Stantec Consulting Services Inc.
910 Louisiana Street Suite 2600 Houston, TX 77002-4916

August 30, 2021
Revised December 16, 2021
File: 225600145

Cutlass Solar II LLC
155 Federal Street, 17th Floor
Boston, MA 02110

Dear Tommy Browder,

Reference: Cutlass Solar II Project- Cutlass Solar II LLC; Fort Bend County, Texas.; Section 7 Threatened and Endangered Species Habitat Assessment

Stantec Consulting Services Inc (Stantec) was retained by Cutlass Solar II LLC (Client) to conduct a Section 7 Threatened and Endangered (collectively referred to as "T&E") Species Act Habitat Assessment on the Cutlass Solar II Project (Project). The proposed Project discussed in this report, totaling 1,107.8 acres, is located within Fort Bend County, Texas (the Project Area). The Project Area is currently used for agricultural cultivated cropland operations. The proposed Project location is provided in **Attachment A**.

United States Fish and Wildlife Service- Official Species List

On August 03, 2021, Stantec requested and received an Official Species List report for the Project Area (Consultation Code 02ETTX00-2021-SLI-2817) from the United States Fish and Wildlife Service (USFWS) Texas Coastal Ecological Services Field Office (**Attachment B**). The consultation provides the federally listed T&E species with the potential to occur within the Project Area. A review of the Official Species List determined that five federally listed species are known to potentially occur within the Project Area. The list includes three birds, one mussel, and one flowering plant (**Table 1**). Of the five federally-listed species, two birds, including the piping plover (*Charadrius melodus*) and the whooping crane (*Grus americana*), have final critical habitat; however, no final critical habitats were identified within the Project Area by the USFWS Official Species List. Additionally, the piping plover and the rufa red knot (*Calidris canutus rufa*) are only to be considered for wind energy projects and are, therefore, not discussed further in this report and are not listed in **Table 1**.

State Protected Species

The Texas Parks and Wildlife (TPWD) describes nine state protected species as potentially occurring in Fort Bend County in an assessment of the Annotated List of Rare Species by County (**Table 1**) (**Attachment C**). In addition to state listed species, the TPWD Annotated List of Rare Species by County identified four additional federally listed species that were not previously identified by the USFWS Official Species List. These species were included in Stantec's analysis of federally listed species and are identified by an asterisk (*) in **Table 1**.

State listed species, while not covered by the Endangered Species Act, are afforded protection by the State of Texas from the taking, possession, transportation, or sale of state protected species; however, the

incidental take of an animal while conducting other lawful activities is authorized. TPWD does not have a mechanism to enforce management measures on "otherwise lawful activities" such as the Project. While regulations do not protect state-listed threatened or endangered species from incidental or indirect impacts or habitat destruction during otherwise lawful activities, Stantec recommends engaging in voluntary consultation with the TPWD.

Migratory Birds:

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712) prohibits the taking, killing, injuring, or capturing of listed migratory birds. The species protected under the MBTA are listed in 50 Code of Federal Regulations (CFR) §10.13, including 1,007 species. Neither the MBTA nor its implementing regulations in 50 CFR Part 21 provide for the permitting of "incidental take" of migratory birds that may be killed or injured by wind turbines.

On December 22nd, 2017, the United States Department of Interior (DOI) issued an opinion (M-37050) which permanently replaced the previous Opinion M-37041 regarding incidental take and the MBTA. M-37050 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." The DOI followed up on the M-opinion with a guidance memo issued April 11, 2018, that, among other things, stated that "The United States Fish and Wildlife Service (USFWS) will ensure that our comments, recommendations, or requirements are not based on, nor imply, authority under the MBTA to regulate incidental take of migratory birds". The USFWS published a proposed rule change on February 3, 2020, to codify the conclusions made in M-37050. This rule clarifies that the protections under the MBTA only cover intentionally injuring birds: conduct that results in the unintentional (incidental) take of migratory birds is not prohibited under the Act. An Environmental Impact Statement (EIS), under the National Environmental Protection Act (NEPA), evaluating the impacts of this proposed rule was developed at the same time. The draft EIS was published on June 5, 2020, with a 45-day public comment period ending on July 20, 2020. The Final EIS for the proposed rule was issued on November 27, 2020. The USFWS published a final rule on January 7, 2021 ("Regulations Governing Take of Migratory Birds," 86 Fed. Reg. 1134) excluding incidental take from the MBTA indicating that bird mortality resulting from an action, but is not the purpose of that action, is not considered a criminal act. On May 7, 2021, the USFWS published a proposal to revoke the final rule limiting the scope of the MBTA, and on October 4, 2021, a final rule revoking the January 7, 2021, regulation that limited the scope of the MBTA was published (86 FR 54642). ***With this revocation, the MBTA will again prohibit incidental take and USFWS will have enforcement discretion. The rule goes into effect on December 3, 2021. USFWS simultaneously published an advance notice of proposed rulemaking to authorize the incidental take of migratory birds, including determining when, to what extent, and by what means it is consistent with the MBTA (86 FR 54667).***

Six migratory bird species, listed as Birds of Conservation Concern and protected under the MBTA, were identified by IPaC as potentially occurring within the Project Area. The habitat requirement and the assessment result for each of the six migratory bird species are presented below in **Table 1**.

Table1 - Federally and State Listed Species with the Potential to Occur within the Project Area

Species	Federal/State Status	Database	Likelihood to Occur at Project Area	Summary of Habitat Requirements
Birds				
Whooping Crane (*Grus Americana*)	LE/SE	USFWS/TPWD	Medium	Small ponds, marshes, and flooded grain fields; migrates via plains throughout the state. Overwinters in Aransas National Wildlife Refuge along the Texas coast.
Black Rail (*Latteralus jamaicensis*)	LT/ST*	TPWD	Low	Inhabits swamps and grassy margins of ponds or freshwater emergent vegetation wetlands among saltgrass (*Distichlis* spp.)
Attwater's Greater Prairie Chicken (*Tympanuchus cupido attwateri*)	LE/SE*	TPWD	Low	Open prairies of mostly thick grass one to three feet tall; sandhill country with bunch grass, sage (*Salvia* spp.), and shinnery oak (*Quercus havardii*).
Interior Least Tern (*Sternula antrillarum athalassos*)	SE	TPWD	Low	Inhabits sandy beaches and sandy margins of large rivers, however, may also nest on man-made structures such as inland beaches, wastewater treatment plants, and gravel mines.
Reddish Egret (*Egretta rufescens*)	ST	TPWD	Low	Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nest on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca (*Yucca* spp.) or prickly pear (*Opuntia* spp.)
White-faced Ibis (*Plegadis chihi*)	ST	TPWD	Low	Prefers freshwater marshes, sloughs, and irrigated rice fields; brackish and saltwater habitats; near-coastal rookeries in hog-wallow prairies

Species	Federal/State Status	Database	Likelihood to Occur at Project Area	Summary of Habitat Requirements
Wood Stork (*Mycteria Americana*)	ST	TPWD	Medium	Builds nests among Bald cypress (*Taxodium distichum*) or mangrove (*Rhizophora* spp.) forests; prairie ponds, flooded pastures, field, ditches, other shallow standing water, salt-water
Swallow-Tailed Kite (*Elanoides forficatus*)	ST	TPWD	Low	Inhabits lowland forested regions, especially swampy areas, ranging into open woodlands; marshes, along rivers, lakes, and ponds; pine (*Pinus* spp.), cypress (*Taxodium* spp.), or deciduous trees
White-tailed Hawk (*Buteo albicaudatus*)	ST	TPWD	Low	Is observed near coastal habitats on prairies, cordgrass (*Spartina* spp.) flats, and scrub-live oak (*Quercus virginiana*); further inland on prairies, mesquite (*Prosopis* spp.) and oak (*Quercus* spp.) savannas
Bald Eagle (*Haliaeetus leucocephalus*)	MBL	USFWS/TPWD	Low	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water
King Rail (*Rallus elegans*)	MBL	USFWS	Medium	Freshwater marshes, upland-wetland marsh edges, rice fields or similar flooded farmlands, shrub swamps; locally in brackish and coastal salt marshes
Le Conte's Sparrow (*Ammodramus leconteii*)	MBL	USFWS	Low	Open, level uplands and lowlands, tall thick herbaceous vegetation and thick litter grasslands with aspen parkland, hayfields, fallow fields, and idle pasture
Lesser Yellowlegs (*Tringa flavipes*)	MBL	USFWS	Low	Marshes, ponds, wet meadows, lakes, and mudflats, shallow water, herbaceous wetlands, lagoon, or tidal shore

Species	Federal/State Status	Database	Likelihood to Occur at Project Area	Summary of Habitat Requirements
Long-billed Curlew (*Numenius americanus*)	MBL	USFWS	Low	Prairies and grass meadows, generally near water; dry prairies and moist meadows; short grass prairie, or irregular terrain near rock
Sprague's Pipit (*Anthus spragueii*)	MBL	USFWS	Low	Short grass plains, mixed grass prairie, alkaline meadows, and wet meadow zones around alkali and freshwater lakes
Mussels				
Texas Fawnsfoot (*Truncilla macrodon*)	LC/ST	USFWS/TPWD	Low	Inhabits rivers and larger streams, intolerant of impoundment; flowing rice irrigation canals, sand, gravel, and sandy-mud bottoms in moderate flows
Brazos Heelsplitter (*Potamilus streckersoni*)	ST	TPWD	Low	Inhabits streams, large rivers, and some reservoirs. Occurs most often in near-shore habitats such as banks and backwater pools but occasionally in main channel habitats such as rifles.
Fish				
Sharpnose Shiner (*Notropis oxyrhynchus*)	LE*	TPWD	Low	Upper Brazos River upstream of Possum Kingdom Lake; typically found in turbid water over mostly silt and shifting sand substrates
Amphibians				
Houston Toad (*Truncilla macrodon*)	LE*	TPWD	Low	Sandy soil of loblolly pine (*Pinus taeda*), water in pools, ephemeral pools, stock tanks;

Species	Federal/State Status	Database	Likelihood to Occur at Project Area	Summary of Habitat Requirements
Reptiles				
Texas Horned Lizard (*Phrynosoma cornutum*)	ST	TPWD	Low	Pinyon-juniper Mountain zone of Big Bend area; open, arid, and semi-arid regions with sparse vegetation, grass cacti, brush, scrubby trees
Mammals				
Rafinesque's big-eared bat (*Corynorhinus rafinesquii*)	ST	TPWD	Low	Lowland pine and hardwood forest with large hollow trees; bottomland hardwoods, concrete culverts, and abandoned man-made structures
Flowering Plants				
Texas Prairie-dawn (*Hymenoxys texana*)	LE/SE	USFWS/TPWD	Low	In poorly drained, sparsely vegetated areas at the base of mima mounds in open grassland or almost barren areas on slightly saline soils

Source: TPWD 2021; USFWS 2021; Tweit 2008

*Is listed by Texas Parks and Wildlife as a threatened or endangered species that may be found within Fort Bend County but is not recognized as potentially occurring within the Project area by U.S. Fish and Wildlife Service on the IPaC Official Species List.

Key:
Under the ESA, species are classified as:
Endangered = Animals or plants in danger of extinction within the foreseeable future throughout all or a significant portion of its range.
Threatened = Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
Candidate Species = Plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority activities.
MBL= Birds which are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Field Survey

Based upon the desktop evaluation of habitat, Stantec conducted a field survey within the Project Area to evaluate potential habitat for federally listed species on July 24-25, 2019. **Attachment D** includes photographs taken during the survey. A general assessment of habitat types within the Project Area was made and compared against general habitat requirements of the species with potential to occur in Fort Bend County, Texas.

The predominant ecological region observed within the Project Area could be described as gulf coastal prairie. These areas are relatively flat and characterized as previously grassland with few oak (*Quercus* spp.) mottes; however, during the field survey, the majority of the land cover within the Project Area was actively utilized as cultivated cropland.

The whooping crane, a federally listed species, and a rookery of great egret (*Ardea alba*) was observed on an adjacent property to the southeast of the Project Area during the field survey. The habitat being utilized by those individuals was located outside of the proposed Project Area in nearby surface waters. Additionally, two streams were identified and delineated during the field investigation, which included approximately 0.52 acres (5,400.3 LF).

Whooping Crane

The whooping crane summers in breeding grounds in northwest Canada then migrates south to wintering grounds along the southeast Texas coast (Alderfer 2006). The cranes arrive in wintering grounds in fall (Oct-Nov) then migrate north to summer breeding grounds in spring (Mar-Apr). According to the USFWS, the whooping crane migration across the U.S. is relatively quick (as short as one week). Since the Project Area is along the eastern edge of the whooping cranes' migratory route and not directly along the Texas coast, whooping cranes would likely be infrequent visitors to the Project vicinity during migration.

During migration, the cranes utilize harvested grain fields and mosaic riverine and palustrine wetlands for forage. Once the whooping cranes reach their wintering grounds along the Texas coast, primarily within the Aransas National Wildlife Refuge (over 80 miles southwest of the Project Area), the whooping cranes forage in brackish bays, marshes, and salt tidal flats (Alderfer 2006). Since the Project Area is primarily non-grain agriculture (cotton at the time of the last field surveys), preferred foraging habitats do not occur within the Project Area. Potential flyover of the Project Area may occur infrequently during migration; however, the whooping cranes would likely target more suitable habitat in the vicinity of the Project Area instead of the Project Area. While there is no suitable habitat within the Project Area, whooping cranes could infrequently target more suitable habitats near the proposed Project. To minimize and avoid impacts to whooping cranes that are infrequent visitors in the Project vicinity, Cutlass II has intentionally designed the proposed Project to allow for a 250-foot buffer around whooping crane suitable habitat on adjacent parcels.

The Project would likely have no effect on the whooping crane due to:

- The lack of suitable foraging habitat within the Project Area.
- The location of the Project Area. The Project Area is on the eastern edge of the whooping crane migratory corridor, and the Project is over 80 miles from the whooping cranes primary overwintering habitat.
- The frequency at which the whooping cranes would likely occur in the vicinity of the Project Area. Whooping cranes would be infrequent visitors during migration for only a day or two in the fall and spring each year.
- The large amount of agricultural land in the vicinity of the Project that provides alternative, suitable foraging opportunities for the whooping crane.
- The fact that operation of the facility would be relatively passive and would have little effect on whooping cranes utilizing suitable habitat on adjacent parcels.

There is a low chance that construction at the Project Area could slightly modify the behavior of whooping cranes that are infrequent visitors to the Project vicinity. However, whooping cranes would not likely not target the Project Area due to lack of foraging opportunities. Construction within the Project Area would be temporary, and there is little chance that the operation of the facility would have an effect on the whooping crane.

Stantec recommends buffering habitat of observed species as demarcated in Figure 7- T&E Species Habitat Assessment Map (**Attachment A**) to minimize and avoid any potential impacts to the great egret rookery and whooping crane suitable habitat. As stated above, a 250-foot buffer was created around observed surface waters in close proximity to the Project Area to diminish effects to listed species or migratory birds.

Raptors:

In addition to potential habitat for the federally listed species above, Stantec performed a limited, visual survey for raptor nests within and adjacent to the Project Area. No active or historic nests or raptors were observed within or near the Project Area at the time of the field survey.

Conclusions:

Based upon the review of the USFWS Official Species List, TPWD Annotated List of Rare Species by County, USFWS special considerations, and an on-site assessment conducted between July 24-25, 2019, there is likely no suitable habitat within the Project Area for 19 of the 22 T&E or migratory bird species identified in the table above (listed as "Low" in **Table 1**). The remaining three T&E or migratory bird species, including the federally listed whooping crane; the state-listed wood stork; and the king rail, a MBTA-listed species, are listed as "Medium" in **Table 1**. Potentially suitable habitat is not present within the Project Area but was identified on adjacent properties. Because habitat is present on adjacent properties, individuals have the potential to occur within the vicinity of the Project Area; however, their presence would be infrequent or incidental. No critical habitats or listed species were identified within the Project Area.

Based on the current Project design plan (**Attachment E**), Project development areas would be set back 250 feet from potential habitat to further minimize/avoid impacts. No further coordination is recommended at this time, and no permits are required.

Cutlass Solar II LLC
Reference: **Cutlass Solar II Project- Cutlass Solar II LLC; Fort Bend County, Texas.; Section 7 Threatened and Endangered Species Habitat Assessment**

Regards,

Stantec Consulting Services Inc.

Colleen Moss
Environmental Scientist
Phone: 832-612-9331
colleen.moss@stantec.com

Attachment: A-Figures
B-USFWS Official Species List
C-TPWD Annotated List of Rare Species by County
D- Photographic Log

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REFERENCES

50 CFR Part 10 1134-1165. 2021. Regulations Governing Take of Migratory Birds. Retrieved August 2021, from Federal Register: https://www.federalregister.gov/documents/2021/01/07/2021-00054/regulations-governing-take-of-migratory-birds

Alderfer, Jonathan. 2006. Complete Birds of North America. National Geographic Society, Washington, D.C.

Texas Parks and Wildlife Department (TPWD). 2021. Annotated List of Rare Species by County. Retrieved August 2021, from: https://tpwd.texas.gov/gis/rtest/

Tweit, R. 2008. The Black Rail (*Laterallus jamaicensis*). Retrieved August 2021, from the Texas Breeding Bird Atlas: https://txtbba.tamu.edu/species-accounts/black-rail/

USFWS. 2021. Information for Planning and Consultation (IPaC).Retrieved August 2021 from: https://ecos.fws.gov/ipac/.

A-FIGURES

Stantec

Legend

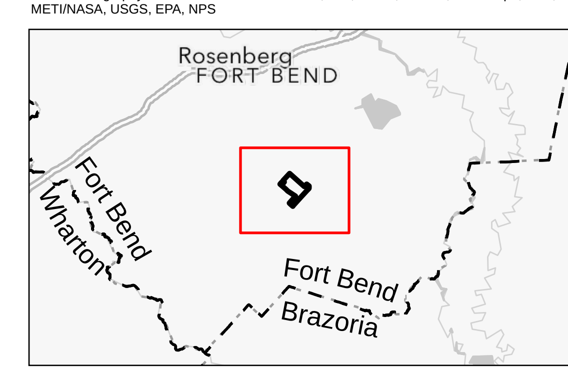
Project Area

0 0.5 1 Miles

(At original document size of 11x17)

1:

Notes
1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC
3. Background: Human Geography Label: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS
World Navigation Map: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA
Human Geography Detail: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



Project Location

FORT BEND COUNTY, TX

Prepared by SKW on 2021-08-13
Reviewed by CM on 2021-08-13
Reviewed by JC on 2021-08-13

Client/Project
Cutlass Solar II LLC
Cutlass Solar II Project
T&E Species Habitat Assessment

Figure No.
1

Title
Project Location Map

Stantec

Legend

Project Area

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes
1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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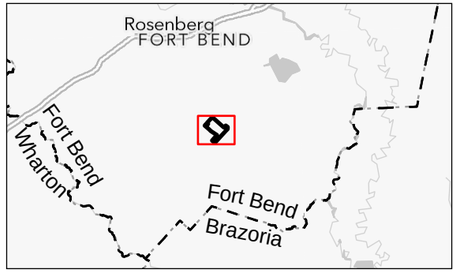

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Reviewed by CM on 2021-08-13
Reviewed by JC on 2021-08-13

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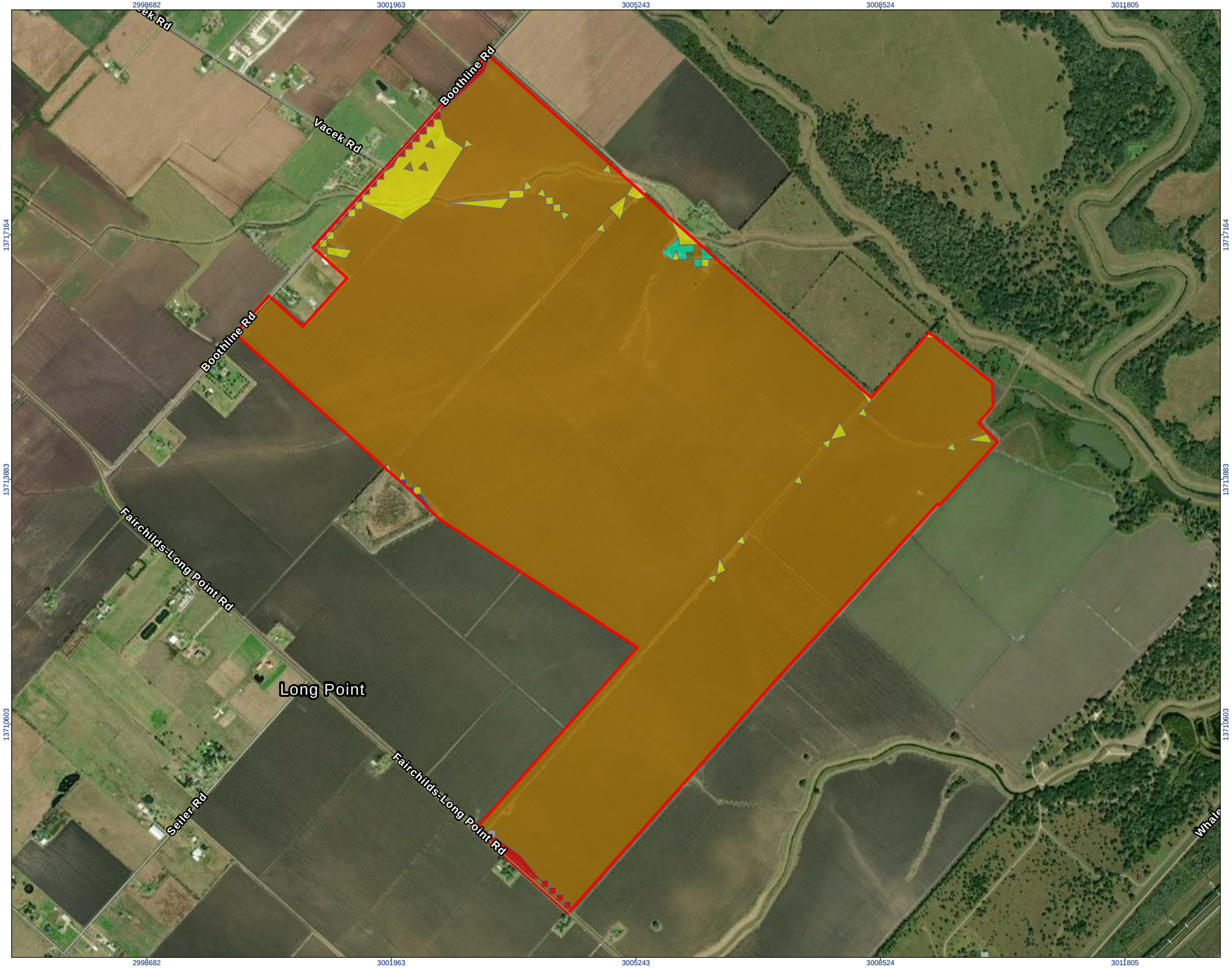
Cutlass Solar II LLC
Cutlass Solar II Project
T&E Species Habitat Assessment

Figure No.

2

Title

Aerial Orthophotography Map



Stantec

Legend

- Project Area

USGS GAP/LANDFIRE National Terrestrial Ecosystems Data
Land Cover Classification

- Cultivated Cropland
- Deciduous Plantations
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Open Space
- Gulf and Atlantic Coastal Plain Swamp Systems
- Open Freshwater
- Pasture / Hay

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes
1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC and the USGS National Land Cover Dataset
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Human Geography Label: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS
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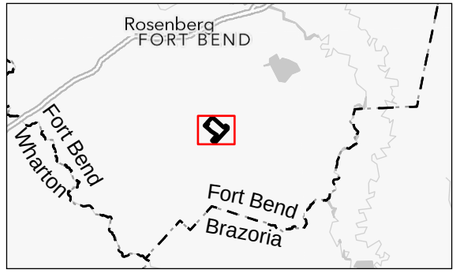

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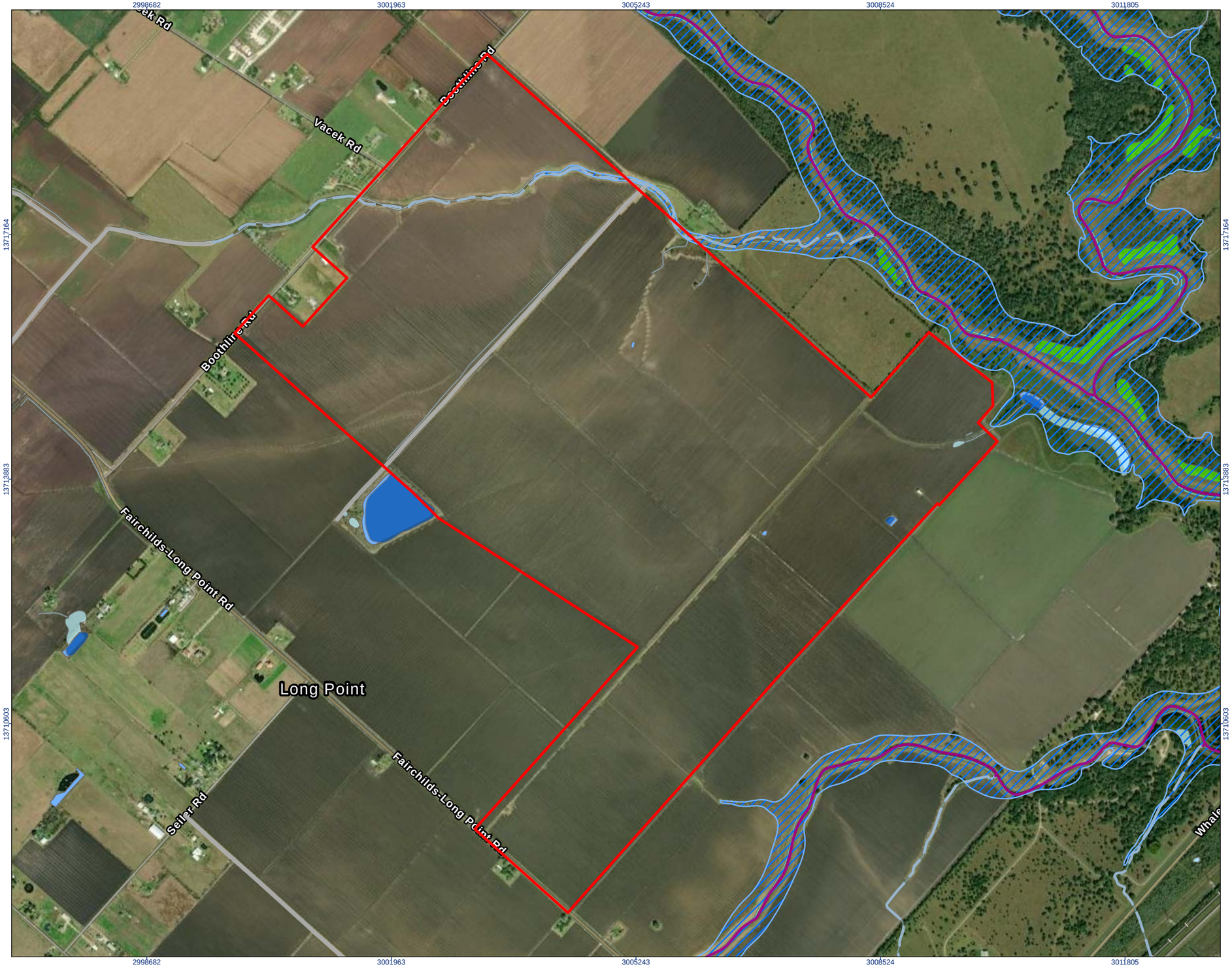
T&E Species Habitat Assessment

Figure No.
3

Title
USGS GAP/LANDIRE National Terrestrial Ecosystems Data Map



Stantec

Legend

- Project Area
- FEMA Regulatory Floodplain: Zone A

NWI Wetland

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

NHD Waterbody

Waterbody Type

- Lake / Pond

NHD Stream

Stream Type

- Canal / Ditch
- Intermittent
- Artificial Path

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes

1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC, the USGS NHD, the USFWS NWI, and the FEMA FIRM
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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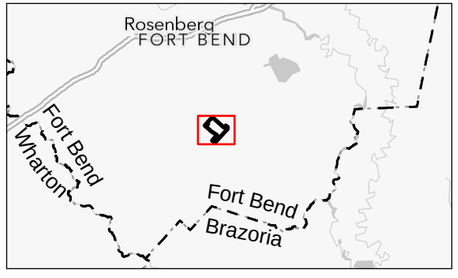

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Client/Project

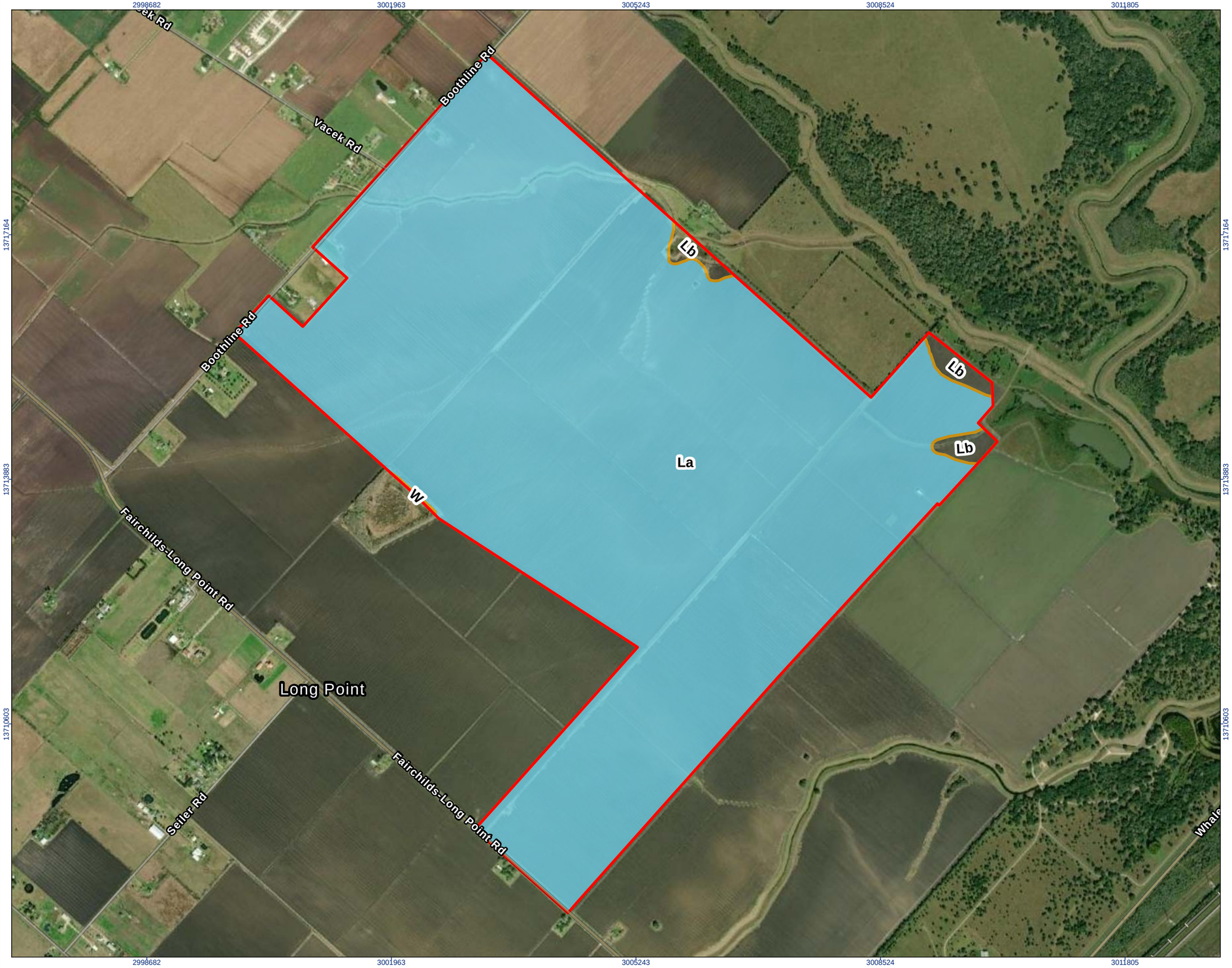
Cutlass Solar II LLC
Cutlass Solar II Project
T&E Species Habitat Assessment

Figure No.

4

Title

NHD, NWI, and FEMA Map



Stantec

Legend

- Project Area

NRCS Web Soil Survey Data

Hydric Soil Rating

- Hydric
- Not Hydric

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes

1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC and the NRCS Web Soil Survey
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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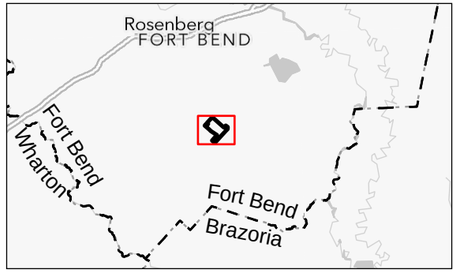

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T&E Species Habitat Assessment

Figure No.

5

Title

NRCS Web Soil Survey Data Map

Stantec

Legend

- Project Area
- Sampling Point

Field Delineated Stream

Stream Type

- Ephemeral
- Intermittent

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes

1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC and Stantec Collected Data
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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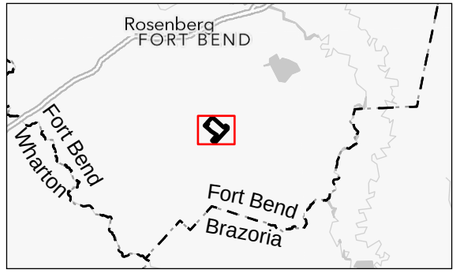

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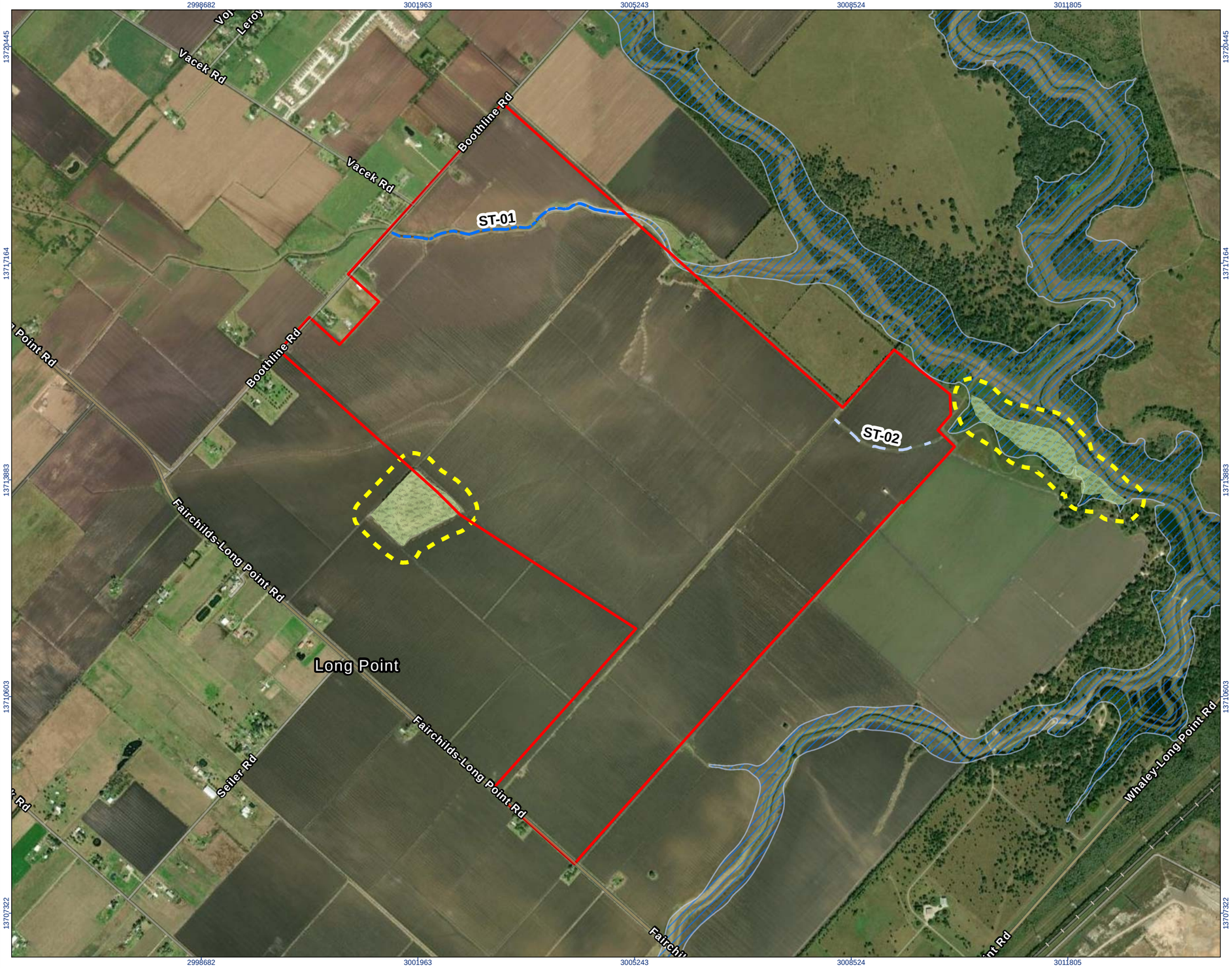
6

Title

Field Investigation Map



Stantec

Legend

- Project Area
- Potential Habitat
- Potential Habitat 250-ft Buffer
- FEMA Regulatory Floodplain: Zone A

Field Investigation Stream

Stream Type

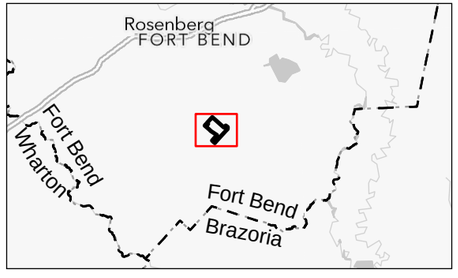
- Ephemeral
- Intermittent

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes
1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC, FEMA FIRM, and Stantec
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Human Geography Label: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS
Human Geography Detail: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



Project Location

FORT BEND COUNTY, TX

Prepared by SKW on 2021-08-13
Reviewed by CM on 2021-08-13
Reviewed by JC on 2021-08-13

Client/Project

Cutlass Solar II LLC
Cutlass Solar II Project
T&E Species Habitat Assessment

Figure No.

7

Title

T&E Species Habitat Assessment Map

B-USFWS 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: August 03, 2021
Consultation Code: 02ETTX00-2021-SLI-2817
Event Code: 02ETTX00-2021-E-06314
Project Name: Cutlass Solar II 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 conference 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 healh in the local area and ay 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 goden 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 guidlines, 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, Constructions, 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-2817
Event Code: 02ETTX00-2021-E-06314
Project Name: Cutlass Solar II Project
Project Type: POWER GENERATION
Project Description: Fort Bend County, Texas
Cutlass Solar II Project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@29.417743299999998,-95.74069137220066,14z

Counties: Fort Bend County, Texas

Endangered Species Act Species

There is a total of 5 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 Fisheries[1], 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.

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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
Piping Plover *Charadrius melodus* 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 *Calidris canutus rufa* 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 *Grus americana* 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

Clams

NAME	STATUS
Texas Fawnsfoot *Truncilla macrodon*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/8965

Flowering Plants

NAME	STATUS
Texas Prairie Dawn-flower *Hymenoxys texana*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6471

Critical habitats

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

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

IPaC resource list

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

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

Location

Fort Bend 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 Fisheries[2]).

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Birds

NAME	STATUS

Piping Plover Charadrius melodus — Threatened

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

Red Knot Calidris canutus rufa — Threatened

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

Whooping Crane Grus americana — Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/758

Clams

NAME	STATUS
Texas Fawnsfoot Truncilla macrodon Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8965	Candidate

Flowering Plants

NAME	STATUS
Texas Prairie Dawn-flower Hymenoxys texana Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6471	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 Act[2].

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 This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Le Conte's Sparrow Ammodramus leconteii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-billed Curlew Numenius americanus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Sprague's Pipit Anthus spragueii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

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.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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

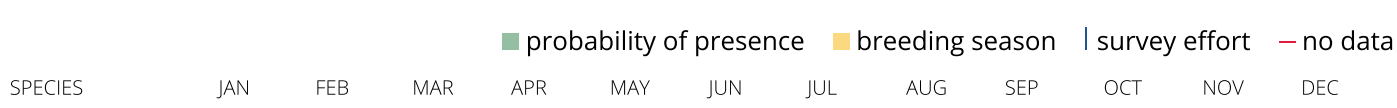
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

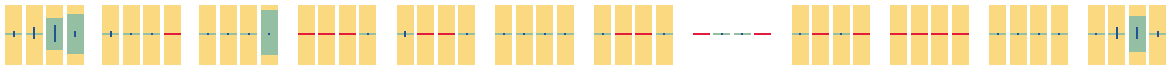
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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

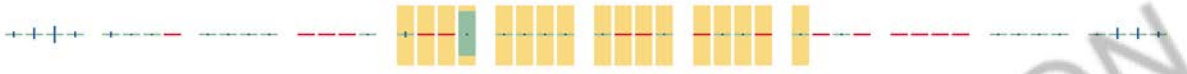
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle Non-BCC Vulnerable (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.)



King Rail BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Le Conte's Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Long-billed Curlew BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Sprague's Pipit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

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

- PEM1C
- PEM1Cx
- PEM1A

FRESHWATER POND

- PUBHx
- PUBFx

RIVERINE

- R4SBC

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 tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

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

C-TPWD ANNOTATED LIST OF RARE SPECIES BY COUNTY

Last Update: 6/22/2021

FORT BEND COUNTY

AMPHIBIANS

Houston toad *Anaxyrus houstonensis*

Terrestrial and aquatic: Primary terrestrial habitat is forests with deep sandy soils. Juveniles and adults are presumed to move through areas of less suitable soils using riparian corridors. Aquatic habitats can include any water body from a tire rut to a large lake.

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

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestial 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

FORT BEND COUNTY

BIRDS

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

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

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*

FORT BEND 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

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*

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*

FORT BEND COUNTY

BIRDS

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

FISH

Mississippi silvery minnow *Hybognathus nuchalis*

Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S4

sharpnose shiner *Notropis oxyrhynchus*

Range is now restricted to upper Brazos River upstream of Possum Kingdom Lake. May be native to Red River and Colorado River basins. Typically found in turbid water over mostly silt and shifting sand substrates.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S1S2

silver chub *Macrhybopsis storeriana*

Red River and Brazos River basins. Mainly restricted to large, often silty rivers. Ranges over gravel to silt substrates but found more commonly over silt or mud bottom.

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

silverband shiner *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.

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

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

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

MAMMALS

big brown bat *Eptesicus fuscus*

FORT BEND COUNTY

MAMMALS

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

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

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

FORT BEND 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 vegtation 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

Rafinesque's big-eared bat *Corynorhinus rafinesquii*

Historically, lowland pine and hardwood forests with large hollow trees. roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures

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

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

FORT BEND COUNTY

MOLLUSKS

Brazos Heelsplitter *Potamilus streckersoni*

Reported from streams, but not far into the headwaters, to large rivers, and some reservoirs. In riverine systems occurs most often in nearshore habitats such as banks and backwater pools but occasionally in mainchannel habitats such as riffles. Typically found in standing to slow-flowing water in soft substrates consisting of silt, mud or sand but occasionally in moderate flows with gravel and cobble substrates (Randklev et al. 2014b,c; Tsakiris and Randklev 2016b; Smith et al. 2019) [Mussels of Texas 2020]

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

Texas Fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

REPTILES

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

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

FORT BEND COUNTY

REPTILES

smooth softshell *Apalone mutica*

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

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

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

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

western box turtle *Terrapene ornata*

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

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

western chicken turtle *Deirochelys reticularia miaria*

Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T5	State Rank: S2S3

PLANTS

awnless bluestem *Bothriochloa exaristata*

Coastal prairies on black clay; Perennial; Flowering April-Dec; Fruiting April- Dec

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

FORT BEND COUNTY

PLANTS

corkwood *Leitneria pilosa ssp. pilosa*

Wet or saturated silty soils along brackish or freshwater swamps and ponds and other low, poorly drained sites; flowers in early spring, fruiting as early as May

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G2G3T2 | State Rank: S2

Sutherland hawthorn *Crataegus viridis var. glabriuscula*

In mesic soils of woods or on edge of woods, treeline/fenceline, or thicket. Above\near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5T3T4 | State Rank: S3

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 prairie dawn *Hymenoxys texana*

In poorly drained, sparsely vegtated areas (slick spots) at the base of mima mounds in open grassland or almost barren areas on slightly saline soils that are sticky when wet and powdery when dry; flowering late February-early April

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

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

D-PHOTOGRAPHIC LOG

Stantec

Legend

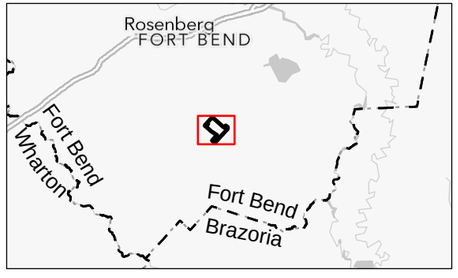
- Project Area
- Photographic Log Point

0 0.25 0.5 Miles

(At original document size of 11x17)

1:

Notes
1. Coordinate System: NAD83 Texas S. Central
2. Data Sources: Cutlass Solar II LLC
3. Background: World Imagery (Firefly): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Human Geography Label: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS
Human Geography Detail: Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



Project Location

FORT BEND COUNTY, TX

Prepared by SKW on 2021-08-13
Reviewed by CM on 2021-08-13
Reviewed by JC on 2021-08-13

Client/Project

Cutlass Solar II LLC
Cutlass Solar II Project
T&E Species Habitat Assessment

Figure No.

Attachment D

Title

Photographic Log Map

Stantec

Photographic Log

Client:	**Cutlass Solar II LLC**	**Project:**	**T&E Species Habitat Assessment**
Project Name:	**Cutlass Solar II Project**	**Project Location:**	**Fort Bend County, Texas**

Photograph ID: 1

Photo Location:
ST-01

Direction:
E

Survey Date:
7/24/2019

Comments:
View of ST-01, a field identified intermittent stream.

Photograph ID: 2

Photo Location:
ST-02

Direction:
W

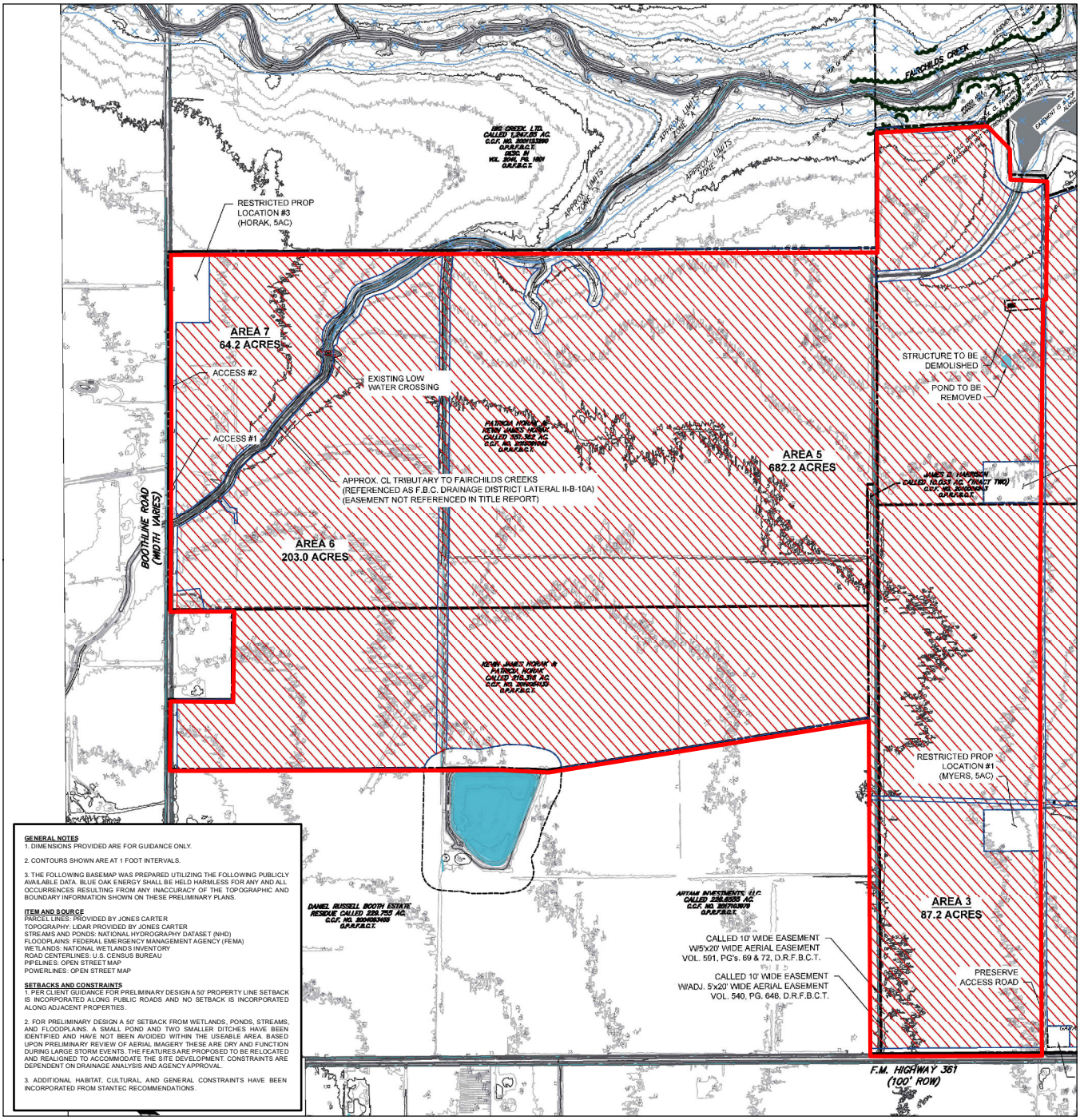
Survey Date:
7/24/2019

Comments:
View of ST-02, a field identified ephemeral stream.

Client:	**Cutlass Solar II LLC**	**Project:**	**T&E Species Habitat Assessment**
Project Name:	**Cutlass Solar II Project**	**Project Location:**	**Fort Bend County, Texas**

Photograph ID: 3 **Photo Location:** Adjacent property southeast of Project Area **Direction:** SE **Survey Date:** 7/24/2019 **Comments:** Identified Potential Habitat located in an adjacent property southeast of the Project Area.	
Photograph ID: 4 **Photo Location:** Southern boundary of Project Area **Direction:** NW **Survey Date:** 7/24/2019 **Comments:** Representative view from the southern boundary of the Project Area. The majority of the Project Area was utilized for agricultural crop cultivation purposes.	

E- PROJECT DESIGN



GENERAL NOTES

1. DIMENSIONS PROVIDED ARE FOR GUIDANCE ONLY.

2. CONTOURS SHOWN ARE AT 1 FOOT INTERVALS.

3. THE FOLLOWING BASEMAP WAS PREPARED UTILIZING THE FOLLOWING PUBLICLY AVAILABLE DATA. BLUE OAK ENERGY SHALL BE HELD HARMLESS FOR ANY AND ALL OCCURRENCES RESULTING FROM ANY INACCURACY OF THE TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN ON THESE PRELIMINARY PLANS.

ITEM AND SOURCE

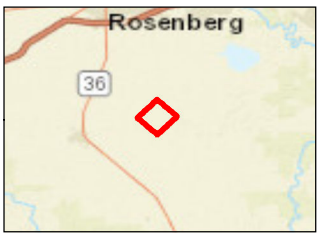
PARCEL LINES: PROVIDED BY JONES CARTER
TOPOGRAPHY: LIDAR PROVIDED BY JONES CARTER
STREAMS AND PONDS: NATIONAL HYDROGRAPHY DATASET (NHD)
FLOODPLAINS: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
WETLANDS: NATIONAL WETLANDS INVENTORY
ROAD CENTERLINES: U.S. CENSUS BUREAU
PIPELINES: OPEN STREET MAP
POWERLINES: OPEN STREET MAP

SETBACKS AND CONSTRAINTS

1. PER CLIENT GUIDANCE FOR PRELIMINARY DESIGN A 50' PROPERTY LINE SETBACK IS INCORPORATED ALONG PUBLIC ROADS AND NO SETBACK IS INCORPORATED ALONG ADJACENT PROPERTIES.

2. FOR PRELIMINARY DESIGN A 50' SETBACK FROM WETLANDS, PONDS, STREAMS, AND FLOODPLAINS. A SMALL POND AND TWO SMALLER DITCHES HAVE BEEN IDENTIFIED AND HAVE NOT BEEN AVOIDED WITHIN THE USEABLE AREA. BASED UPON PRELIMINARY REVIEW OF AERIAL IMAGERY THESE ARE DRY AND FUNCTION DURING LARGE STORM EVENTS. THE FEATURES ARE PROPOSED TO BE RELOCATED AND REALIGNED TO ACCOMMODATE THE SITE DEVELOPMENT. CONSTRAINTS ARE DEPENDENT ON DRAINAGE ANALYSIS AND AGENCY APPROVAL.

3. ADDITIONAL HABITAT, CULTURAL, AND GENERAL CONSTRAINTS HAVE BEEN INCORPORATED FROM STANTEC RECOMMENDATIONS.



LEGEND

- PARCEL LINE
- STREAM
- WATER FEATURE
- FEMA ZONE A
- WETLAND
- STREET
- MAJOR CONTOUR (5FT)
- MINOR CONTOUR (1FT)
- OVERHEAD POWER LINE
- GAS PIPE LINE
- (E) TREELINE
- HABITAT SETBACK
- DEVELOPABLE AREA
- PREFERRED USABLE AREA
- CUTLASS SOLAR II PROJECT BOUNDARY

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:18,000

N

Stantec

Project Location	Prepared by JPA on 2021-09-21
Fort Bend County	TR by ABC on 2019-01-01
Texas	IR Review by ABC on 2019-01-01
Client/Project	225600145

Cutlass Solar II LLC
Cutlass Solar II

Figure No.
1

DRAFT

Title
Existing Constraints Map

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