riparian areas, they should be re-vegetated with native wetland and riparian vegetation to prevent erosion or loss of habitat. We recommend minimizing the area of soil scarification and initiating incremental re-establishment of herbaceous vegetation at the proposed work sites. Denuded and/or disturbed areas should be re-vegetated with a mixture of native legumes and grasses.

Species commonly used for soil stabilization are listed in the Texas Department of Agriculture's (TDA) Native Tree and Plant Directory, available from TDA at P.O. Box 12847, Austin, Texas 78711. The Service also urges taking precautions to ensure sediment loading does not occur to any receiving streams in the proposed project area. To prevent and/or minimize soil erosion and compaction associated with construction activities, avoid any unnecessary clearing of vegetation, and follow established rights-of-way whenever possible. All machinery and petroleum products should be stored outside the floodplain and/or wetland area during construction to prevent possible contamination of water and soils.

Wetlands and riparian areas are high priority fish and wildlife habitat, serving as important sources of food, cover, and shelter for numerous species of resident and migratory wildlife.

Waterfowl and other migratory birds use wetlands and riparian corridors as stopover, feeding, and nesting areas. We strongly recommend that the selected project site not impact wetlands and riparian areas, and be located as far as practical from these areas. Migratory birds tend to concentrate in or near wetlands and riparian areas and use these areas as migratory flyways or corridors. After every effort has been made to avoid impacting wetlands, you anticipate unavoidable wetland impacts will occur; you should contact the appropriate U.S. Army Corps of Engineers office to determine if a permit is necessary prior to commencement of construction activities.

If your project will involve filling, dredging, or trenching of a wetland or riparian area it may require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (COE).

For permitting requirements please contact the U.S. Corps of Engineers, District Engineer, P.O. Box 1229, Galveston, Texas 77553-1229, (409) 766-3002.

Beneficial Landscaping

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping (42 C.F.R. 26961), where possible, any landscaping associated with project plans should be limited to seeding and replanting with native species. A mixture of grasses and forbs appropriate to address potential erosion problems and long-term cover should be planted when seed is reasonably available. Although Bermuda grass is listed in seed mixtures, this species and other introduced species should be avoided as much as possible. The Service also recommends the use of native trees, shrubs, and herbaceous species that are adaptable, drought tolerant and conserve water.

State Listed Species

The State of Texas protects certain species. Please contact the Texas Parks and Wildlife Department (Endangered Resources Branch), 4200 Smith School Road, Austin, Texas 78744 (telephone 512/389-8021) for information concerning fish, wildlife, and plants of State concern or visit their website at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_rare_species/listed_species/.

If we can be of further assistance, or if you have any questions about these comments, please contact 281/286-8282 if your project is in southeast Texas, or 361/994-9005, ext. 246, if your project is in southern Texas. Please refer to the Service consultation number listed above in any future correspondence regarding this project.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Texas Coastal Ecological Services Field Office

4444 Corona Drive, Suite 215

Corpus Christi, TX 78411

(281) 286-8282

Project Summary

Consultation Code: 02ETTX00-2021-SLI-2693

Event Code: 02ETTX00-2021-E-06040

Project Name: Oriana Solar Project

Project Type: POWER GENERATION

Project Description: The project consists of the development of a ground-mounted solar energy facility and associated infrastructure.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@28.902624,-96.96709910530642,14z>



Counties: Victoria County, Texas

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

Birds

NAME	STATUS
Attwater's Greater Prairie-chicken <i>Tympanuchus cupido attwateri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7259	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind related projects within migratory route. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Related Projects Within Migratory Route Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix D

TPWD ANNOTATED COUNTY LIST OF RARE SPECIES

Last Update: 6/22/2021

VICTORIA COUNTY

AMPHIBIANS

southern crawfish frog

Lithobates areolatus areolatus

Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S3

Strecker's chorus frog

Pseudacris streckeri

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

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

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: SU

BIRDS

Attwater's greater prairie-chicken

Tympanuchus cupido attwateri

Open prairies of mostly thick grass one to three feet tall; sandhill country with bunch grass, sage, and shinnery oak. From near sea level to 200 feet along coastal plain on upper two-thirds of Texas coast; males form communal display flocks during late winter-early spring; booming grounds important; breeding February-July

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4T1	State Rank: S1

bald eagle

Haliaeetus leucocephalus

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

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

black rail

Laterallus jamaicensis

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

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VICTORIA COUNTY

BIRDS

Franklin's gull *Leucophaeus pipixcan*

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

interior least tern *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: DL: Delisted	State Status: E	SGCN: N
Endemic: N	Global Rank: G4T3Q	State Rank: S1B

mountain plover *Charadrius montanus*

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

piping plover *Charadrius melodus*

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. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

reddish egret *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2B

rufa red knot *Calidris canutus rufa*

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VICTORIA COUNTY

BIRDS

Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot's prominent pale eyebrow and whitish flanks with dark barring. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (*Donax* spp.) on beaches and dwarf surf clam (*Mulinia lateralis*) in bays, at least in the Laguna Madre. Wintering Range includes-Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

swallow-tailed kite *Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

tropical parula *Setophaga pitiayumi*

Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.

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

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: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

white-faced ibis *Plegadis chihi*

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: Y
Endemic: N	Global Rank: G5	State Rank: S4B

white-tailed hawk *Buteo albicaudatus*

Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May

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

whooping crane *Grus americana*

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VICTORIA COUNTY

BIRDS

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1N

wood stork *Mycteria americana*

Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain country, 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

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

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

Guadalupe darter *Percina apristis*

Endemic to the Guadalupe River Basin; Found in riffles; most common under or around 25-30 cm boulders in the main current; seems to prefer moderately turbid water.

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G4	State Rank: S2

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VICTORIA COUNTY

FISH

southern flounder *Paralichthys lethostigma*

This is an estuarine-dependent species that inhabits riverine, estuarine and coastal waters, and prefers muddy, sandy, or silty substrates (Reagan and Wingo 1985). Individuals can tolerate wide temperature (~5-35°C) and salinity ranges (0-60 ppt). Southern Flounder spawn in offshore waters of the Gulf of Mexico from October to February (Reagan and Wingo 1985). The oceanic larval stage is pelagic and lasts 30–60 days. Metamorphosing individuals enter estuaries and migrate towards low-salinity headwaters, where settlement occurs (Burke et al. 1991, Walsh et al. 1999). The young fish enter the bays during late winter and early spring, occupying seagrass; some may move further into coastal rivers and bayous. Juveniles remain in estuaries until the onset of sexual maturation (approximately two years), at which time they migrate out of estuaries to join adults on the inner continental shelf. Adult southern flounder leave the bays during the fall for spawning in the Gulf of Mexico. They spawn for the first time when two years old at depths of 50 to 100 feet. Although most of the adults leave the bays and enter the Gulf for spawning during the winter, some remain behind and spend winter in the bays. Those in the Gulf will reenter the bays in the spring. The spring influx is gradual and does not occur with large concentrations that characterize the fall emigration.

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

Texas shiner *Notropis amabilis*

In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

INSECTS

a mayfly *Tortopus circumfluus*

Mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G3	State Rank: S2?

a mayfly *Tricorythodes curvatus*

AR, OK, TX; mayflies distinguished by aquatic larval stage; adult stage generally found in bankside vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: S2?

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

Comanche harvester ant *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

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VICTORIA COUNTY

INSECTS

No accepted common name *Cotinis boylei*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

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

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

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: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

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

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VICTORIA COUNTY

MAMMALS

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

northern yellow bat

Lasiurus intermedius

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4

swamp rabbit

Sylvilagus aquaticus

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

tricolored bat

Perimyotis subflavus

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G2G3

State Rank: S3S4

western hog-nosed skunk

Conepatus leuconotus

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S4

white-nosed coati

Nasua narica

Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S1

DISCLAIMER

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VICTORIA COUNTY

MOLLUSKS

False Spike *Fusconaia mitchelli*

Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble (Howells 2010; Randklev et al. 2012; Sowards et al. 2013; Tsakiris and Randklev 2016). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S1

Guadalupe Orb *Cyclonaias necki*

Species' distribution is limited to the Guadalupe River basin. Occurs in both mainstem and tributary habitats. Often found in substrates composed of sand, gravel, and cobble, including mud-silt or gravel-filled cracks in bedrock slabs. Considered intolerant of reservoirs, but are known to occur in them (Howells 2010m; Randklev et al. 2017b). [Mussels of Texas 2020]

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: S2

REPTILES

Cagle's map turtle *Graptemys caglei*

Aquatic: shallow water with swift to moderate flow and gravel or cobble bottom, connected by deeper pools with a slower flow rate and a silt or mud bottom; gravel bar riffles and transition areas between riffles and pools especially important in providing insect prey items; nests on gently sloping sand banks within ca. 30 feet of waters edge.

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S1

common garter snake *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: N
Endemic:	Global Rank: G5	State Rank: S2

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

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

Pigmy Rattlesnake *Sistrurus miliarius*

The pygmy rattlesnake occurs in a variety of wooded habitats from bottomland coastal hardwood forests to upland savannas. The species is frequently found in association with standing water.

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

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VICTORIA COUNTY

REPTILES

Prairie Skink *Plestiodon septentrionalis*

The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.

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

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

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

Texas diamondback terrapin *Malaclemys terrapin littoralis*

Coastal marshes, tidal flats, coves, estuaries, and lagoons behind barrier beaches; brackish and salt water; burrows into mud when inactive. Bay islands are important habitats. Nests on oyster shell beaches.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4T3Q	State Rank: S2

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

Texas tortoise *Gopherus berlandieri*

Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

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VICTORIA COUNTY

REPTILES

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box turtles 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: G3G4	State Rank: S3S4

PLANTS

awnless lestdaisy *Chaetopappa imberbis*

In woodlands on lomas of Carrizo sand (TEX-LL specimens Carr 23875, 12507). Mar- May.

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

coastal gay-feather *Liatris bracteata*

Coastal prairie grasslands of various types, from salty prairie on low-lying somewhat saline clay loams to upland prairie on nonsaline clayey to sandy loams; flowering in fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2S3

crestless onion *Allium canadense* var. *ecristatum*

Occurs on poorly drained sites on sandy substrates within coastal prairies of the Coastal Bend area (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T3	State Rank: S3

heartleaf evening-primrose *Oenothera cordata*

Occurs in post oak woodlands on sandy soils on the coastal plain (Carr 2015).

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

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VICTORIA COUNTY

PLANTS

Indianola beakrush

Rhynchospora indianolensis

Locally abundant in cattle pastures in some areas (at least during wet years), possibly becoming a management problem in such sites; Perennial; Flowering/Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3Q	State Rank: S3

Jones's rainlily

Cooperia jonesii

Hardpan swales and other seasonally moist low areas (Jones 1977). Flowering mid summer--early fall (Jul--Oct) (Flagg, Smith & Flory 2002).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3Q	State Rank: S3

Shinner's sunflower

Helianthus occidentalis ssp. plantagineus

Mostly in prairies on the Coastal Plain, with several slightly disjunct populations in the Pineywoods and South Texas Brush Country.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T2T3	State Rank: S4

Texas peachbush

Prunus texana

Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Texas pinkroot

Spigelia texana

Woodlands on loamy soils; Perennial; Flowering March-Nov; Fruiting April-Nov

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

Texas tauschia

Tauschia texana

Occurs in loamy soils in deciduous forests or woodlands on river and stream terraces; Perennial; Flowering/Fruiting Feb-April

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

threeflower broomweed

Thurovia triflora

Near coast in sparse, low vegetation on a veneer of light colored silt or fine sand over saline clay along drier upper margins of ecotone between between salty prairies and tidal flats; further inland associated with vegetated slick spots on prairie mima mounds; flowering September-November

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2S3

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VICTORIA COUNTY

PLANTS

two-flower stick-pea

Calliandra biflora

primarily in open areas on caliche outcrops or in shallow sandy soils over caliche; Perennial; Flowering/Fruiting May-Aug

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

Welder machaeranthera

Psilactis heterocarpa

Grasslands , varying from midgrass coastal prairies, and open mesquite-huisache woodlands on nearly level, gray to dark gray clayey to silty soils; known locations mapped on Victoria clay, Edroy clay, Dacosta sandy clay loam over Beaumont and Lissie formations; flowering September-November

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G2G3

State Rank: S2S3

Wright's trichocoronis

Trichocoronis wrightii var. *wrightii*

Most records from Texas are historical, perhaps indicating a decline as a result of alteration of wetland habitats; Annual; Flowering Feb-Oct; Fruiting Feb-Sept

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4T3

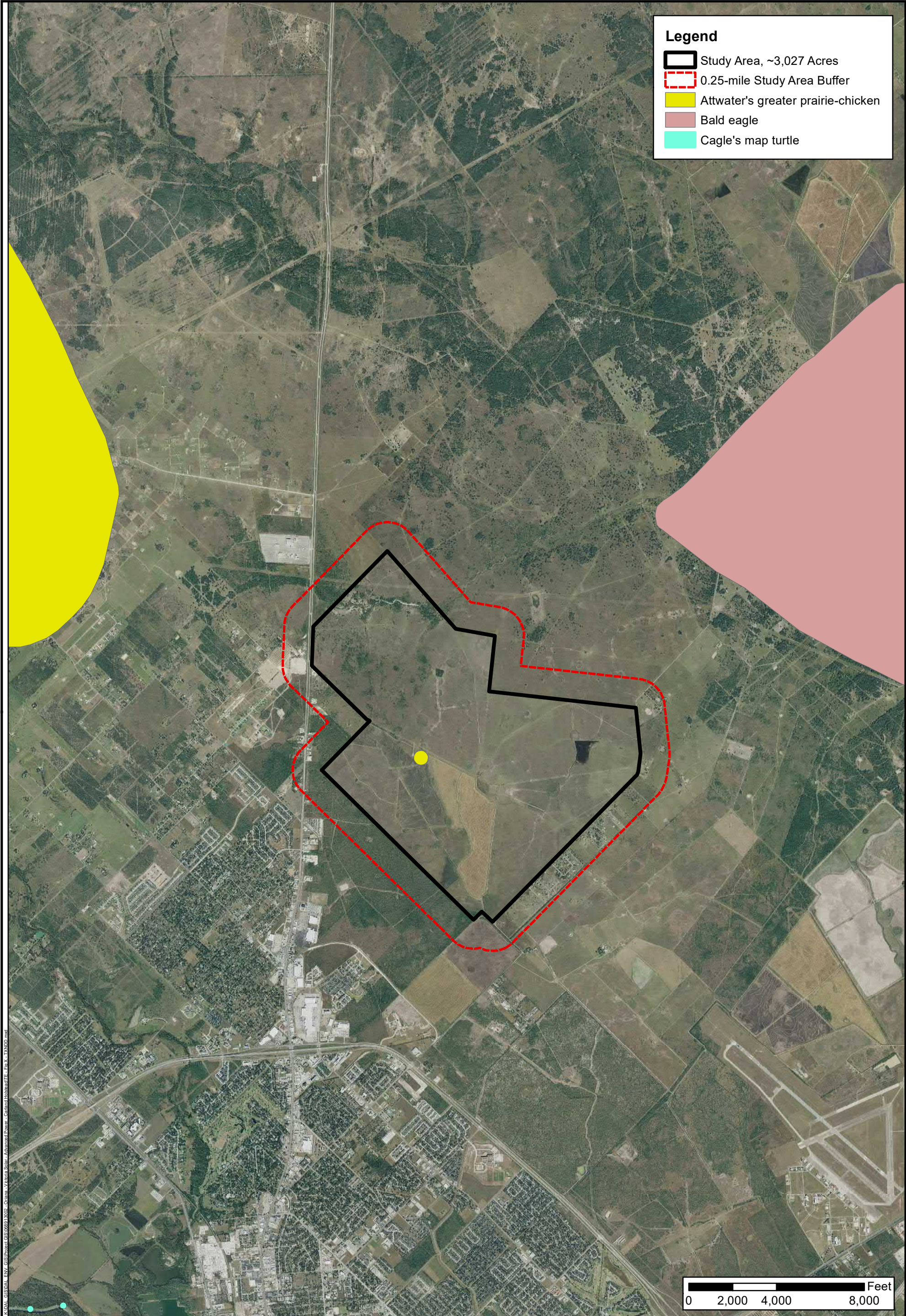
State Rank: S2

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Appendix E

TXNDD ELEMENT OCCURRENCES AND COUNTY LIST



Legend

Study Area, ~3,027 Acres

0.25-mile Study Area Buffer

Attwater's greater prairie-chicken

Bald eagle

Cagle's map turtle

FIGURE

1

DATE:	09/01/2021
DRAWN:	MREA
CHECKED:	CGH
KHA NO.:	068913002

TEXAS NATURAL DIVERSITY
DATABASE MAP

Source: TPWD

ORIANA SOLAR

Victoria County, Texas



Kimley»Horn

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

Element Occurrence Record

Scientific Name:	Cyclonaias necki	Occurrence #:	23	Eo Id:	9688
Common Name:	Guadalupe Orb	Track Status:	Track all extant and selected historical EOs		
Identification Confirmed:	Y - Yes	TX Protection Status:	T		
Global Rank:	GNR	State Rank:	S2	Federal Status:	

Location Information:

Directions

Mussels were observed in the Guadalupe River from 0.2 mile upstram of the US Hwy 77 bridge northwest of Victoria downstream for approx. 1.0 mile. The directions are generalized as this record consists of multiple observations.

Survey Information:

First Observation:	2009-09-27	Survey Date:	2015-10-22	Last Observation:	2015-10-22
Eo Type:		Eo Rank:	E	Eo Rank Date:	2015-10-22

Observed Area:

Comments:

General Description: 30 May 2012: Habitat consisted of nice riparian corridor surrounded by pastureland, braided channel system with a series of islands, and many riffles, runs, and pools. Substrate was mixed mud sand, cobble, and small to medium sized stones. Water was cool, turbid, with medium flows. 4 Apr 2013: In general, majority of all mussels were found in riffle and pool zones. Water level was lower compared to last year's sampling. Water was slightly turbid and cold. 20 August 2015: Habitat type was a pool. 21 Oct 2015: The river is divided by an island; each channel (right and left) had two survey areas (channel impact area and bank impact area). The right river channel consisted of run and bank mesohabitat types. The right channel impact area was the run mesohabitat containing mostly gravel and cobble substrates with some mud adjacent to the right bank impact area. The right bank impact area was the bank mesohabitat containing a mud substrate. This area was also just downstream from a woody debris pile that appeared to have provided a velocity shelter to the bank habitat. The left river channel consisted of a run mesohabitat type. Substrates in the left channel impact area included gravel/cobble and sand while the left bank impact area included sand and dense clay. The relocation area consisted of similar habitats as the area from which the mussels were collected.

Comments: Data were originally reported as *Quadrula petrina* but based on Burlakova, et al., 2018 species identification changed to *C. necki*. 30 May 2012: Survey was 30-minute timed searches at random spots for a total of 4.0 hours. One person used rake and walked shoreline; the other two used hand grubbing and walked shoreline. Sampling started approx. 1.0 mile downstream and worked upstream; most of time was spent at second island and in braided channels. 23 Sep 2012: Survey effort was 1.3 person-hours. One valve was collected on the bank or gravel bar in the area; it is housed at the University of North Texas Elm Fork Natural Heritage Museum. 4 Apr 2013: Survey was four timed searches of 20 minute intervals per person for a total of 6.5 hours. In general, mussels were stranded on parts of the gravel bar; these were tossed back into deeper water. 3 Dec 2013: Because of the recent flood event, the island downstream of the bridge was walked. Water levels were very low considering the time of year. 20 August 2015: Tactile and visual surveys were conducted for four person-hours. The timed searches were divided into four 1 person-hour intervals to inform survey effort for this species. Quantitative sampling (20, one meter squared quadrats) was also conducted. For both sampling methods, the survey area (150 sq. meters) was confined to the specific habitat type. 21 Oct 2015: Surveys were conducted by wading and snorkeling for 37.25 person-hours in the right channel and 13 person-hours in the left channel. All mussels were relocated to an area upstream of the bridge (SF ID: 37099). Majority of the mussels were relocated in a narrow strip along the right bank; the rest were distributed across the river channel. Six other species of mussels were collected and relocated. Mussels were relocated due to the proposed US 77 TxDOT bridge replacement project.

Protection Comments:

Element Occurrence Record

Management

Comments:

Data:

EO Data:

27 Sep 2009: Two live mussels were observed at one site. 30 May 2012: A single live individual was found. Recently dead to long dead shells and valves were observed; 2 shells and 5 valves were salvaged. 23 Sep 2012: Ten live individuals were observed at one site. 4 Apr 2013: Seven live individuals were found. Very recently dead shells were observed; one shell was salvaged. 3 Dec 2013: Recently dead shells/valves were observed; one shell was salvaged. 20 August 2015: 23 live individuals were observed at one site during qualitative sampling. Quantitative sampling yielded a density of 1.4 per square meter. 21-22 Oct 2015: A total of 110 mussels (average length of 56.8 mm) were collected (SF ID: 37098) and relocated upstream (SF ID: 37099). Forty-two dead shells/valves (condition not provided) were also salvaged.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

Burlakova, L., A. Karatayev, E. Froufe, A. E. Bogan, and M. Lopes-Lima. 2018. A new freshwater bivalve species of the genus *Cyclonaias* from Texas (Unionidae: Ambleminae: Quadrulini). *The Nautilus* 132(2):45-50.

Randklev, Charles. 2012. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0511-142, report date 31 May 2011 through 22 May 2012.

U.S. Fish and Wildlife Service. 2011. 50 CFR Part 17 Endangered and threatened wildlife and plants; 12-month finding on a petition to list Texas fatmucket, golden orb, smooth pimpleback, Texas pimpleback, and Texas fawnsfoot as threatened or endangered. *Federal Register* 76(194):62166-62212. 6 October 2011.

Morton, J., J. Dudding, E. Tsakiris, R. Lopez, and C. Randklev. 2016. Survey results and habitat use for *Quadrula petrina* (Texas pimpleback) in the Colorado and Guadalupe River drainages, Texas. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. September 2016.

Randklev, Charles. 2017. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0511-142, report date 31 May 2016 through 31 May 2017.

Randklev, C. R., N. A. Johnson, T. Miller, J. M. Morton, J. Dudding, K. Skow, B. Boseman, M. Hart, E. T. Tsakiris, K. Inoue, and R. R. Lopez. 2017. Freshwater mussels (Unionidae): central and west Texas final report. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. 321 pp. 28 April 2017.

Texas Dept. of Transportation. 2016. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0910-134, report date 10 September 2015 through 9 September 2016.

Texas Dept. of Transportation. 2015. Biological technical report: Freshwater mussel collection and relocation, proposed US 77 bridge crossing of the Guadalupe River, Victoria County, Texas. CSJ: 2350-01-041. Prepared by SWCA Environmental Consultants. 20 November 2015.

Mabe, J. A. 2013. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0812-961, report date 13 August 2012 through 13 August 2013.

Stevens, Charrish. 2015. Multiple versions (2013-2015) of a spreadsheet of mussel observations made and specimens collected throughout Texas, 1977-2014.

Howells, R. G. 2010. Texas pimpleback (*Quadrula petrina*): Summary of selected biological and ecological data for Texas. BioStudies, Kerrville, TX. April 2010.

Element Occurrence Record

Specimen:

Element Occurrence Record

Scientific Name:	Cyclonaias necki	Occurrence #:	38	Eo Id:	12598
Common Name:	Guadalupe Orb	Track Status:	Track all extant and selected historical EOs		
Identification Confirmed:	Y - Yes	TX Protection Status:	T		
Global Rank:	GNR	State Rank:	S2	Federal Status:	

Location Information:

Directions

Mussels were observed in the Guadalupe River at and upstream of Riverside Golf Course in Victoria . The directions are generalized as this record consists of multiple observations.

Survey Information:

First Observation:	2013-05-24	Survey Date:	2015-03-09	Last Observation:	2015-03-09
Eo Type:		Eo Rank:	E	Eo Rank Date:	2015-03-09
Observed Area:					

Comments:

General Description: 12 Aug 2013: The habitat type of the site was described as a run. 9 March 2015: Habitat type was backwater.

Comments: Data were originally reported as Quadrula petrina but based on Burlakova, et al., 2018 species identification changed to C. necki. 24 May and 12 Aug 2013: The site was surveyed for a total of 60 person-minutes (6 people for 10 minutes) and 90 person-minutes (9 people for 10 minutes), respectively, sample ID 18056ts4. The shoreline and river channel were searched. Fish and benthic macroinvertebrates were also sampled during this study. 9 March 2015: Tactile and visual surveys were conducted for four person-hours. The timed searches were divided into four 1 person-hour intervals to inform survey effort for this species . Quantitative sampling (20, one meter squared quadrats) was also conducted. For both sampling methods, the survey area (150 sq. meters) was confined to the specific habitat type.

Protection Comments:

Management Comments:

Data:

EO Data: 24 May 2013: Four live mussels were observed at one site. 12 Aug 2013: Four live mussels were observed at one site. 9 March 2015: Two live individuals were observed at one site during qualitative sampling . Quantitative sampling yielded no live individuals.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Element Occurrence Record

Citation:

Guadalupe-Blanco River Authority of Texas and Texas Parks and Wildlife Dept. 2014. Final Report: Supplemental biological data collection, lower Guadalupe River priority instream flow study. Under Texas Parks and Wildlife Dept. Interlocal Contract No. 435047 and Texas Water Development Board Research and Planning Fund Contract No. 1248311360. September 2014.

Morton, J., J. Dudding, E. Tsakiris, R. Lopez, and C. Randklev. 2016. Survey results and habitat use for *Quadrula petrina* (Texas pimpleback) in the Colorado and Guadalupe River drainages, Texas. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. September 2016.

Randklev, Charles. 2017. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0511-142, report date 31 May 2016 through 31 May 2017.

Randklev, C. R., N. A. Johnson, T. Miller, J. M. Morton, J. Dudding, K. Skow, B. Boseman, M. Hart, E. T. Tsakiris, K. Inoue, and R. R. Lopez. 2017. Freshwater mussels (Unionidae): central and west Texas final report. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. 321 pp. 28 April 2017.

Burlakova, L., A. Karatayev, E. Froufe, A. E. Bogan, and M. Lopes-Lima. 2018. A new freshwater bivalve species of the genus *Cyclonaias* from Texas (Unionidae: Ambleminae: Quadrulini). *The Nautilus* 132(2):45-50.

Specimen:

Element Occurrence Record

Scientific Name:	Cyclonaias necki	Occurrence #:	49	Eo Id:	14426
Common Name:	Guadalupe Orb	Track Status:	Track all extant and selected historical EOs		
Identification Confirmed:	Y - Yes	TX Protection Status:	T		
Global Rank:	GNR	State Rank:	S2	Federal Status:	

Location Information:

Directions

Mussels were observed in the Guadalupe River at and upstream of Powers Bend, WNW of Victoria. The directions are generalized as this record consists of multiple observations.

Survey Information:

First Observation:	2015-08-19	Survey Date:	2015-08-25	Last Observation:	2015-08-25
Eo Type:		Eo Rank:	E	Eo Rank Date:	2015-08-25

Observed Area:

Comments:

General Description: 19, 25 August 2015: Habitat type differed at each site. One was bank habitat; one was riffle and the other backwater.

Comments: Data were originally reported as *Quadrula petrina* but based on Burlakova, et al., 2018 species identification changed to *C. necki*. 19, 25 August 2015: Tactile and visual surveys were conducted for four person-hours at each site. The timed searches were divided into four 1 person-hour intervals to inform survey effort for this species. Quantitative sampling (20, one meter squared quadrats) was also conducted at each site. For both sampling methods, the survey area (150 sq. meters) was confined to the specific habitat type.

Protection Comments:

Management Comments:

Data:

EO Data: 19, 25 August 2015: A total of 5 live individuals were observed at 3 sites during qualitative sampling. Quantitative sampling yielded a density of 0.2 and 0.4 per square meter at two sites and no live individuals at the other site.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Element Occurrence Record

Citation:

Morton, J., J. Dudding, E. Tsakiris, R. Lopez, and C. Randklev. 2016. Survey results and habitat use for *Quadrula petrina* (Texas pimpleback) in the Colorado and Guadalupe River drainages, Texas. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. September 2016.

Burlakova, L., A. Karatayev, E. Froufe, A. E. Bogan, and M. Lopes-Lima. 2018. A new freshwater bivalve species of the genus *Cyclonaias* from Texas (Unionidae: Ambleminae: Quadrulini). *The Nautilus* 132(2):45-50.

Randklev, Charles. 2017. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0511-142, report date 31 May 2016 through 31 May 2017.

Randklev, C. R., N. A. Johnson, T. Miller, J. M. Morton, J. Dudding, K. Skow, B. Boseman, M. Hart, E. T. Tsakiris, K. Inoue, and R. R. Lopez. 2017. Freshwater mussels (Unionidae): central and west Texas final report. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. 321 pp. 28 April 2017.

Specimen:

Element Occurrence Record

Scientific Name: Fusconaia mitchelli **Occurrence #:** 8 **Eo Id:** 14268
Common Name: False Spike **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:** T
Global Rank: GNR **State Rank:** S1 **Federal Status:**

Location Information:

Directions

Mussels were observed in the Guadalupe River just downstream of the US Hwy 77 bridge northwest of Victoria. The directions were created by database staff.

Survey Information:

First Observation: 2012-09-23 **Survey Date:** 2015-10-21 **Last Observation:** 2012-09-23
Eo Type: **Eo Rank:** E **Eo Rank Date:** 2012-09-23

Observed Area:

Comments:

General

Description:

Comments: 23 Sep 2012: Survey effort was 1.3 person-hour.

Protection

Comments:

Management

Comments:

Data:

EO Data: 23 Sep 2012: One live individual was observed. 21 Oct 2015: Five shells/valves of unknown condition were salvaged.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Element Occurrence Record

Citation:

Texas Dept. of Transportation. 2016. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0910-134, report date 10 September 2015 through 9 September 2016.

Morton, J., B. Bosman, C. Randklev, K. Skow, and R. Lopez. 2016. Survey results and habitat use for *Fusconaia mitchelli* (false spike) in the Brazos, Colorado, and Guadalupe River drainages, Texas. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. May 2016.

Randklev, C. R., N. A. Johnson, T. Miller, J. M. Morton, J. Dudding, K. Skow, B. Boseman, M. Hart, E. T. Tsakiris, K. Inoue, and R. R. Lopez. 2017. Freshwater mussels (Unionidae): central and west Texas final report. Prepared for the Interagency Task Force on Economic Growth and Endangered Species, Texas Comptroller of Public Accounts. 321 pp. 28 April 2017.

Mabe, J. A. 2013. Annual report for scientific permit activities for Texas Parks and Wildlife Dept. permit # SPR-0812-961, report date 13 August 2012 through 13 August 2013.

Specimen:

Element Occurrence Record

Scientific Name: Haliaeetus leucocephalus

Occurrence #: 77

Eo Id: 373

Common Name: bald eagle

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G5

State Rank: S3B,S3N

Federal Status:

Location Information:

Directions

TERRITORY ON GARCITAS CREEK; CA. 4 AIR MILES EAST OF US 77 AND GARCITAS CREEK BRIDGE

Survey Information:

First Observation: 1992

Survey Date: 2002

Last Observation: 1996

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments: TPWD NEST #235-5A

Protection

Comments:

Management

Comments:

Data:

EO Data: NEST # 235-5A: 1992 - NEST PRODUCED 1 YOUNG; 1993 - NEST WAS INACTIVE; 1994 - NEST PRODUCED 1 YOUNG; 1995 - NEST WAS INACTIVE; 1996 - NEST WAS ACTIVE BUT PRODUCED 0 YOUNG; 1997 - THE NEST FELL; 2002 - UNABLE TO LOCATE NEST.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

MITCHELL, MARK. 1997. MEMO TO SHANNON BRESLIN OF 30 JULY 1997 PROVIDING BALD EAGLE NESTING DATA, INCLUDING COUNTY MAPS WITH ESTIMATED TERRITORIES.

Ortego, Brent. 2003. Chronological outcome of bald eagle nest surveys in Texas, 1982-2003.

Element Occurrence Record

Specimen:

Element Occurrence Record

Scientific Name: Notropis amabilis

Occurrence #: 112

Eo Id: 13587

Common Name: Texas shiner

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S4

Federal Status:

Location Information:

Directions

Data aggregated from Fishes of Texas specimens. No directions added.

Survey Information:

First Observation: 1952-10-13

Survey Date: 1952-10-13

Last Observation: 1952-10-13

Eo Type:

Eo Rank: H

Eo Rank Date: 1952-10-13

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 13 Oct 1952: At least 1 specimen collected.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

Fishes of Texas. 2015. Database download from the Fishes of Texas online database (<http://www.fishesoftexas.org/home/>) of SGCN species on 11 May 2015. University of Texas, Texas Natural History Collections, Excel spreadsheet.

Specimen:

National Museum of Natural History, Smithsonian Institution, Washington DC; R.A. Kuehne, Jack Ball (#unknown), Catalog # 166240, 13 Oct 1952, USNM.

Element Occurrence Record

Scientific Name: Rookery

Occurrence #: 554

Eo Id: 3188

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G5

State Rank: SNRB

Federal Status:

Location Information:

Directions

SAXET LAKES NORTH OF HWY 59/77, JUST WEST OF VICTORIA

Survey Information:

First Observation: 1989

Survey Date:

Last Observation: 1992

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments: COLONY NUMBER 609-002

Protection

Comments:

Management

Comments:

Data:

EO Data: NESTING COLONY OF CATTLE EGRET

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

Wagner, M. 1992. Texas colonial waterbird census summary 1991 - 1992. Compiled for Texas Parks & Wildlife Department and Texas Colonial Waterbird Society.

Martin, Catrina. 1991. Texas Colonial Waterbird Census Summary - 1990. Compiled for Texas Parks & Wildlife Dept. and Texas Colonial Waterbird Society. 13 March 1991.

TEXAS COLONIAL WATERBIRD SOCIETY AND TEXAS PARKS & WILDLIFE DEPARTMENT. 1986-1989. TEXAS COLONIAL WATERBIRD CENSUS SUMMARY. SPECIAL ADMINISTRATIVE REPORTS.

Element Occurrence Record

Specimen:

Element Occurrence Record

Scientific Name: Tympanuchus cupido attwateri

Occurrence #: 24

Eo Id: 2393

Common Name: Attwater's greater prairie-chicken

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status: E

Global Rank: G4T1

State Rank: S1

Federal Status: LE

Location Information:

Directions

NEAR VOR STATION (AVIATION NAVIGATION AID) NORTH-NORTHWEST OF VICTORIA REGIONAL AIRPORT

Survey Information:

First Observation:

Survey Date: 1985-SPRG

Last Observation: 1985-SPRG

Eo Type:

Eo Rank: C

Eo Rank Date:

Observed Area:

Comments:

General Description: COASTAL PRAIRIE, NOW PASTURE AND FIELDS

Comments: SMALL POPULATION INDICATED IN AREA

Protection Comments: ADEQUATE LEGAL PROTECTION

Management Comments:

Data:

EO Data: 16 MALE CHICKENS SEEN ON AERIAL AND GROUND SURVEYS MADE DURING SPRING BOOMING SEASON

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

U.S. FISH & WILDLIFE SERVICE. 1985. RESULTS OF ATTWATER'S PRAIRIE CHICKEN CENSUS. UNPUBLISHED. 8pp.

Specimen:

Element Occurrence Record

Scientific Name: Tympanuchus cupido attwateri

Occurrence #: 25

Eo Id: 5580

Common Name: Attwater's greater prairie-chicken

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status: E

Global Rank: G4T1

State Rank: S1

Federal Status: LE

Location Information:

Directions

AN AREA ABOUT 2 MILES WIDE EXTENDING ABOUT 3 MILES NORTH- NORTHWEST AND 4 MILES SOUTH-SOUTHEAST OF ABANDONED AIRFIELD NORTH OF VICTORIA

Survey Information:

First Observation:

Survey Date: 1985-SPRG

Last Observation: 1985-SPRG

Eo Type:

Eo Rank: C

Eo Rank Date:

Observed Area:

Comments:

General Description: COASTAL PRAIRIE, PASTURES

Comments: SMALL POPULATION INDICATED IN AREA, POOR SITE

Protection Comments: ADEQUATE LEGAL PROTECTION

Management Comments:

Data:

EO Data: 31 MALE CHICKENS SEEN ON AERIAL AND GROUND SURVEYS MADE DURING SPRING BOOMING SEASON

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

U.S. FISH & WILDLIFE SERVICE. 1985. RESULTS OF ATTWATER'S PRAIRIE CHICKEN CENSUS. UNPUBLISHED. 8pp.

Specimen:

Occurrence List for Quads Surrounding Request Area

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Calliandra biflora</i>	two-flower stick-pea	18			605
<i>Calliandra biflora</i>	two-flower stick-pea	19			7955
<i>Calliandra biflora</i>	two-flower stick-pea	21			3322
<i>Calliandra biflora</i>	two-flower stick-pea	23			6005
<i>Calliandra biflora</i>	two-flower stick-pea	24			468
<i>Calliandra biflora</i>	two-flower stick-pea	25			7791
<i>Cyclonaias necki</i>	Guadalupe Orb	37	T		12597
<i>Fusconaia mitchelli</i>	False Spike	6	T		12611
<i>Haliaeetus leucocephalus</i>	bald eagle	2			2453
<i>Haliaeetus leucocephalus</i>	bald eagle	3			7969
<i>Haliaeetus leucocephalus</i>	bald eagle	5			3820
<i>Haliaeetus leucocephalus</i>	bald eagle	6			4960
<i>Haliaeetus leucocephalus</i>	bald eagle	58			98
<i>Haliaeetus leucocephalus</i>	bald eagle	76			4566
<i>Haliaeetus leucocephalus</i>	bald eagle	108			1024
<i>Haliaeetus leucocephalus</i>	bald eagle	115			7854

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Helianthus occidentalis ssp. plantagineus</i>	Shinner's sunflower	10			11125
<i>Micropterus treculii</i>	Guadalupe bass	33			6873
<i>Percina apristis</i>	Guadalupe darter	14	T		13821
<i>Psilactis heterocarpa</i>	Welder machaeranthera	36			1884
<i>Psilactis heterocarpa</i>	Welder machaeranthera	43			8945
<i>Quercus virginiana-carya illinoensis series</i>	Coastal Live Oak-pecan Series	1			570
<i>Rookery</i>		116			7864
<i>Rookery</i>		117			6026
<i>Rookery</i>		118			2684
<i>Schizachyrium scoparium - Paspalum plicatulum</i> <i>- Sorghastrum nutans - Dichanthelium</i> <i>oligosanthes - Paspalum setaceum -</i> <i>Symphyotrichum pratense Alfisol Grassland</i>	Alfisol Coastal Prairie	78			11748
<i>Schizachyrium scoparium - Paspalum plicatulum</i> <i>- Sorghastrum nutans - Dichanthelium</i> <i>oligosanthes - Paspalum setaceum -</i> <i>Symphyotrichum pratense Alfisol Grassland</i>	Alfisol Coastal Prairie	82			11752
<i>Schizachyrium scoparium-paspalum plicatulum</i> <i>series</i>	Little Bluestem-brownseed Paspalum Series	7			4292
<i>Schizachyrium scoparium-paspalum plicatulum</i> <i>series</i>	Little Bluestem-brownseed Paspalum Series	8			11
<i>Schizachyrium scoparium-paspalum plicatulum</i> <i>series</i>	Little Bluestem-brownseed Paspalum Series	9			5952
<i>Spigelia texana</i>	Texas pinkroot	9			8492
<i>Tympanuchus cupido attwateri</i>	Attwater's greater prairie-chicken	25	E	LE	5580
<i>Ulmus crassifolia-celtis laevigata series</i>	Cedar Elm-sugarberry Series	15			7561

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 31958

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

Mapping Comments: The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2016-03-15

Herps of Texas iNaturalist project

iNaturalist observation ID: 2795913; Count of individuals observed: 1

Reference Code:

Full Citation:

W17INA01TXUS

iNaturalist Herps of Texas Project. 2017. <http://www.inaturalist.org/projects/herps-of-texas> (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 31962

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

Mapping Comments: The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2012-04-06

Herps of Texas iNaturalist project

iNaturalist observation ID: 1018894

Reference Code:

Full Citation:

W17INA01TXUS

iNaturalist Herps of Texas Project. 2017. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40338

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m. Because the turtle is aquatic, the river (based on a feature in the NHDArea data set) was delimited 25 meters up- and downstream from the provided coordinates.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 31685637) included the coordinates and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2019-08-28

iNaturalist Herps of Texas project user
ID: 18812

This visit is based on iNaturalist observation ID:
31685637.

Reference Code:

Full Citation:

W20INA02TXUS

iNaturalist Herps of Texas Project. 2020. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40339

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m. Because the turtle is aquatic, the river (based on a feature in the NHDArea data set) was delimited 25 meters up- and downstream from the provided coordinates.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 31687327) included the coordinates and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2019-08-28

iNaturalist Herps of Texas project user
ID: 13104

This visit is based on iNaturalist observation ID:
31687327.

Reference Code:

Full Citation:

W20INA02TXUS

iNaturalist Herps of Texas Project. 2020. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40340

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m. Because the turtle is aquatic, the river (based on a feature in the NHDArea data set) was delimited 25 meters up- and downstream from the provided coordinates.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 32562103) included the coordinates and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2019-09-08

iNaturalist Herps of Texas project user
ID: 18812

This visit is based on iNaturalist observation ID:
32562103.

Reference Code:

Full Citation:

W20INA02TXUS

iNaturalist Herps of Texas Project. 2020. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40342

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m. Because the turtle is aquatic, the river (based on a feature in the NHDArea data set) was delimited 25 meters up- and downstream from the provided coordinates.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 32562114) included the coordinates and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2019-09-08

iNaturalist Herps of Texas project user
ID: 18812

This visit is based on iNaturalist observation ID:
32562114.

Reference Code:

Full Citation:

W20INA02TXUS

iNaturalist Herps of Texas Project. 2020. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40343

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m. Because the turtle is aquatic, the river (based on a feature in the NHDArea data set) was delimited 25 meters up- and downstream from the provided coordinates.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 34896546) included the coordinates and associated error.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2019-10-24

iNaturalist Herps of Texas project user
ID: 110185

This visit is based on iNaturalist observation ID:
34896546.

Reference Code:

Full Citation:

W20INA02TXUS

iNaturalist Herps of Texas Project. 2020. <http://www.inaturalist.org/projects/herps-of-texas>
(data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40829

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40830

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40831

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40832

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40833

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40834

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. Two basking turtles were observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40835

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40836

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. Two basking turtles were observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40837

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40838

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40839

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40840

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40841

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40842

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40843

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40844

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments:

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. Two basking turtles were observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40845

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40846

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-21

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40853

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40854

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40855

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40856

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40857

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. Two basking turtles were observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40858

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40859

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40860

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet
pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40861

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40862

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Scientific Name: Graptemys caglei

Source Feature ID: 40863

Common Name: Cagle's map turtle

State Conservation Rank: S1

Global Conservation Rank: G3

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This point was mapped based on GPS coordinates obtained from the field at the time the observation was made.

Mapping Comments: Standard 25 meter buffer was assigned for GPS coordinates.

Source Feature Data:

Observation Date:

Observer:

Observation Data:

2020-08-27

Paul Crump and Trey Barron

A survey was conducted by observers in kayaks using binoculars to spot and identify turtles. A basking turtle was observed at this location.

Reference Code:

Full Citation:

U20CRU01TXUS

Crump, P.S. 2020. Reptile and Amphibian Species of Greatest Conservation Need (SGCN) Observations from FY20 documented using Excel spreadsheet pwd_1408_w7000_TXNDD_herps. August 31, 2020.

Source Feature Record

Source Feature List for Quads Surrounding Request Area

<u>Source Feature ID:</u>	<u>Scientific Name:</u>	<u>Source Feature Descriptor:</u>	<u>Source Feature Locator:</u>
27437	<i>Terrapene ornata</i>	ID Confirmed: Yes	
31649	<i>Crotalus horridus</i>	ID Confirmed: Yes	
31803	<i>Pseudacris streckeri</i>	ID Confirmed: Yes	
31804	<i>Pseudacris streckeri</i>	ID Confirmed: Yes	
31963	<i>Graptemys caglei</i>	ID Confirmed: Yes	
32035	<i>Terrapene carolina</i>	ID Confirmed: Yes	
32041	<i>Terrapene carolina</i>	ID Confirmed: Yes	
38243	<i>Terrapene ornata</i>	ID Confirmed: Yes	
38857	<i>Lithobates areolatus areolatus</i>	ID Confirmed: Yes	
38858	<i>Lithobates areolatus areolatus</i>	ID Confirmed: Yes	
38859	<i>Lithobates areolatus areolatus</i>	ID Confirmed: Yes	
38932	<i>Crotalus horridus</i>	ID Confirmed: Yes	
39629	<i>Lithobates areolatus areolatus</i>	ID Confirmed: Yes	
40520	<i>Anguilla rostrata</i>	ID Confirmed: Yes	
40694	<i>Oenothera cordata</i>	ID Confirmed: Yes	
40847	<i>Graptemys caglei</i>	ID Confirmed: Yes	
40848	<i>Graptemys caglei</i>	ID Confirmed: Yes	
40849	<i>Graptemys caglei</i>	ID Confirmed: Yes	
40850	<i>Graptemys caglei</i>	ID Confirmed: Yes	
40851	<i>Graptemys caglei</i>	ID Confirmed: Yes	
40852	<i>Graptemys caglei</i>	ID Confirmed: Yes	

Appendix F

USFWS IPAC RESOURCE LIST AND MIGRATORY BIRDS

IPaC Information for Planning and Consultation 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

Victoria County, Texas



Local office

Texas Coastal Ecological Services Field Office

☎ (281) 286-8282

📅 (281) 488-5882

4444 Corona Drive, Suite 215
Corpus Christi, TX 78411

<http://www.fws.gov/southwest/es/TexasCoastal/>

http://www.fws.gov/southwest/es/ES_Lists_Main2.html

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 Fisheries²).

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
Attwater's Greater Prairie-chicken <i>Tympanuchus cupido attwateri</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7259	Endangered
Piping Plover <i>Charadrius melodus</i> This species only needs to be considered if the following condition applies: • Wind related projects within migratory route. There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> Wherever found This species only needs to be considered if the following condition applies: • Wind Related Projects Within Migratory Route There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/758	Endangered

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.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

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, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

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 and understand the FAQ "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 $0.05/0.25 = 0.2$.

- 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.

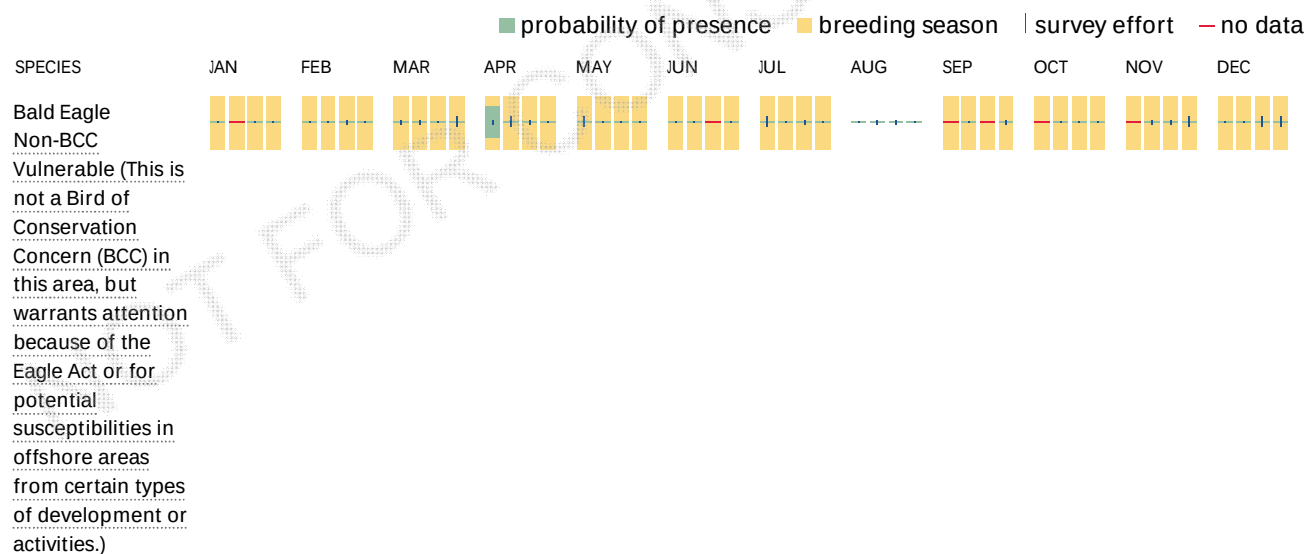
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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 migratory birds potentially occurring 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 [AKN Phenology 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, migrating or present year-round in my project 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 refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). 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

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1Ad](#)

[PEM1A](#)

[PEM1C](#)

FRESHWATER POND

[PUBFx](#)

OTHER

[Pf](#)

RIVERINE

[R2UBH](#)

[R4SBC](#)

[R5UBFx](#)

[R4SBCx](#)

[R5UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

NOT FOR CONSULTATION

APPENDIX G

MIGRATORY BIRD HABITAT MAP

