Clearview
LAND DESIGN, P.L.

Mitras Property

Listed Species Report

July 14, 2025

1 Introduction

Clearview Land Design P.L. (Clearview) was contracted by JP Land Holdings LLC. to provide environmental services for the "Mitras Parcel" (Subject Property). The approximately 41.511-acre Subject Property was surveyed for ecological conditions and evaluated for listed species utilization. This Listed Species Report discusses the existing site conditions relating to land use and wildlife, as well as anticipated listed species permitting requirements and constraints for development of the property.

1.1 Project Location

The Subject Property is located along Kent Grove Drive, just north of the intersection between Hamlin Road and Orange Drive in Pasco County, Florida; within Section 5, Township 25 South, Range 18 East in the Crystal-Pithlachascotee Basin (03100207) 8-digit hydrologic unit code (HUC). Approximate central coordinates are Lattitude 28.340378° N, Longitude -82.521283° W. A project location map is provided in **Figure 1**. According to the Pasco County Property Appraiser, the Subject Property consists of one parcel (ID: 05-25-18-0000-00100-0000). The physical address is 12500 Hamlin Road, Springhill Florida 34610.

2 Methodology

Prior to the initial field survey, Clearview environmental scientists evaluated state and federally listed species known to occur or likely to occur within and near the Subject Property based on review of published U.S. Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC) Geographical Information System (GIS) databases of documented listed species occurrences, and a desktop determination of potential suitable habitats. The following data resources were utilized as part of that evaluation:

- Aerial photographs (scale, 1 inch = 200 feet);
- ArcGIS Web Application, Audubon Florida EagleWatch Nest Map;
- ArcGIS Web Application, Florida Fish and Wildlife Conservation Commission (FWC) Eagle Nest Locator;
- Florida Department of Environmental Protection, Map Direct Online GIS Mapping Tool;

- Florida Fish and Wildlife Conservation Commission, Florida's Endangered and Threatened Species;
- Florida Natural Areas Inventory, Communities Tracking List for Pasco County;
- U.S. Department of Agriculture, Natural Resource Conservation Service, Web Soil Survey Online Mapper;
- U.S. Fish and Wildlife Service. (2007). Florida Programmatic *Effect Determination Key for the Wood Stork*, updated 2010;
- U.S Fish and Wildlife Service. (2010). Eastern Indigo Snake Programmatic Effect Determination Key, Revised in 2013;
- U.S. Fish and Wildlife Service, Information for Planning and Consultation, Environmental Conservation Online System;
- U.S. Fish and Wildlife Service, Information for Planning and Consultation, Environmental Conservation Online System, Critical Habitat for Threatened & Endangered Species web mapper; and
- U.S. Fish and Wildlife Services, 2023. National Wetlands Inventory, Wetlands Online Mapper.

A general listed species survey was conducted on June 11, 19, and April 7, 2025 to evaluate the Subject Property for potential occurrences of federal and state listed flora and fauna species. This included documenting signs of potential species utilization, such as scat, tracks, nests, and burrows. If found, the location of listed species or their signs of utilization were recorded using a geographic positioning system (GPS).

3 Existing Conditions

3.1 Soils

Soils are used to help determine the extent of wetland and upland habitat types in Florida. According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey online mapping tool, four soil units were mapped as occurring within the Subject Property. The soil data is summarized in **Table 1** and depicted in **Figure 2.** One soil unit Is considered a hydric soil.

Table 1: NRCS Soils

Soil Map Unit	Soil Description	Hydric: Y/N	Hydrologic Soil Group	Acreage
5	Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	No	A/D	6.124
6	Tavares sand, 0 to 5 percent slopes	No	A	9.718
11	Adamsville fine sand, 0 to 2 percent slopes	No	A/D	17.651
27	Anclote fine sand, 0 to 2 percent slopes, ponded	Yes	A/D	8.018
			Total	41.511

3.2 Land Use and Vegetative Cover

During the field review, existing land use and vegetation community types were identified and characterized using the FDOT Florida Land Use, Cover, Forms, and Classification System (FLUCFCS) (FDOT 1999). Wetlands were further classified using the USFWS *Classification of Wetlands and Deepwater Habitats of the U.S.* (*Cowardin* et al. 1979). Existing land use observed within the Subject Property is summarized in **Table 2** and presented in **Figure 3**.

Table 2: Existing Land Use

FLUCFCS	Land Use/Vegetative Cover Classification	Cowardin Classification	Acreage
2100	Cropland and Pastureland	N/A	33.030
6150	Stream and Lake Swamps (Bottomland)	[(1)]PFO1/3C	8.481
		Total	41.511

[(1)]Palustrine, Forested, Borad-Leaved Deciduous, Broad-Leaved Evergreen, Seasonally Flooded

Cropland and Pastureland (33.030 acres)

FLUCFCS 2100

This land use includes agricultural lands which are managed for the production of row and field crops, as well as pastures used for livestock grazing. The Subject Property has historically been used for cattle grazing. Troughs, feed bunkers, and cow trails were evident during the field review. The vegetative cover in this land use consisted of a canopy of scatted live oaks (*Quercus virginiana*) with a ground cover of bahia grass (*Paspalum notatum*), dog fennel (*Eupatorium capillifolium*), and Caesar's weed (*Urena lobata*).

Stream and Lake Swamps (Bottomland) (8.481 acres)

FLUCFCS 6150

Cowardin PFO1/3C

This classification, often referred to as bottomland or stream hardwoods, is commonly found on river, creek, and lake flood plains or overflow areas. This wetland consists of a stream and its floodplain. Common vegetative species observed during the field review included cypress (*Taxodium ssp.*), dahoon holly (*Ilex cassine*), red maple (*Acer rubrum*), swamp bay (*Persea palustris*), Virginia chain fern (*Woodwardia virginica*), and sensitive fern (*Onoclea sensibilis*). A formal determination of the landward extent of wetlands and other surface waters is currently ongoing by the SWFWMD (#916070), and the acreage of this land use is based upon field reconnaissance and aerial imagery.

4 Special Status Species

Federally listed species are protected by the federal government (i.e., USFWS) pursuant to the Endangered Species Act (ESA) of 1973, as amended, and are classified as endangered or threatened. State listed species are those flora and fauna species managed by the State of Florida pursuant to

Chapter 5B-40 FAC and Chapter 68A-27 FAC, respectively. State listed species are classified as endangered, threatened, species of special concern (fauna), or commercially exploited (flora). The evaluation included literature reviews, database searches, and field assessments of the Subject Property to assess the potential occurrence of listed species and/or the presence of federally designated critical habitat.

For a listed species to be considered as potentially occurring within the Subject Property, suitable habitat for reproduction, nesting, foraging, or resting must be present within the Subject Property and the potential area must be located within the species' current geographical range. Based on the evaluation of collected data, federal and state listed species were identified as having the potential to occur within or adjacent to the proposed project.

Each species was assigned a potential for occurrence within the Subject Property based on data reviews, field observations, presence and quality of suitable habitat, and the species' known range. Each species was assigned one of the following degrees of potential for occurrence within the Subject Property: none, low, moderate, or high. These potential for occurrence levels are defined below:

- *None* – The project is outside of the species' known range, or the project is within the species' range; however, no suitable habitat exists and/or no documentation of previous occurrences of the species within or adjacent to the Subject Property exists, and/or the species was not observed during field reviews.
- *Low* – The project is within the species' range, and minimal or marginal quality habitat exists within or adjacent to the Subject Property; however, there are no documented occurrences of the species in the vicinity of the project, and the species was not observed during field reviews.
- *Moderate* – The project is within the species' range and suitable habitat exists within or adjacent to the Subject Property; however, there are no documented occurrences of the species, and no evidence of the species' utilization was observed during field reviews.
- *High* – The project is within the species' range, suitable habitat exists within or adjacent to the Subject Property, there are previously documented occurrences of the species within the Subject Property, and/or the species or evidence of utilization was observed during field reviews.

The USFWS Information for Planning and Consultation (IPaC) web mapper provided an Official Species List (OSL) of federally listed species with the potential to occur within the Subject Property. The Florida Natural Areas Inventory (FNAI) was reviewing for state listed species potentially occurring within the Subject Property. These lists are provided in **Appendix A**. The USFWS, FWC, and FNAI websites were reviewed for habitat descriptions. The habitat descriptions and potential for occurrence were used to establish permitting requirements and constraints for the project. These species are summarized in **Table 3**.

Table 3: Listed Species Potentially Occurring Within the Subject Property

Scientific Name	Common Name	Listing Status	Habitat	Potential for Occurrence
Amphibians and Reptiles				
Drymarchon couperi	Easten Indigo Snake	FT	Mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, scrub, and swamps	Moderate
Gopherus polyphemus	Gopher Tortoise	ST	Xeric habitats.	High
Notophthalmus perstriatus	Striped Newt	ST	Xeric upland communities, principally sandhill. Breeds in wetlands.	None
Birds				
Anrigone canadensis pratensis	Florida Sandhill Crane	ST	Prairies, pastures, and maintained lawns.	Moderate
Aphelocoma coerulescens	Florida Scrub-Jay	FT	Sand pine, xeric oak scrub, scrubby flatwoods, ancient sand ridges, old sand dunes.	Low
Athene Cunicularia floridana	Florida Burrowing Owl	ST	Open prairies and human-modified environments with minimal understory vegetation.	Moderate
Falco sparverius paulus	Southeastern American Kestrel	ST	Open woodlands, sandhills, and fire-maintained savannah pine habitats.	Moderate
Haliaeetus leucocephalus	Bald Eagle	NL[(1)]	Habitats near rivers, lakes, and marshes.	Moderate
Laterallus jamaicensis ssp. jamaicensis	Eastern Black Rail	FT	Marshes, primarily salt marshes, with large expanses of dense tall grass or sedge cover.	None
Mycteria americana	Wood Stork	FT	Open hydric pine-cypress habitats, herbaceous marshes, and man-made wetlands and canals.	Moderate
Rostrhamus sociabilis plumbeus	Everglade Snail Kite	FE	Shallow freshwater marshes and shallow grassy shorelines of lakes.	None

Insects				
Danaus plexippus	Monarch Butterfly	PT	Prairies, meadows, and along roadsides.	Moderate
Mammals				
Perimyotis subflavus	Tricolored Bat	PE	Forested habitats, caves, and manmade structures.	Moderate
Plants				
Calopogon multiflorus	Many-Flowered Grass-Pink	ST	Dry to moist flatwoods.	None
Centrosema arenicola	Sand Butterfly Pea	SE	Sandhill, Scrubby flatwoods, dry upland woods.	None
Coelorachis tuberculosa	Piedmont Jointgrass	ST	Marshes, swamps, lake shorelines.	Low
Coleataenia abscissa	Cutthroatgrass	SE	Wet flatwoods, prairies, and seepage areas.	None
Lechea cernua	Nodding Pinweed	ST	Open, unshaded white sands of scrub and scrubby flatwoods.	None
Litsea aestivalis	Pondspice	SE	Peaty soils in edges of baygalls, flatwoods ponds, depression marshes, and cypress domes.	Low
Matelea floridana	Florida spiny-pod	SE	Sandhill, upland pine, and dry hammocks.	None
Monotropsis reynoldsiae	Pygmy Pipes	SE	Upland hardwood forests, hammocks, sand pine and oak scrub.	None
Nemastylis floridana	Celestial Lily	SE	Wet flatwoods, prairies, marshes, cabbage palm hammocks.	Low
Nolina atopocarpa	Florida Beargrass	ST	Grassy areas of wet flatwoods.	None
Nolina brittoniana	Britton's beargrass	SE	Scrub. Sandhills, scrubby flatwoods, and xeric hammocks.	None
Platanthera integra	Yellow Fringeless Orchid	SE	Open wet prairies, wet flatwoods, bogs, seepage slopes, wet pine barrens, and peaty depressions.	Low
Pteroglossaspis ecristata	Giant Orchid	ST	Longleaf pine sandhills and flatwoods, oak scrub, and prairies.	None

Triphora craigheadii	Craighead's nodding-caps	SE	Rotting logs, shaded rock outcrops in mesic hardwood hammocks.	None
Warea carteri	Carter's warea	SE	Sandhill, scrubby flatwoods, inland and coastal scrub.	None

FE = Federally Endangered; FT = Federally Threatened; SE = State Endangered; ST = State Threatened; PE = Potentially Endangered; PT = Potentially Threatened.

(1) The bald eagle is neither state nor federally listed; however, this species is federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The bald eagle is also managed in Florida by the FWC bald eagle rule (FAC 68A-16.002).

Federally Listed Species

Eastern Black Rail: Eastern black rails are listed as threatened by the USFWS due to habitat loss from sea level rise, tidal flooding, incompatible land management, and an increase in storm intensity and frequency. Eastern black rails are dependent on marshes, primarily salt marsh, with large expanses of dense tall grass or sedge cover with no shrub cover. Eastern black rails can fly, however, they usually run along the ground in dense marsh cover, creating "tunnels" through the grasses. Particularly thick wetland grass/sedge cover is required for this activity. This species is most commonly found in Florida in coastal salt marshes, especially in Florida's Big Bend region, and inland where extensive dense sedge marshes are found. The wetlands within the Subject Property are unsuitable for eastern black rails, as they lack the dense grass/sedge cover required for their behaviors. The Subject Property does not contain suitable habitat for the eastern black rail, and none were observed during the preliminary species survey. Therefore, this species was designated a probability for occurrence of none.

Eastern Indigo Snake: The eastern indigo snake is listed as threatened by the USFWS due to habitat destruction, fragmentation, and degradation associated with urban development. This species utilizes a variety of habitats including mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, and scrub. Within Florida, they also utilize gopher tortoise burrows as refugia to escape hot or cold ambient temperatures within their range. The Subject Property contained suitable habitat for this species and 28 gopher tortoise burrows were found during a 25% burrow survey. However, no individuals were observed during the preliminary species survey and no documented occurrences were identified in the area. Therefore, this species was designated a moderate probability for occurrence.

Prior to the design phase, it is recommended to consult the *2013 Consultation Key for the Eastern Indigo Snake – Revised August 2017* to minimize impacts to this species. During construction, the USFWS Standard Protection Measures for the Eastern Indigo Snake (USFWS 2013) can be implemented as part of the consultation key requirements to avoid incidental take permitting with the USFWS. Both the consultation key and standard protection measures are provided in **Appendix B**.

Everglade Snail Kite: The Everglade snail kite is listed as threatened by the USFWS due to the loss and degradation of wetlands, harassment from humans, the spread of exotic apple snails (*Pomacea spp*.), and the degradation of water quality from agricultural and urban runoff. Ideal habitat for this species includes shallow freshwater marshes and shallow grassy shorelines of lakes, where they forage almost exclusively on snails. They are found primarily in large marsh conservation areas in the eastern-central region of Florida. The Subject Property does not contain suitable habitat for this species and none were observed during the preliminary species survey. Therefore, this species was designated a probability for occurrence of none.

Florida Scrub-Jay: The Florida scrub-jay is listed as threatened by the USFWS due to habitat loss and degradation associated with development, silviculture, mining operations, and agriculture. This species can be found in early successional stages of xeric oak communities that are occasionally burned. Ideal habitat consists of scrub oak that are less than 10 feet tall with open sand, grass patches, and well- drained sandy soils. The Subject Property is located within the USFWS consultation area designated for the Florida scrub-jay, but no suitable scrub habitat is present, and none were observed during the field reviews. However, eBird observation data has confirmed sightings of Florida scrub-jays approximately two miles east of the Subject Property at Crossbar Ranch. Crossbar Ranch represents suitable habitat for the species, and it is considered unlikely that they will establish a new territory near the Subject Property given the residential areas surrounding the property and the lack of suitable scrub habitat. Therefore, this species was designated a low probability for occurrence.

Monarch Butterfly: The monarch butterfly is proposed for listing as a threatened species by the USFWS due to declining populations over the last 29 years. Given the current eastern North American population size and population growth rate, the estimated probability for extinction over the next 60 years is 61% (Monarch Butterfly (*Danaus Plexippus*) Species Status Assessment Report, USFWS). Monarch butterflies can breed year-round and lay eggs on their obligate milkweed host plant (primarily *Asclepis spp*.). They forage in meadows, open areas, along roadsides, and in urban gardens. Individual monarchs in eastern and western North America undergo long-distance migration and live for an extended period. The Subject Property contains suitable habitat for this species. There is potential for them to utilize the pasture for foraging, but no milkweed species were observed during the field reviews, and it is believed that reproduction is unlikely to occur. This species was given a moderate probability for occurrence.

As it has not been officially listed yet, there are no permitting considerations that apply to the development of the Subject Property for this species. However, there is potential that the species will be listed before construction is completed, in which case ESA regulations would apply to the project. If the monarch butterfly is officially listed as threatened before project completion, it is recommended to consult with the USFWS.

Tricolored Bat: The tricolored bat is currently proposed for listing as an endangered species by the USFWS due to declining populations associated with white-nose syndrome, a disease caused by a fungal pathogen. This disease has led to a 90% decline in tricolored bat winter colony abundance

(Cheng Tina L., et al. 2021). This disease was first observed in New York in 2006 and has since spread rapidly across the tricolored bats range (Tricolored Bat, USFWS 2022). In the southern United States, tricolored bats can be found roosting in forested habitats, road-associated culverts, and human structures. They forage during warm nights over waterways and forest edges, looking for small insects such as ground beetles and flies. The Subject Property contains suitable habitat for this species. There is potential for roosting in the wetland and in oak trees scattered throughout the pasture. Therefore, this species was designated a moderate probability for occurrence.

As it has not been officially listed yet, there are no permitting considerations that would apply to the development of the Subject Property for this species. However, there is potential that the species will be listed before construction is completed, in which case ESA regulations would apply to the project. If the tricolored bat is officially listed as endangered before project completion, it is recommended to consult with the USFWS.

Wood Stork: The wood stork is listed as threatened by the USFWS due to a sharp decline in breeding populations. This opportunistic wading bird utilizes various open hydric pine-cypress habitats, herbaceous marshes, and man-made wetlands and canals. Its specialized method of feeding limits its foraging ability to shallow waters with dense concentrations of small fish. Wood storks use freshwater and estuarine habitats for nesting, foraging, and roosting. They are typically colonial nesters and construct their nests in medium to tall trees located within wetlands or on islands. Suitable wood stork foraging habitat includes wetlands and surface waters with relatively calm water, uncluttered by dense thickets of aquatic vegetation, and either permanently or seasonally sustain a water depth between 2 and 15 inches. The Subject Property contains suitable foraging habitat, but none were observed during the preliminary species surveys. Therefore, this species was designated a moderate probability for occurrence.

The USFWS has defined a radius of 15 miles from a nesting wood stork colony as designated Core Foraging Area (CFA) for that colony. The Subject Property is located within the CFA for multiple wood stork rookeries, as shown in **Figure 4**. To provide further protection for this species, the USFWS' *North Florida Programmatic Effect Determination Key for the Wood Stork (Revised 2010)* was consulted and is provided in **Appendix C**. The project is located within designated CFA for a wood stork colony and the Subject Property contains suitable habitat for foraging in the forested wetland. Therefore, if the project will impact the wetland onsite, SFH compensation may be required through an accredited wetland mitigation bank.

State Listed Species

Florida Burrowing Owl: The Florida burrowing owl is listed as threatened by the state of Florida and is the only subspecies of burrowing owl to exist east of the Mississippi River. It inhabits open habitats with low-growing groundcover, such as native dry prairies. It occurs primarily in peninsular Florida although isolated pairs and small colonies have been found as far west as Eglin Air Force Base and as far south as the Dry Tortugas and the Bahamas. Habitat destruction (agriculture and development) is the major threat. The Subject Property is located within the species known range and contains

suitable habitat, but none were observed during the field reviews. Therefore, this species was designated a moderate probability for occurrence.

Florida Sandhill Crane: The Florida sandhill crane is listed as threatened by the FWC due to the degradation or direct loss of suitable habitat from wetland drainage or the conversion of prairies to development and agricultural use. This species is found in prairies, pastures, and mowed lawns and nest in shallow marshes without dense vegetation. This species is one of two subspecies of the sandhill crane occurring within the State of Florida. The two subspecies are indistinguishable in the field, but individuals observed between May and September can be assumed to be the protected Florida subspecies. The Subject Property contains suitable foraging habitat, but no suitable nesting habitat. Therefore, this species was designated a moderate probability for occurrence. However, it is believed sandhill crane permitting or protection will not be required given the lack of suitable nesting habitat.

Gopher Tortoise: The gopher tortoise is listed as threatened by the FWC due to habitat degradation and a declining number of individuals. This species requires well-drained, loose sandy soils for burrowing, and low-growing herbs and grasses for food. These conditions can be found in a variety of habitats including dry prairies, pine flatwoods, and disturbed or maintained sites. Gopher tortoise burrows are used as refugia by several other listed and non-listed wildlife species. A 25% cover gopher tortoise survey was conducted by an Authorized Gopher Tortoise Agent (AGTA) in accordance with the survey methodologies outlined in the FWC Gopher Tortoise Permitting Guidelines handbook (F.A.C. 68A-27.003 Ref-12193). During the survey, 27 Potentially Occupied burrows and 1 Abandoned gopher tortoise burrow were observed. This translates to a population estimate of 53 gopher tortoises on the Subject Property. Please see **Figure 5** for a gopher tortoise survey map. Prior to development, it will be required that gopher tortoises be removed from the Subject Property by obtaining a FWC gopher tortoise conservation permit.

State Listed Plants and Lichens: The majority of the state-listed plant species shown as potentially occurring within the Subject Property on the FNAI official species list occur within scrub and pine flatwoods habitats. These habitats do not occur on the Subject Property and no state-listed plant species were observed during the preliminary species surveys. Therefore, most of the state-listed plant species were designated a probability for the occurrence of none. However, the celestial lily, piedmont jointgrass, pondspice, and the yellow fringeless orchid are found in wetland habitats. The Subject Property contains marginally suitable habitat for these species within the forested wetland. Therefore, these species were given a low probability for occurrence.

Striped Newt: The striped newt is listed as threatened by the FWC due to habitat loss, land use changes, off-road vehicles, and disease. This species is found in dry upland habitats, most frequently sandhill but can also inhabit scrub, scrubby flatwoods, and mesic flatwoods. They use temporary or semipermanent depression marshes, dome swamps, ponds, and borrow pits for breeding. The Subject Property does not contain suitable habitat for this species. There are no sandhill or scrub habitats, and it is believed the wetland is unsuitable for their reproduction given the wetlands woody vegetation and flow. Therefore, this species was designated a probability for occurrence of none.

Southeastern American Kestrel: The southeastern American Kestrel is listed as threatened by the FWC as a result of habitat loss due to the development of new residential areas and farmlands, tree removal for agricultural fields, and fire suppression within pine habitat. This species is found in open woodlands, sandhills, and fire-maintained savannah pine habitats. Suitable foraging habitat must have large open areas, with low vegetation dominated by grasses and minimal large tree cover, with available perches for hunting. They also utilize alternative sites such as pastures and open fields located in residential areas. Southeastern American kestrels will nest in cavities excavated in large dead trees by woodpeckers (i.e., *Campephilus principalis*). This species is one of two subspecies of the American kestrel that occurs within the State of Florida. The two subspecies are indistinguishable in the field, but individuals observed between April and August are assumed to be the protected Florida subspecies. The field review was conducted within the season when the protected subspecies is distinguishable; however, no individuals were observed during the preliminary species surveys. However, the Subject Property contains suitable habitat, and seven snags (dead trees) were observed on the of the Subject Property with three having suitable nesting cavities (see **Figure 6**). Therefore, this species was designated a moderate probability for occurrence.

Non-Listed Species

Bald Eagle: The bald eagle is no longer state or federally listed; however, it is protected under the Bald and Golden Eagle Protection Act in accordance with 16 United States Code (U.S.C.) 668, the Migratory Bird Treaty Act (MBTA) in accordance with 16 U.S.C. 703, and the state's bald eagle rule (68A-16.002 FAC). This species lives near rivers, lakes, and marshes where they can hunt for fish. They also scavenge terrestrial carrion and will take prey items from smaller raptors like osprey. According to the Audubon Florida EagleWatch Nest Map, there are no documented bald eagle nest located within 660 feet of the Subject Property. The nearest documented nest (PS942) is located approximately 2.02 miles southeast of the Subject Property. A bald eagle nest location map is provided in **Figure 7**. There is suitable nesting habitat but no suitable foraging habitat within the Subject Property. Therefore, this species was designated a moderate probability for occurrence. If a bald eagle nest is observed within 660 feet of the Subject Property during construction, it is recommended that construction activities pause and the USFWS be contacted.

Critical Habitat

Critical habitat is designated by Congress in 50 Code of Federal Regulations (CFR) Part 424 and defined as the physical and biological features essential for a species' conservation, such as food, water and shelter, and other features. According to the USFWS IPaC project planning tool on the Environmental Conservation Online Mapper and FDEP Map Direct, the Subject Property is not located within designated critical habitat for any federally listed species.

Summary

The Subject Property contains suitable habitat for the eastern indigo snake, gopher tortoise, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, bald eagle, wood stork,

monarch butterfly, and tricolored bat. Plant species that have potential to occur include piedmont jointgrass, pondspice, celestial lily, and yellow fringeless orchid. However, the gopher tortoise was the only listed species identified during the field surveys. The estimated gopher tortoise population on the Subject Property is 53 tortoises. A FWC conservation permit will be required to relocate the tortoises before construction initiation. The Subject Property is located within a CFA of multiple wood stork nesting colonies, and impacting wetlands or other surface waters may require wood stork SFH mitigation to an accredited wetland mitigation bank. To avoid eastern indigo snake incidental take permitting with the USFWS, it is recommended the project adheres to the USFWS Standard Protection Measures for the Eastern Indigo Snake (USFWS 2013). The tricolored bat and monarch butterfly have not been officially listed, but if they become listed before project completion then ESA regulations would apply to the project.

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Figures

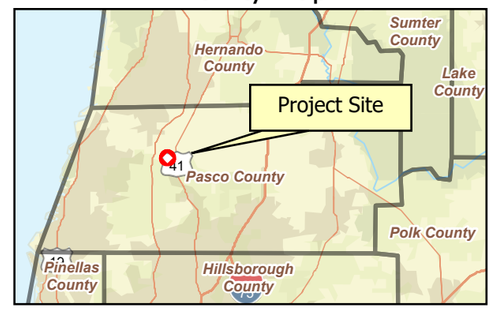


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Legend

Project Limits (41.511 acres)

Vicinity Map



Note: Clearview Land Design, or Pasco County makes no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness, or completeness of any of the geodata information provided herein.

Service Layer Credits: State of Florida, Maxar, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

N W E S

1 inch = 2,000 feet

0 2,000 4,000 Feet

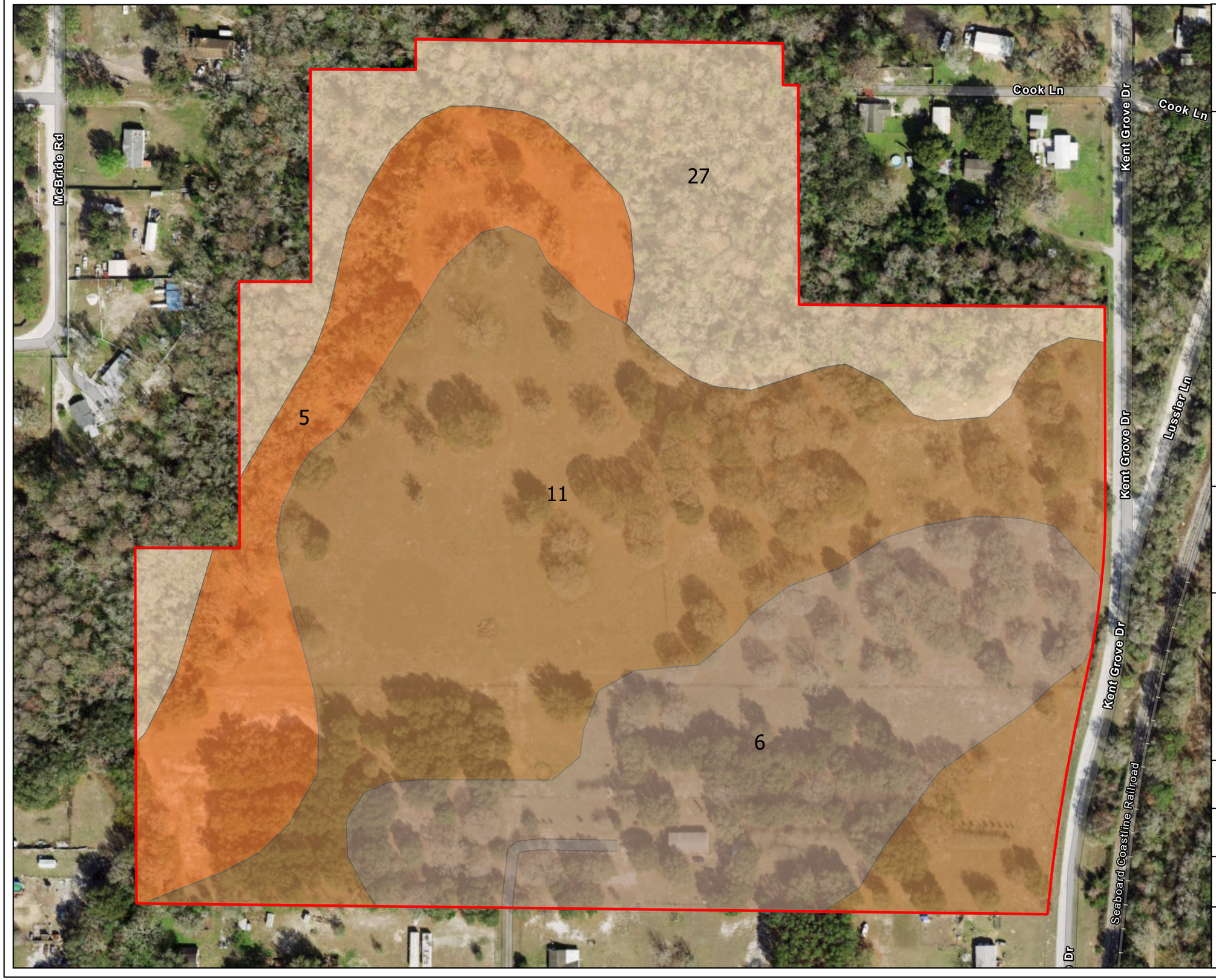
Figure 1: Location Map

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

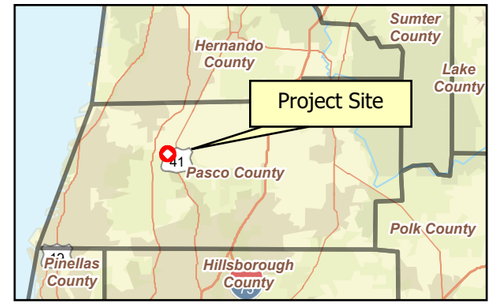


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Legend

- Project Limits (41.511 acres)
- 11 - Adamsville fine sand, 0 to 2 percent slopes (17.651 acres)
- 27 - Anclote fine sand, 0 to 2 percent slopes (8.018 acres)
- 5 - Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes (6.124 acres)
- 6 - Tavares sand, 0 to 5 percent slopes, ponded (9.718 acres)

Vicinity Map



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N W E S

1 inch = 150 feet

0 150 300 Feet

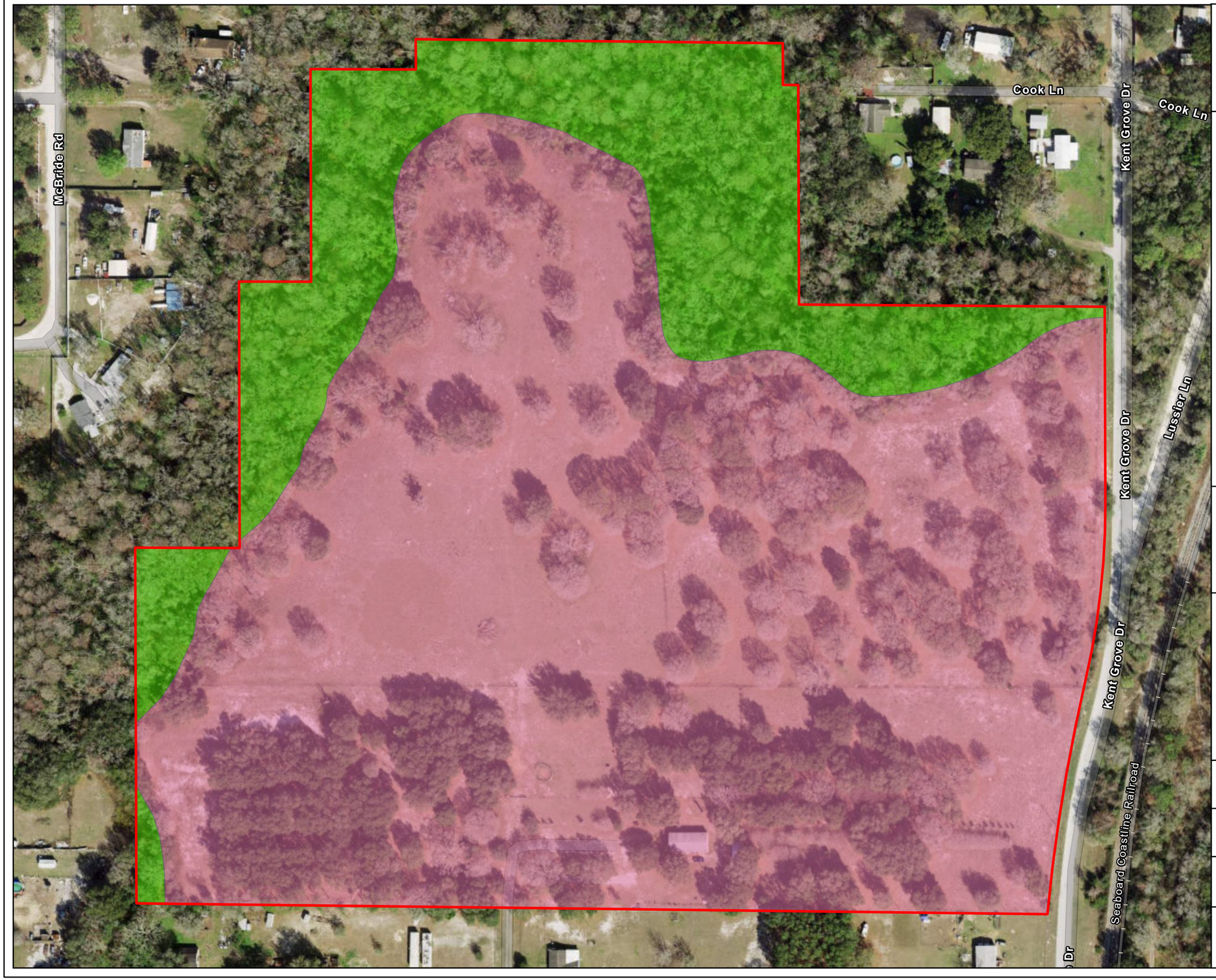
Figure 2: NRCS Soils

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

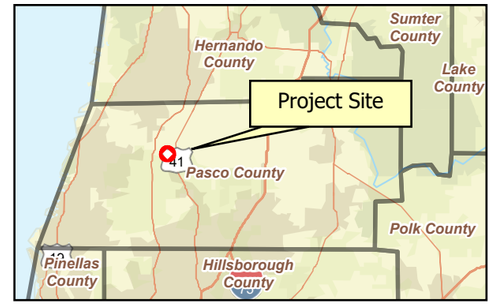


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Legend

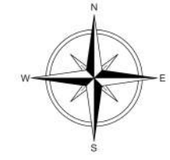
- Project Limits (41.511 acres)
- 2100 - Cropland and Pastureland (33.030 acres)
- 6150 Stream and Lake Swamps (8.481 acres)

Vicinity Map



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1 inch = 150 feet

0 150 300 Feet

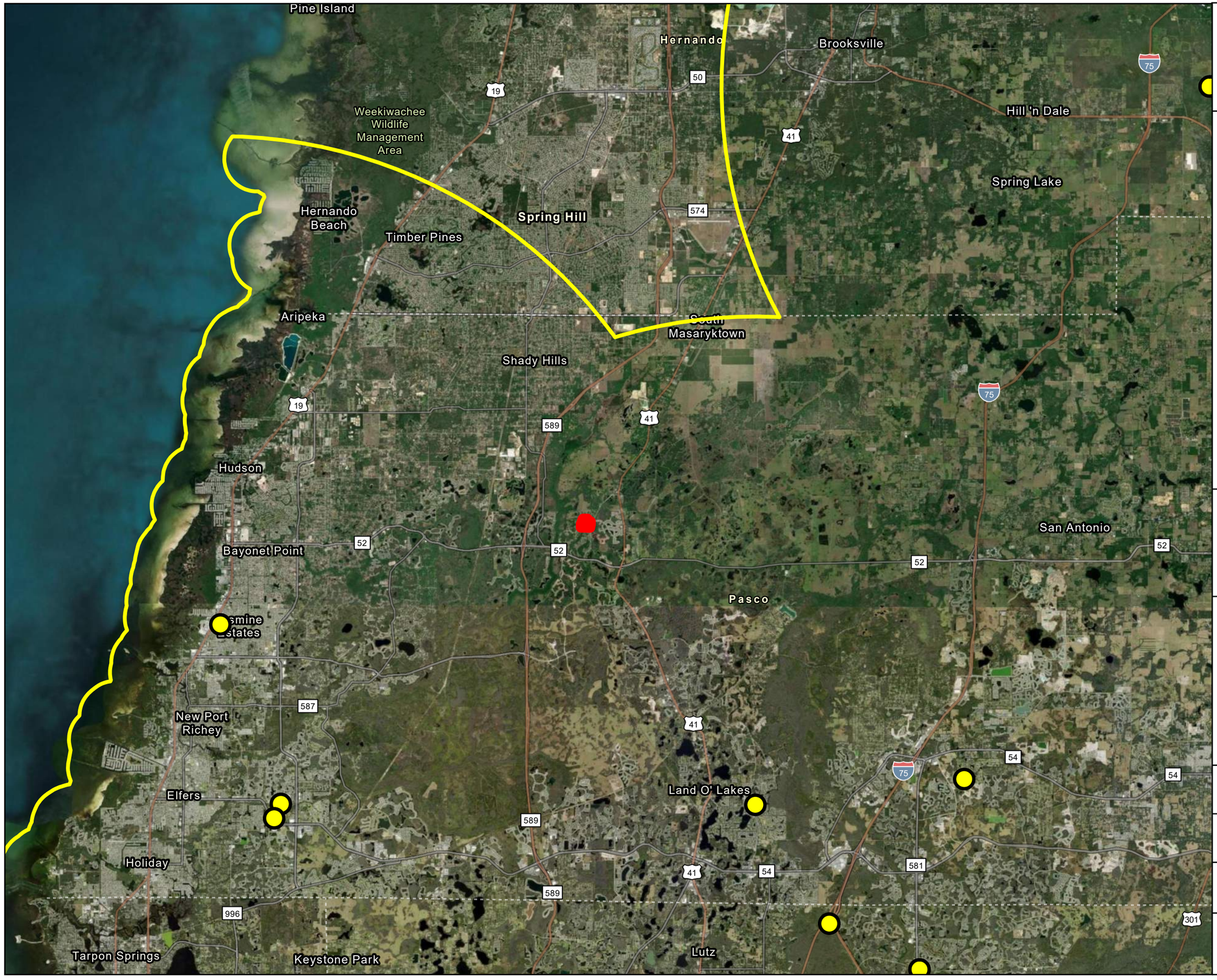
Figure 3: Land Use

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

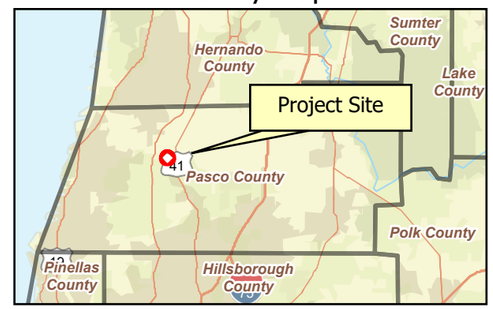


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Legend

- Project Limits (41.511 acres)
- Florida Woodstork Nesting Colonies
- Florida Wood Stork Foraging Areas

Vicinity Map



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N W E S

1 inch = 15,000 feet

0 15,000 30,000 Feet

Figure 4: Wood Stork Rookeries

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

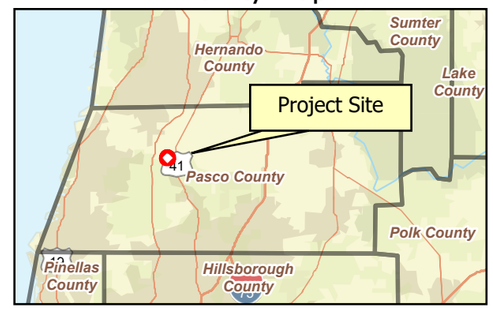
Map Prepared By: EDP

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Legend

- Project Limits (41.511 acres)
- Gopher Tortoise Burrows
- Transects

Vicinity Map



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N
W E
S

1 inch = 150 feet

0 150 300 Feet

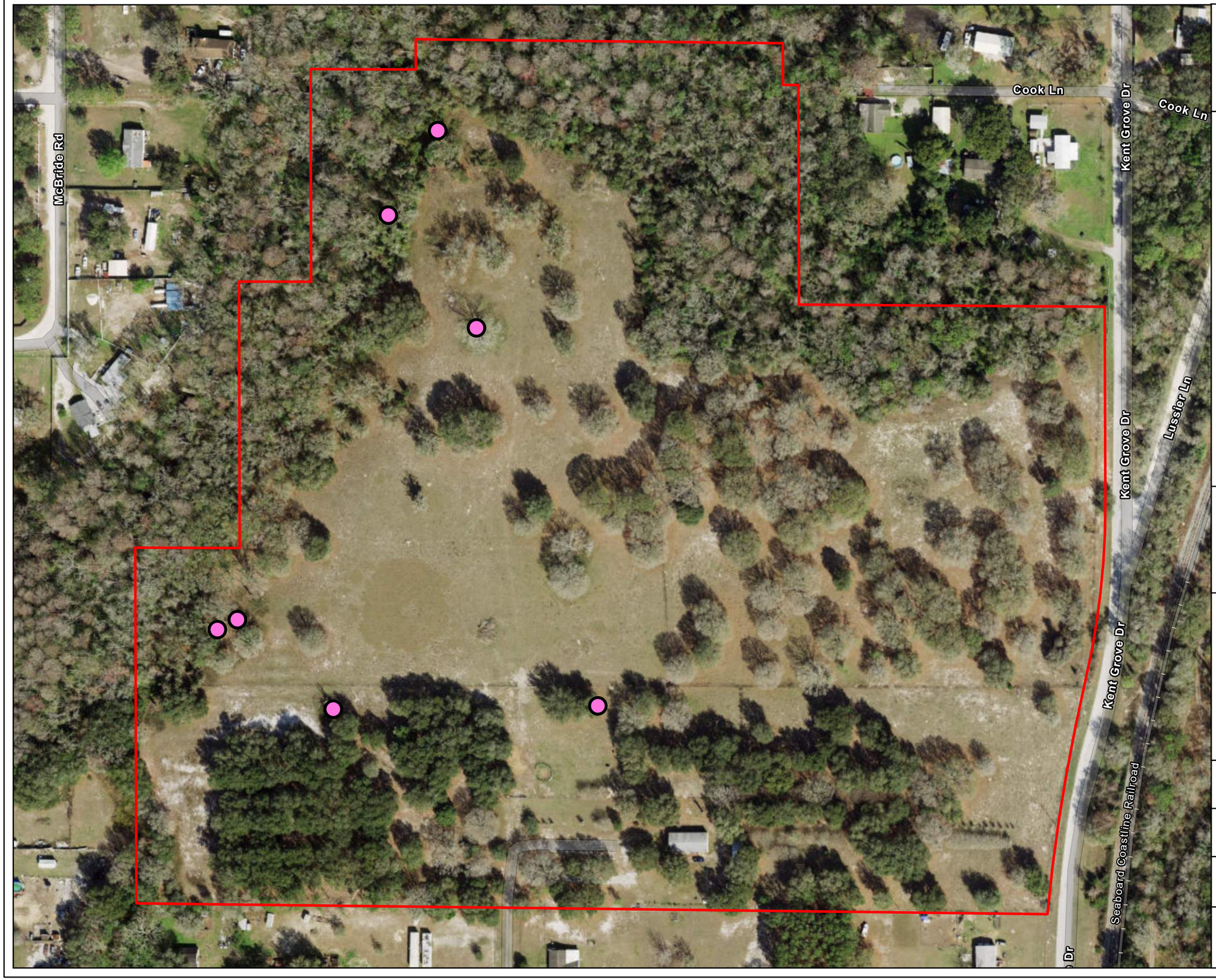
Figure 5: Gopher Tortoise Survey

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

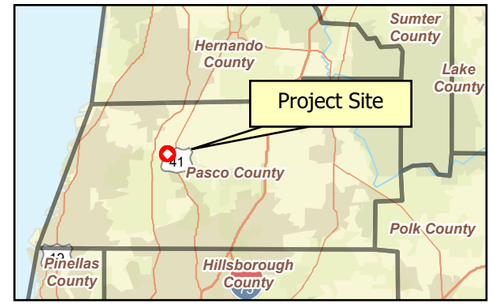


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Legend

- Project Limits (41.511 acres)
- Snags

Vicinity Map



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N W E S

1 inch = 150 feet

0 150 300 Feet

Figure 6: Potential Nesting Snags

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

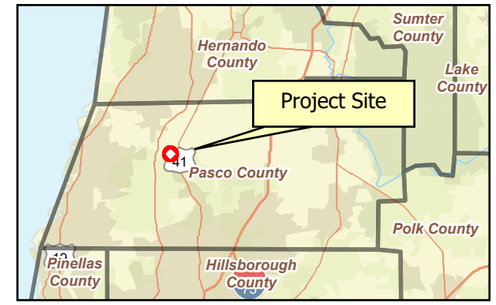


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Legend

- Project Limits (41.511 acres)
- Bald Eagle Nests
- 660-foot Buffer

Vicinity Map



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N W E S

1 inch = 2,500 feet

0 2,500 5,000 Feet

Figure 7: Bald Eagle Nest Locations

Project: Mitras Parcel

Pasco County

Map Date: 7/8/2025

Map Prepared By: EDP

Appendix A

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.

NOT FOR CONSULTATION

Location

Pasco County, Florida



Local office

Florida Ecological Services Field Office

(352) 448-9151
(772) 562-4288
fw4flesregs@fws.gov

777 37th St
Suite D-101
Vero Beach, FL 32960-3559

https://www.fws.gov/office/florida-ecological-services

NOT FOR CONSULTATION

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.

NOT FOR CONSULTATION

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

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Everglade Snail Kite Rostrhamus sociabilis plumbeus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7713	Endangered
Florida Scrub-jay Aphelocoma coerulescens Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6174	Threatened
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN
Wood Stork Mycteria americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS

NOT FOR CONSULTATION

NAME	STATUS
Eastern Indigo Snake Drymarchon couperi Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

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

There are no critical habitats at this location.

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

NOT FOR CONSULTATION

Bald & Golden Eagles

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

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-

measures.pdf

- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

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

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

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

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

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

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle 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.	Breeds Sep 1 to Jul 31

NOT FOR CONSULTATION

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

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

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

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

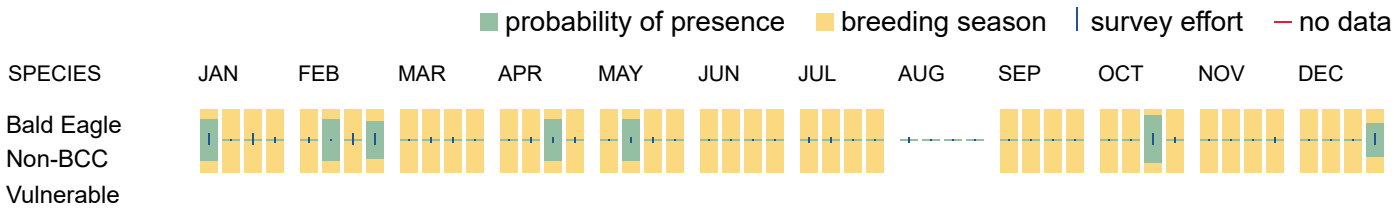
No Data (–)

NOT FOR CONSULTATION

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

Survey Timeframe

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



Bald & Golden Eagles FAQs

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

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

NOT FOR CONSULTATION

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

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

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

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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

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

NOT FOR CONSULTATION

Migratory birds

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

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

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

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

Ensure Your Migratory Bird List is Accurate and Complete

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

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

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bachman's Sparrow Peucaea aestivalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30

NOT FOR CONSULTATION

Bald Eagle Haliaeetus leucocephalus — Breeds Sep 1 to Jul 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Florida Burrowing Owl Athene cunicularia floridana — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Great Blue Heron Ardea herodias occidentalis — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

King Rail Rallus elegans — Breeds May 1 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8936

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Setophaga discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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Swallow-tailed Kite Elanoides forficatus — Breeds Mar 10 to Jun 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8938

Worthington's Marsh Wren Cistothorus palustris griseus — Breeds Apr 10 to Aug 31

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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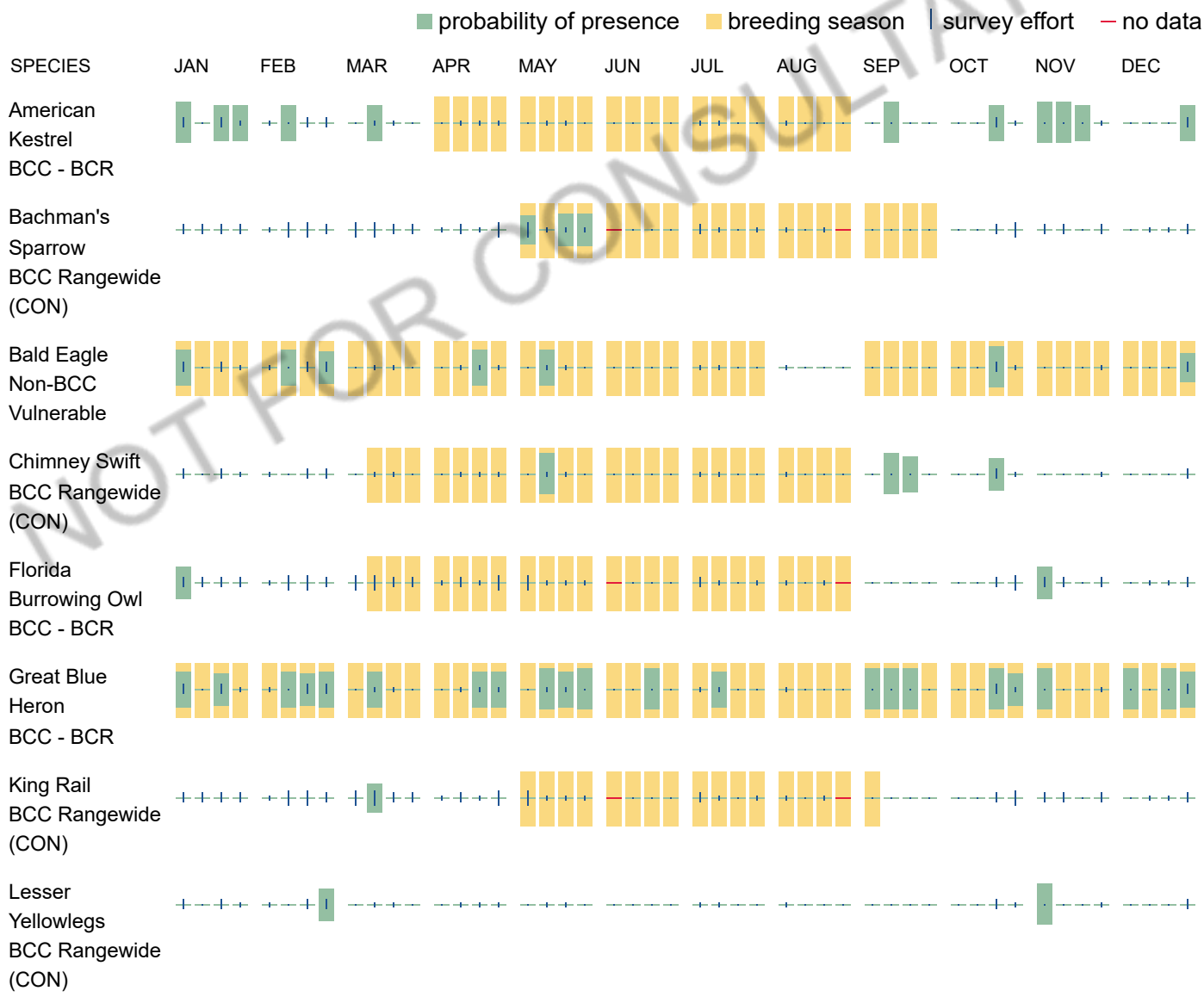
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

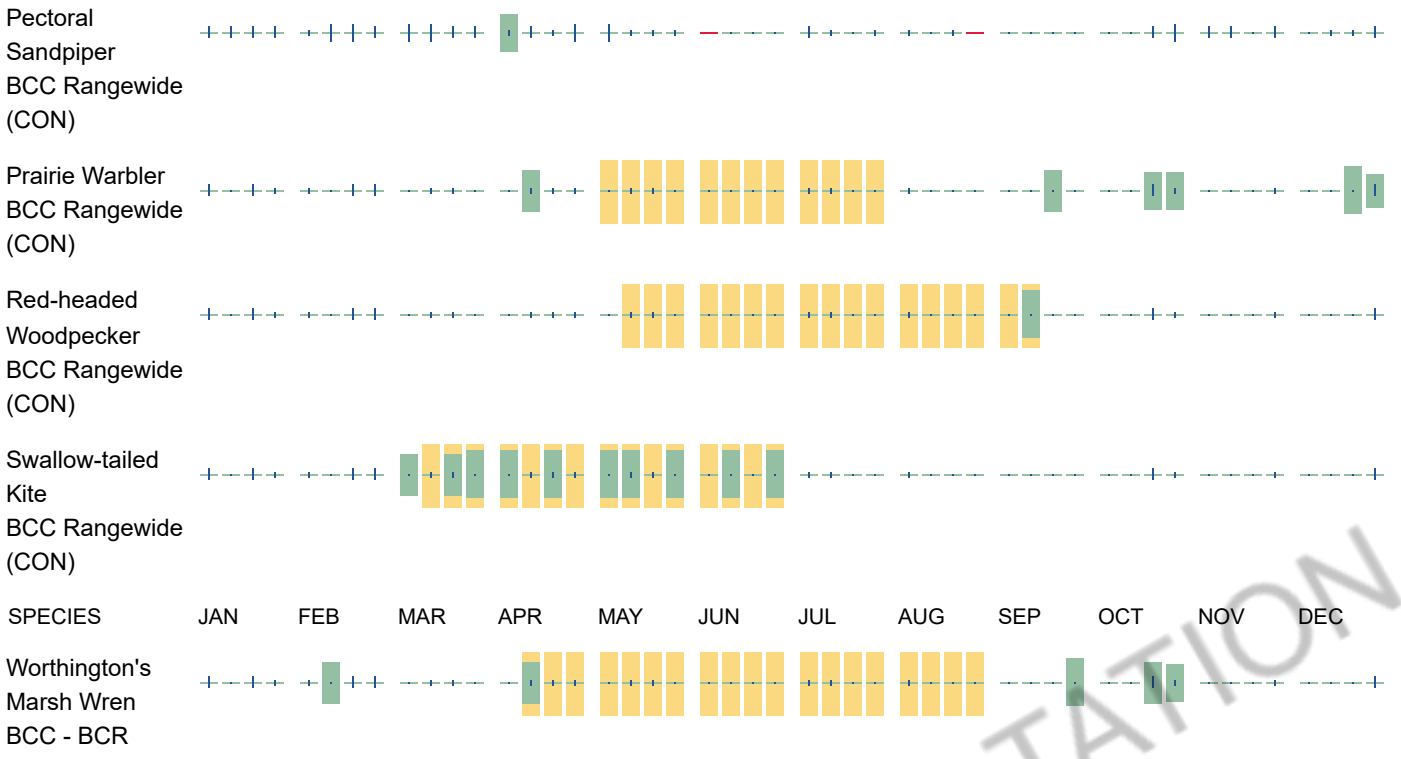
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.



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Migratory Bird FAQs

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

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection 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, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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 to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

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 Bald and Golden Eagle Protection 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 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 BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

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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.

Proper interpretation and use of your migratory bird report

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

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

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

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

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Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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

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

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

CBRA information is not available at this time

This can happen when the CBRS map service is unavailable, or for very large projects that intersect many coastal areas. Try again, or visit the CBRS map to view coastal barriers at this location.

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Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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.

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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.

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1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
850-681-9364 fax
www.fnai.org

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

UNOFFICIAL REPORT

Created 4/24/2025

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 2 Matrix Units: 24486 , 24487



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 24486

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24487

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 24486 , 24487

30 **Potential** Elements Common to Any of the 2 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis Florida Sandhill Crane	G5T2	S2	N	ST
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Corynorhinus rafinesquii Rafinesque's Big-eared Bat	G3G4	S1	N	N
Digitaria floridana Florida fingergrass	G1	S1	N	N
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Gymnopogon chapmanianus Chapman's skeletongrass	G3	S3	N	N
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
Lechea cernua nodding pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
Monotropsis reynoldsiae pygmy pipes	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Nolina brittoniana Britton's beargrass	G3	S3	E	E
Notophthalmus perstriatus Striped Newt	G2G3	S2	N	C
Peucaea aestivalis Bachman's Sparrow	G3	S3	N	N

Platanthera integra yellow fringeless orchid	G3G4	S3	N	E
Podomys floridanus Florida Mouse	G3	S3	N	N
Pteroglossaspis ecristata giant orchid	G2G3	S2	N	T
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Triphora craigheadii Craighead's nodding-caps	G1	S1	N	E
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

Disclaimer

The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

Unofficial Report

These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

Appendix B

United States Department of the Interior
U. S. FISH AND WILDLIFE SERVICE
7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:
August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Army
Jacksonville District Corps of Engineers
P.O Box 4970
Jacksonville, Florida 32232-0019
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

On Page 2

The following replaces the last paragraph above the signatures:

"Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269."

On Page 3

The following replaces both paragraphs under "Scope of the key":

"This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH)."

On Page 4

The following replaces the first paragraph under Conservation Measures:

"The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake."

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....*go to* E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested[2].....*"may affect"*

On Page 5

The following replaces footnote #3:

"[3]If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at http://myfwc.com/gophertortoise ."

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at jodie_smithem@fws.gov, or by calling (904)731-3134.

Sincerely,

Dawn Jennings
Acting Field Supervisor

cc:
Panama City Ecological Services Field Office, Panama City, FL
South Florida Ecological Services Field Office, Vero Beach, FL

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

January 25, 2010

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642
Service Consultation Code: 41420-2009-I-0467
41910-2010-I-0045
Subject: North and South Florida Ecological Services Field Offices Programmatic Concurrence for Use of Original Eastern Indigo Snake Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects

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located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

cc: electronic only
FWC, Tallahassee, Florida (Dr. Elsa Haubold)
Service, Jacksonville, Florida (Jay Herrington)
Service, Vero Beach, Florida (Sandra Sneckenberger)

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise *(Gopherus polyphemus),* the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumi*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

Conservation Measures

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. If the use of this key results in a Corps' determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary[1]. This key is subject to revisitation as the Corps and Service deem necessary.

A. Project is not located in open water or salt marsh.....*go to* B

   Project is located solely in open water or salt marsh.....*"no effect"*

B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction.....*go to* C

   Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested[2] .....*"may affect"*

C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities .....*go to* D

   There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities .....*"NLAA"*

D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....*go to* E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested[2]..... *"may affect"*

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow[3]. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... *"NLAA"*

Permit will not be conditioned as outlined above and consultation with the Service is requested[2] ..... *"may affect"*

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[1]With an outcome of "no effect" or "NLAA" as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

[2]Consultation may be concluded informally or formally depending on project impacts.

[3] If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission's revised April 2009 Gopher Tortoise Permitting Guidelines located at **http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise**. A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE
U.S. Fish and Wildlife Service

March 23, 2021

The eastern indigo snake protection/education plan (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida and Georgia for use by applicants and their construction personnel. At least **30 days prior** to any clearing/land alteration activities, the applicant shall notify the appropriate USFWS Field Office via e-mail that the Plan will be implemented as described below (North Florida Field Office: jaxregs@fws.gov; South Florida Field Office: verobeach@fws.gov; Panama City Field Office: panamacity@fws.gov; Georgia Field Office: gaesassistance@fws.gov). As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the attached poster and brochure), no further written confirmation or approval from the USFWS is needed and the applicant may move forward with the project.

If the applicant decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or approval from the USFWS that the plan is adequate must be obtained. At least 30 days prior to any clearing/land alteration activities, the applicant shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

The Plan materials should consist of: 1) a combination of posters and pamphlets (see **Poster Information** section below); and 2) verbal educational instructions to construction personnel by supervisory or management personnel before any clearing/land alteration activities are initiated (see **Pre-Construction Activities** and **During Construction Activities** sections below).

POSTER INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (a final poster for Plan compliance, to be printed on 11 x 17in or larger paper and laminated, is attached):

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat.

These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

SIMILAR SNAKES: The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.

LIFE HISTORY: The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida and Georgia. Although they have a preference for uplands, they also utilize some wetlands and agricultural areas and often move seasonally between upland and lowland habitats, particularly in the northern portions of its range (North Florida and Georgia). Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Reliance on xeric sandhill habitats throughout the northern portion of the range in northern Florida and Georgia is due to the dependence on gopher tortoise burrows for shelter during winter. Breeding occurs during October through February. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTION UNDER FEDERAL AND STATE LAW: The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. Taking of eastern indigo snakes is prohibited by the Endangered Species Act without a permit is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of $25,000 for civil violations and up to $50,000 and/or imprisonment for criminal offenses, if convicted.

Only individuals currently authorized through an issued Incidental Take Statement in association with a USFWS Biological Opinion, or by a Section 10(a)(1)(A) permit issued by the USFWS, to handle an eastern indigo snake are allowed to do so.

IF YOU SEE A <u>LIVE</u> EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and allow the live eastern indigo snake sufficient time to move away from the site without interference;
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes. Â
- Immediately notify supervisor or the applicants designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

IF YOU SEE A DEAD EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and immediately notify supervisor or the applicants designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

Telephone numbers of USFWS Florida Field Offices to be contacted if a live or dead eastern indigo snake is encountered:

North Florida Field Office: (904) 731-3336
Panama City Field Office: (850) 769-0552
South Florida Field Office: (772) 562-3909
Georgia Field Office: (706) 613-9493

PRE-CONSTRUCTION ACTIVITIES

1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.

2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5 x 11in paper and then properly folded, is attached). Â Photos of eastern indigo snakes may be accessed on USFWS and/or FWC or GADNR websites.

3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

DURING CONSTRUCTION ACTIVITIES

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).

2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.

3. Periodically during construction activities, the applicants designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

POST CONSTRUCTION ACTIVITIES

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion. The report can be sent electronically to the appropriate USFWS e-mail address listed on page one of this Plan.

Appendix C

THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, U. S. FISH AND WILDLIFE SERVICE, JACKSONVILLE ECOLOGICAL SERVICES FIELD OFFICE AND STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE WOOD STORK IN CENTRAL AND NORTH PENINSULAR FLORIDA
September 2008

Purpose and Background

The purpose of this document is to provide a tool to improve the timing and consistency of review of Federal and State permit applications and Federal civil works projects, for potential effects of these projects on the endangered wood stork (*Mycteria americana*) within the Jacksonville Ecological Services Field Office (JAFL) geographic area of responsibility (GAR see below). The key is designed primarily for Corps Project Managers in the Regulatory and Planning Divisions and the Florida Department of Environmental Protection or its authorized designee, or Water Management Districts. The tool consists of the following dichotomous key and reference material. The key is intended to be used to evaluate permit applications and Corps' civil works projects for impacts potentially affecting wood storks or their wetland habitats. At certain steps in the key, the user is referred to graphics depicting known wood stork nesting colonies and their core foraging areas (CFA), footnotes, and other support documents. The graphics and supporting documents may be downloaded from the Corps' web page at http://www.saj.usace.army.mil/permit or at the JAFL web site at http://www.fws.gov/northflorida/WoodStorks. We intend to utilize the most recent information for both the graphics and supporting information; so should this information be updated, we will modify it accordingly. **Note: This information is provided as an aid to project review and analysis, and is not intended to substitute for a comprehensive biological assessment of potential project impacts. Such assessments are site-specific and usually generated by the project applicant or, in the case of civil works projects, by the Corps or project co-sponsor.**

Explanatory footnotes provided in the key must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effects determinations on wood storks within the JAFL GAR, and not for other listed species. Counties within the JAFL GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

The final effect determination will be based on project location and description, the potential effects to wood storks, and any measures (for example project components, special permit conditions) that avoid or minimize direct, indirect, and/or cumulative

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a "no effect" determination do not require additional consultation or coordination with the JAFL. Projects that key to "NLAA" also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For all "may affect" determinations, Corps Project Managers should request the JAFL to initiate formal consultation on the Wood stork.

Summary of General Wood Stork Nesting and Foraging Habitat Information

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful breeding sites are those that have limited human disturbance and low exposure to land based predators. Nesting sites protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Such habitat generally results from a combination of average or above-average rainfall during the summer rainy season, and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes that tends to maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging opportunities, a variety of wetland habitats exhibiting short and long hydroperiods should be present. In terms of wood stork foraging, the Service (1999) describes a short hydroperiod as one where a wetland fluctuates between wet and dry in 1 to 5-month cycles, and a long hydroperiod where the wet period is greater than five consecutive months. Wood storks during the wet season generally feed in the shallow water of short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (though usually retaining some surface water throughout the dry season).

Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm). Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydrologic

regimes ranging from dry to wet. The vegetative component provides nursery habitat for small fish, frogs, and other aquatic prey, and the shallow, open-water areas provide sites for concentration of the prey during daily or seasonal low water periods.

WOOD STORK KEY

Although designed primarily for use by Corps Project Managers in the Regulatory and Planning Divisions, and State Regulatory agencies or their designees, project permit applicants and co-sponsors of civil works projects may find this key and its supporting documents useful in identifying potential project impacts to wood storks, and planning how best to avoid, minimize, or compensate for any identified adverse effects.

A. Project within 2,500 feet of an active colony site[1]……*May affect*

Project more than 2,500 feet from a colony site……go to B

B. Project does not affect suitable foraging habitat[2] (SFH)…….*no effect*

Project impacts SFH[2]……go to C

C. Project impacts to SFH are less than or equal to 0.5 acre[3]…….....*NLAA*[4]

Project impacts to SFH are greater than or equal to 0.5 acre..……..go to D

D. Project impacts to SFH not within a Core Foraging Area[5] (see attached map) of a colony site, and no wood storks have been documented foraging on site…….....NLAA[4]

Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFA ……..….go to E

E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*[6] for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines……*NLAA*[4]

Project does not satisfy these elements.…….....……...*May affect*

[1] An active nesting site is defined as a site currently supporting breeding pairs of wood storks, or has supported breeding wood storks at least once during the preceding 10-year period.

[2] Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

[3] On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

[4] Upon Corps receipt of a general concurrence issued by the JAFL through the Programmatic Concurrence on this key, "NLAA" determinations for projects made pursuant to this key require no further consultation with the JAFL.

[5] The U.S. Fish and Wildlife Service (Service) has identified core foraging area (CFA) around all known wood stork nesting colonies that is important for reproductive success. In Central Florida, CFAs include suitable foraging habitat (SFH) within a 15-mile radius of the nest colony; CFAs in North Florida include SFH within a 13-mile radius of a colony. The referenced map provides locations of known colonies and their CFAs throughout Florida documented as active within the last 10 years. The Service believes loss of suitable foraging wetlands within these CFAs may reduce foraging opportunities for the wood stork.

[6]This draft document, *Wood Stork Foraging Habitat Assessment Procedure*, by Passarella and Associates, Incorporated, may serve as further guidance in ascertaining wetland foraging value to wood storks and compensating for impacts to wood stork foraging habitat.

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

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