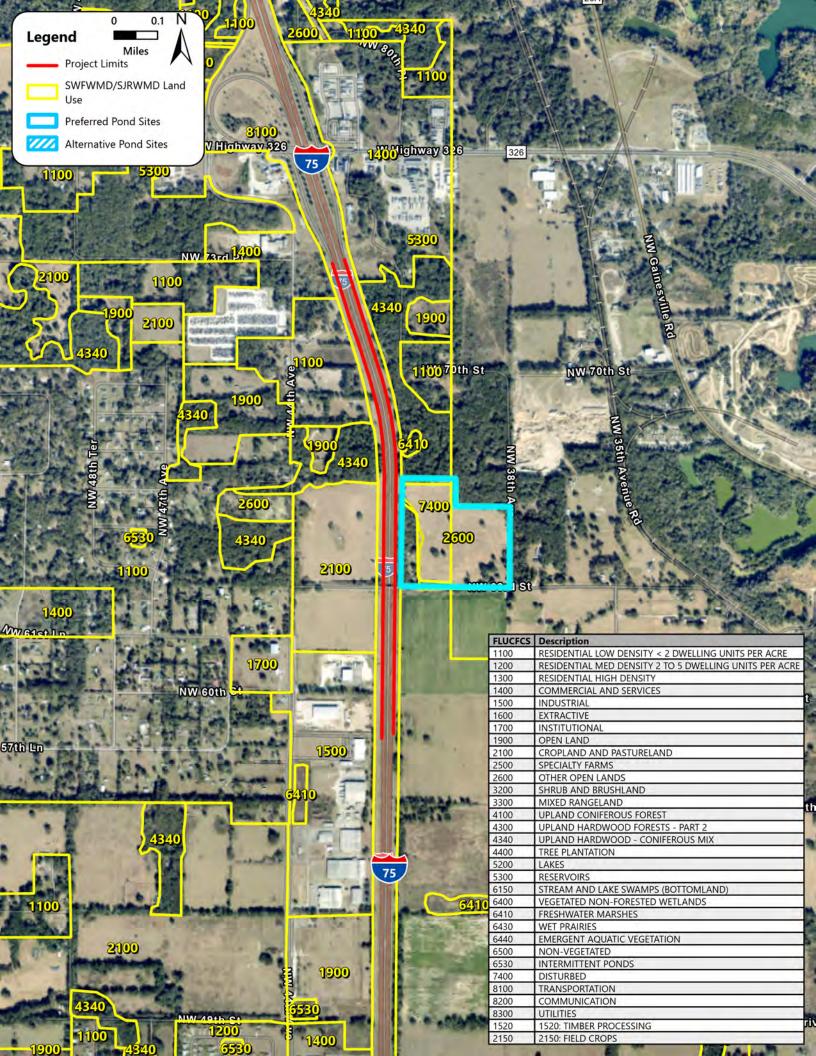
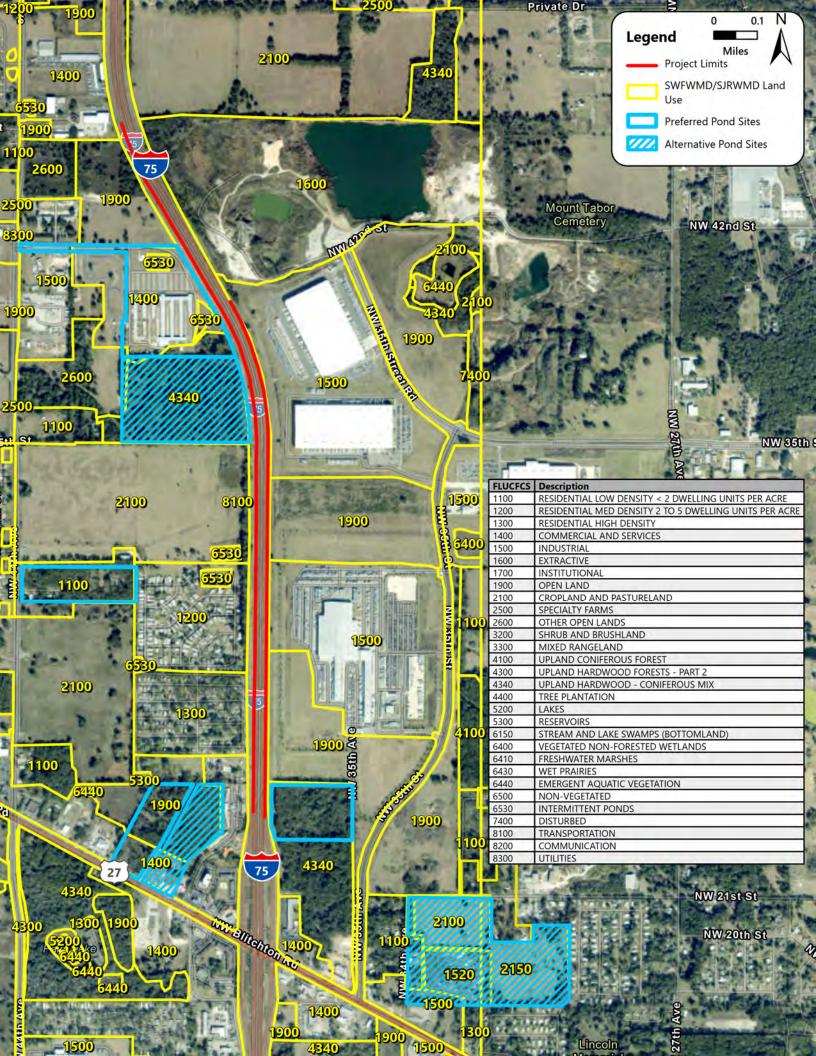
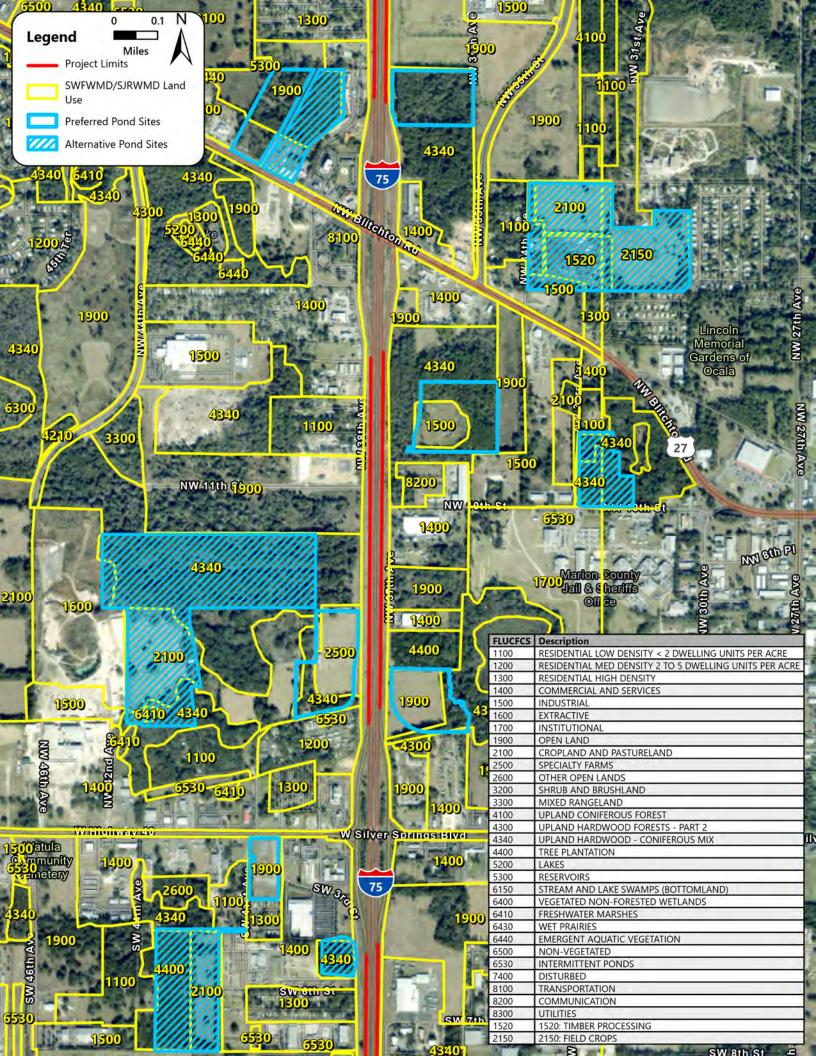
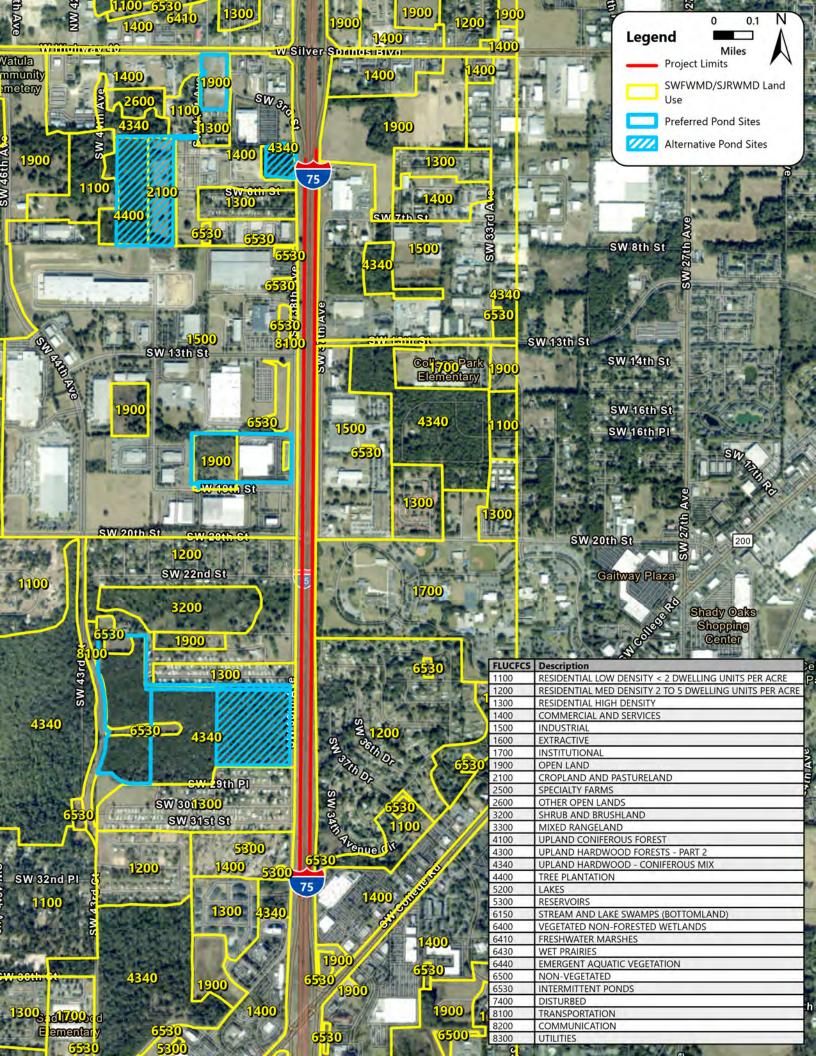


# **Appendix A - Land Cover Land Use Maps**



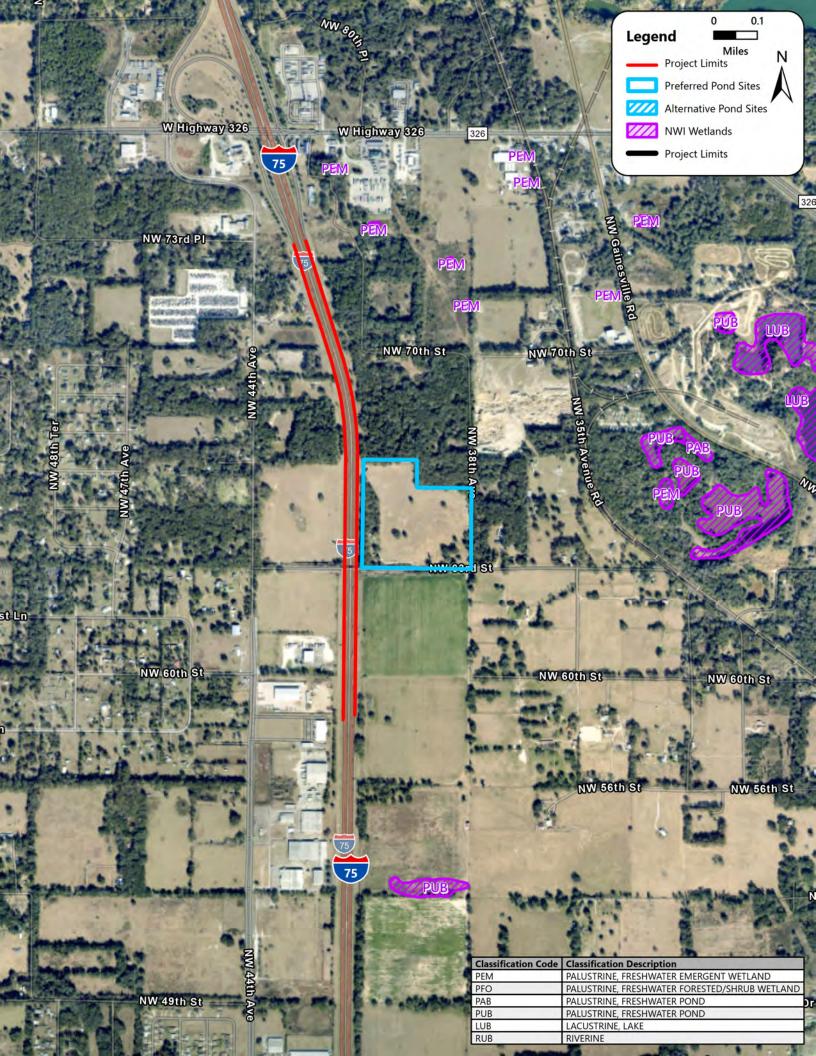


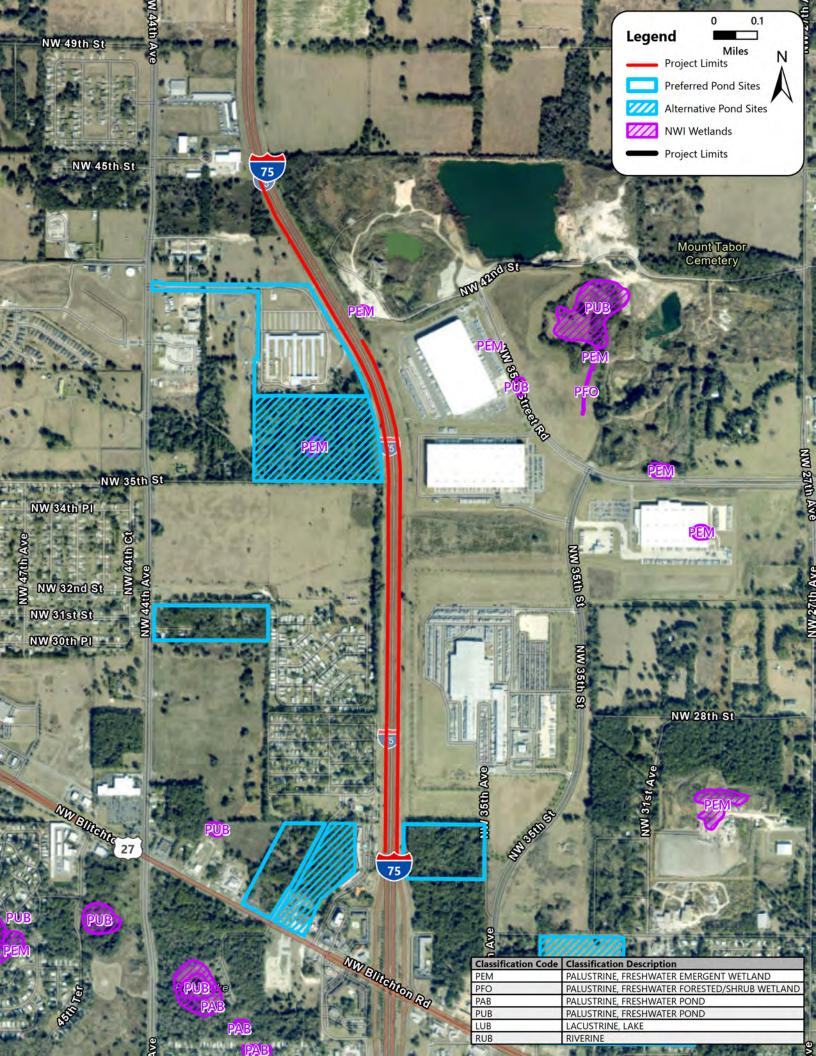


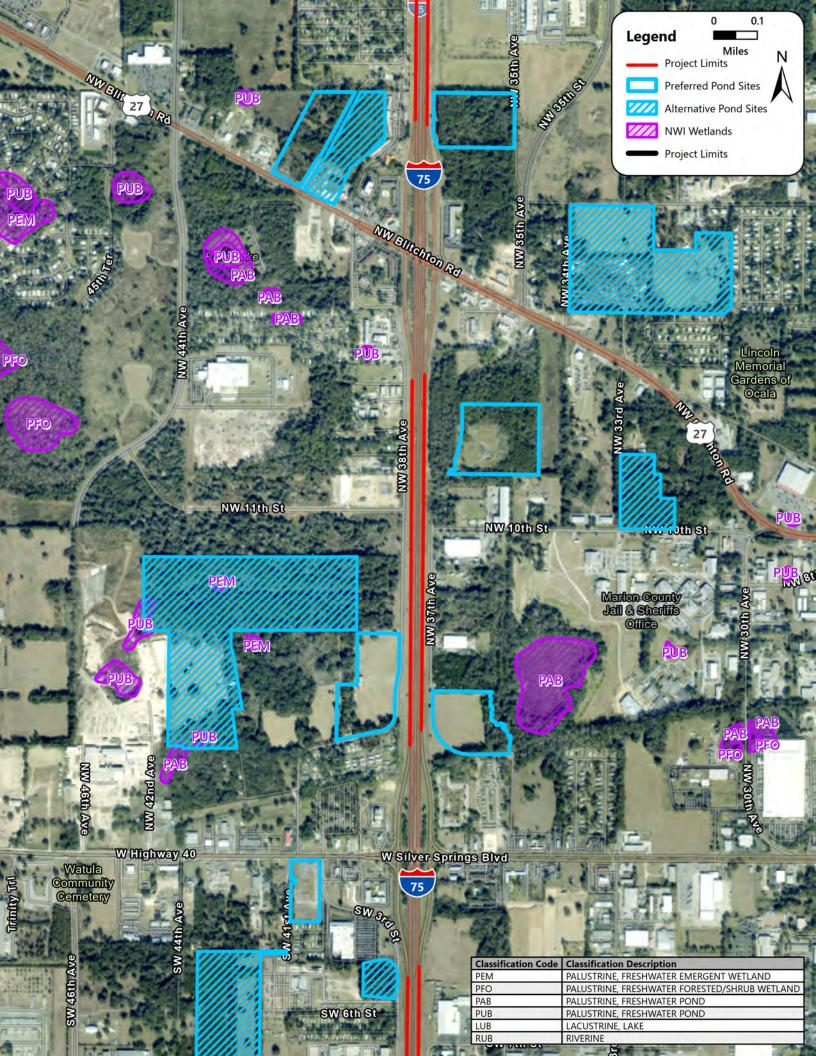


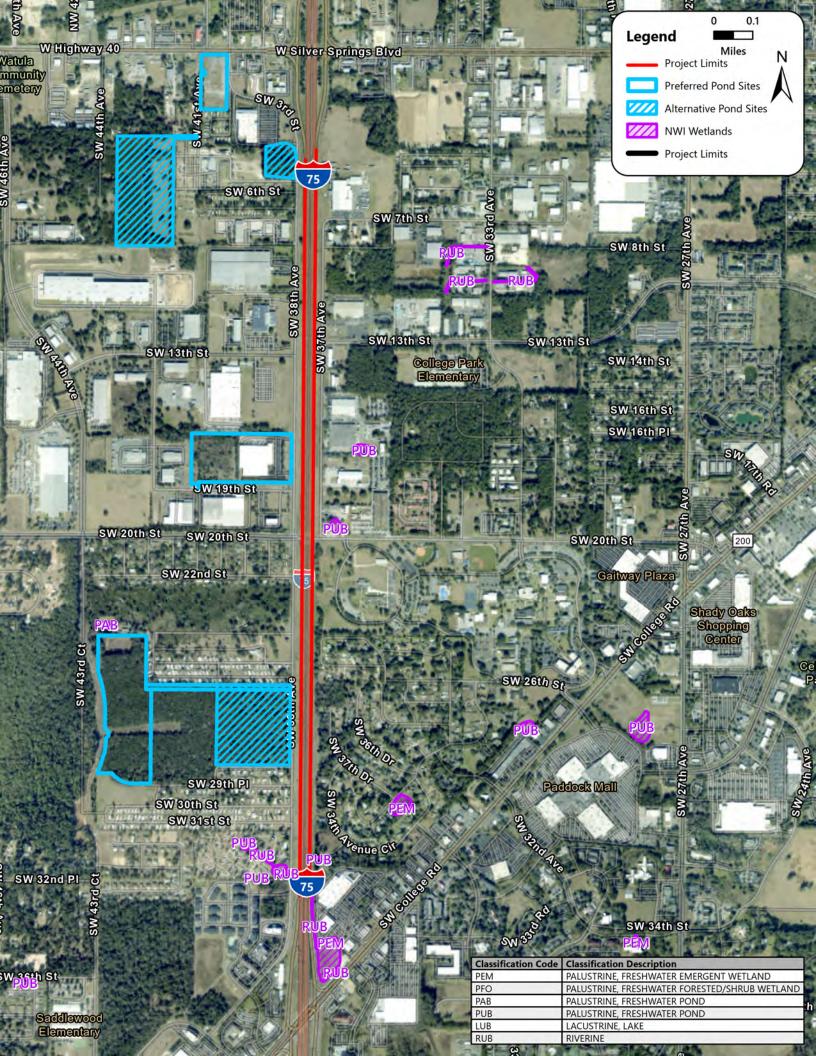


# Appendix B - National Wetlands Inventory Maps





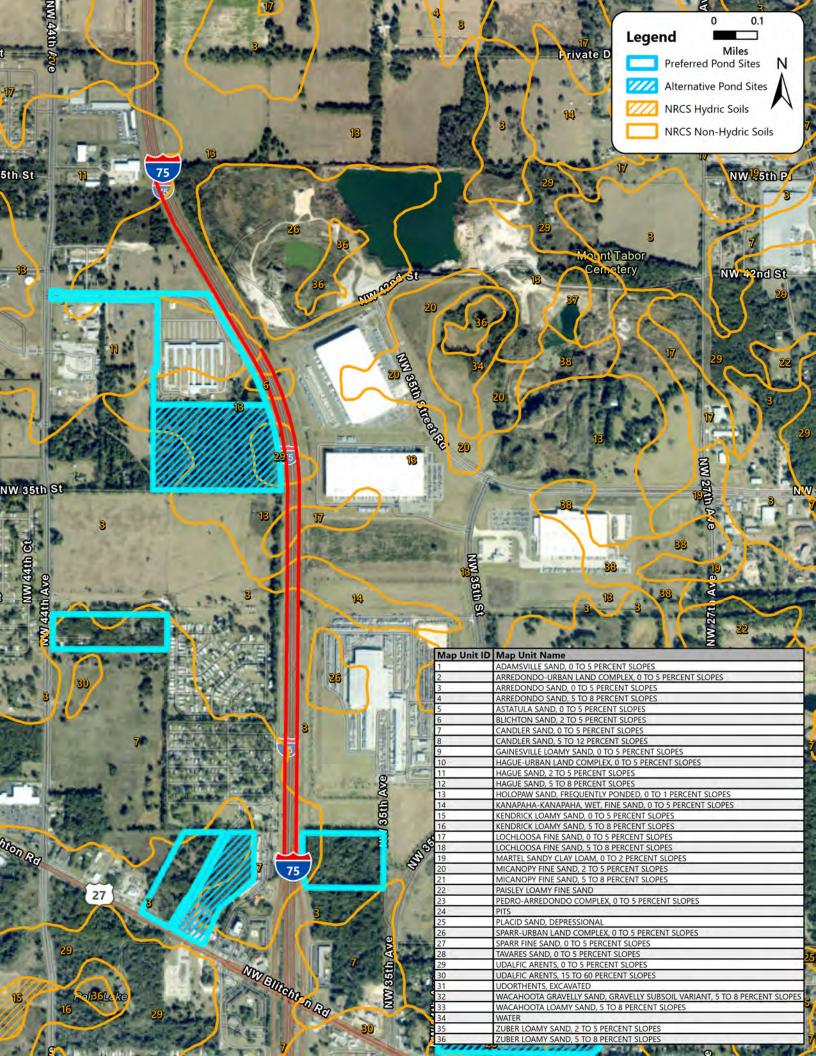




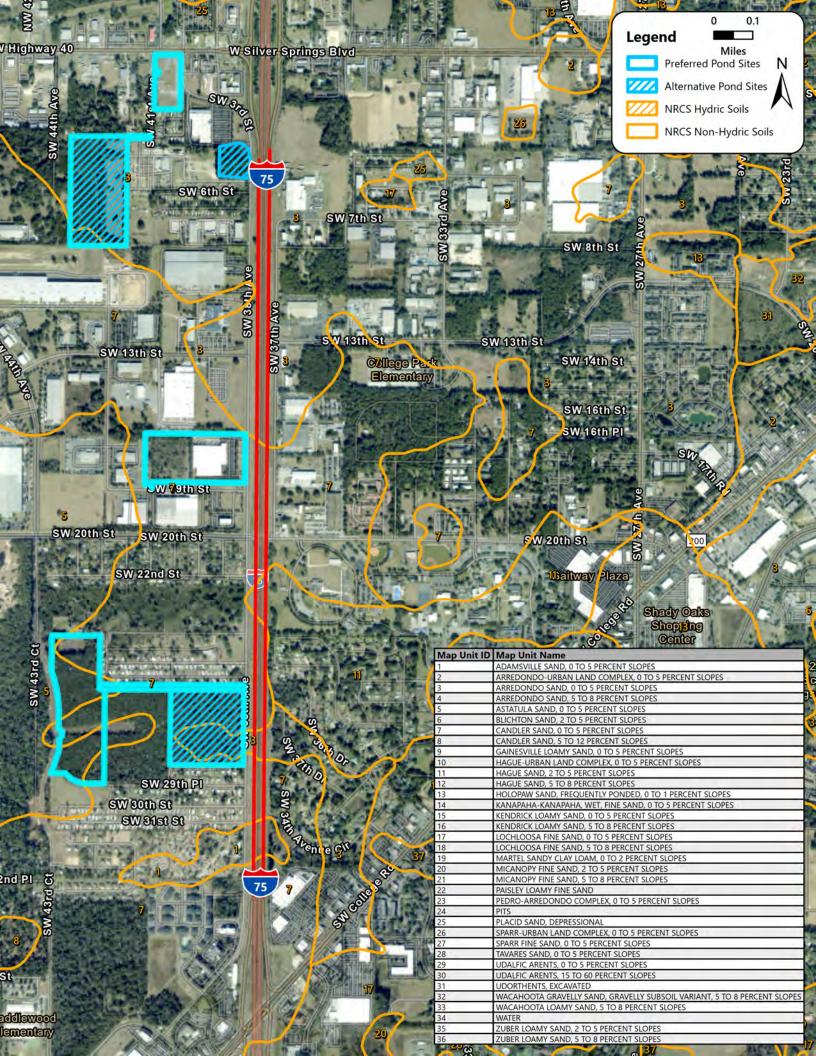


# **Appendix C - Soils Maps**

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	34	WATER	
	35	ZUBER LOAMY SAND, 2 TO 5 PERCENT SLOPES ZUBER LOAMY SAND, 5 TO 8 PERCENT SLOPES	









# Appendix D - Alternative Pond Sites Existing Conditions

• Alternative Pond Site B1-B & B2-A Combined (Preferred Pond site)

This approximately 29-acre alternative pond site was located east of SW 43rd Court and west of alternative pond site B1-D & B2-D Combined. The site occurred primarily within an area classified as FDOT Florida Land Use, Cover and Forms Classification System (FLUCFCS) 4340 Upland Hardwood – Coniferous Mix. The onsite soils were mapped as Astatula sand and Candler sand, both of which are highly suited for gopher tortoise burrows. A small area toward the northern site boundary contains mapped floodplains. There were no mapped hydric soils or mapped National Wetlands Inventory (NWI) wetlands onsite, although there was a small mapped NWI wetland on the adjacent northern parcel.

Based on observations made during the reconnaissance, most of the site consisted of dense oak canopy 30 to 50 feet in height. The site was bisected by a 500 feet long cleared swath approximately 700 feet from the southern border. There was a second cleared area at the northern extent of the site that contained a dry retention stormwater treatment pond. From the central cleared swath, ground elevations descend to the south and to the north. North of the clearing, multiple large unoccupied homeless encampments were observed. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed onsite included paper mulberry, diamond oak, cabbage palm, Carolina laurelcherry, beautyberry, grape vine, and greenbrier.

# Alternative Pond Site B1-D & B2-D Combined

This approximately 25-acre alternative pond site was located adjacent to the west side of I-75, north of SW 28<sup>th</sup> Place, and east of alternative pond site B1-B & B2-A Combined. The site occurred within an area classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The northern portion of the site contained soils mapped as Candler sand and most of the southern portion of the site contained soils mapped as Arredondo sand, both of which are highly suited for gopher tortoise burrows. There were no mapped floodplains, and no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, most of the site consisted of dense oak canopy 30 to 50 feet in height with ground elevation descending from north/northwest to east. There was an earthen spoil berm, running north to south approximately 300 feet from the eastern boundary, indicating past earthwork or site clearing. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Homeless camps were observed. Species observed onsite included paper mulberry, southern magnolia, diamond oak, cabbage palm, Carolina laurelcherry, American elm, beautyberry, grape vine, and greenbrier.

# • Alternative Pond Site B3-D (Preferred Pond site)

This approximately 21-acre alternative pond site was located west of I-75, adjacent to SW 38<sup>th</sup> Avenue, and north of SW 19<sup>th</sup> Street. The site lies within an area classified as FLUCFCS 1900 Open Land and FLUCFCS 1500 Industrial. The onsite soils are mapped as Candler sand, which is highly suited for gopher tortoise burrows. There are no mapped floodplains, and no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the open land area appears to have been cleared within the past five years but does contain some larger trees. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed on-site included persimmon, Carolina laurelcherry, diamond oak, saltbush, beggarticks, blackberry, grape, and green briar.

# • Alternative Pond Site B4-A

This approximately 26-acre alternative pond site was located south of SR 40, west of I-75, and west and southwest of alternative Pond Site B4-B1 & B4-B2, respectively. The site occurred within an bisected by two different FLUCFCS codes; FLUCFCS 4400 Tree Plantations, and FLUCFCS 2100 Cropland and Pastureland. Most of the site consisted of Arredondo sand with less than 10% consisting of Candler sand, both of which are highly suited for gopher tortoise burrows. A very small portion of the site along the southern boundary contained mapped floodplains. There were no mapped hydric soils and no mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the eastern half of the site was a mowed field bounded by oak trees and the western half of the property supported planted pines. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed included diamond oak, live oak, black cherry, and paper mulberry.

# • Alternative Pond Site B4-B1

This approximately 4-acre alternative pond site was located adjacent to SW 38<sup>th</sup> Avenue, west of I-75, north of SW 5<sup>th</sup> Lane, and occurred within an area classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The site consisted entirely of Arredondo sand, which is highly suited for gopher tortoise burrows. The site contained very little mapped floodplain at the northern boundary of the site. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site consisted of a dense oak tree canopy with small shrubs and overgrown understory. Species observed included diamond oak, live oak, Carolina laurelcherry, cabbage palm, grape vine, and greenbrier. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed.

# • Alternative Pond Site B4-B2 (Preferred Pond site)

This approximately 6-acre alternative pond site was adjacent to US 40, east of SW 41<sup>st</sup> Avenue, and occurred within an area classified as FLUCFCS 1900 Open Land. The site consisted entirely of Arredondo sand, which is highly suited for gopher tortoise burrows. The site contained very little mapped floodplain within the southern portion. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site was previously developed but the structure was razed and cleared and the property was actively maintained. The site remained partly paved and grassed. There was a sanitary pump station within a property line cut-out along the west site boundary. One abandoned gopher tortoise burrow was observed near a tree at a mid-point on the eastern property line. No jurisdictional wetlands or waters were observed.

# • Alternative Pond Site B5-A & B6-A & B7-B Combined

This approximately 80-acre alternative pond site was located west of I-75 and south of NW 11<sup>th</sup> Street. The site was northwest of alternative pond site B6-D. The site occurred within an area classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix, FLUCFCS 2100 Cropland and Pastureland, and FLUCFCS 6410 Freshwater Marsh. Approximately 50% of the on-site soils are mapped as Kanapaha-kanapaha, wet, find sand, with the remainder consisting of Arredondo sand, Sparr find sand, Zuber loamy sand and less than one percent of Udalfic Arents to the northwest. Arredondo sand and Sparr fine sand are highly suited for gopher tortoise burrows. Kanapaha-kanapaha, wet, find sand is less suited for gopher tortoise burrows, and although not rated as hydric, have a hydric soil component. Zuber loamy sand is unsuitable for gopher tortoise burrows, and although not rated as hydric, have a hydric soil component. Udalfic Arents have not been rated for gopher tortoise burrow suitability. The site contained areas of mapped floodplains. There were three small NWI mapped palustrine wetlands on site, and mapped NWI wetlands on the adjacent parcels to the south and west.

Based on observations made during the reconnaissance, the site consisted of dense oak canopy with some pine and a shrub understory, which in many places was dense and overgrown. Three homeless camps were observed on the site. The southwestern property area, including the open pasture was not accessible. Three small wetland depressions were observed and recorded onsite with red maple and buttonbush. One of the areas was larger, level, and poorly defined. The USDA *Soil Survey of Marion County Area, Florida* (March 1979) depicts numerous unique land features over the eastern property area, including wet spots, depression or sink, gravelly spot, and rock outcropping. It is likely that some of these features were not found within the limits of the survey, which was limited by dense undergrowth. Some of these unfound features may represent additional jurisdictional areas.

The site elevation descends to the south. No evidence of gopher tortoises or burrows was observed. Species observed included scattered live oaks with a dense diamond oak canopy, cabbage palm, grape vine, greenbrier.

### • Alternative Pond Site B5-D (Preferred Pond site)

This approximately 13-acre alternative pond site was located east of I-75 just north of the I-75/S.R. 40 Interchange. The site occurred primarily within an area classified as FLUCFCS1900 Open Land, with the eastern portion classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The northern portion of the site was mapped with Pedro-Arredondo complex which is unsuitable for gopher tortoise burrows. The southern portion of the site was mapped with Arredondo sand and Sparr fine sand, both of which are highly suited for gopher tortoise burrows. There are no mapped floodplains, and no mapped hydric soils or mapped NWI wetlands onsite, although there was a large mapped NWI wetland on the adjacent eastern parcel. This site was added as an alternative pond site after completion of the site reconnaissance and therefore was not visited.

### Alternative Pond Site B6-D (Preferred Pond site)

This approximately 17-acre alternative pond site was located west of I-75, along NW 38<sup>th</sup> Avenue just north of the I-75/S.R. 40 Interchange. The site was southeast of alternative pond site B5-A & B6-A & B7-B Combined. The site occurred primarily within an area classified as FLUCFCS 2500 Specialty Farms, with the southwestern portion classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The site was mapped with Arredondo sand and Pedro-Arredondo sand except for two small areas to the north with Kanapaha-Kanapaha wet fine sand. Arredondo sand is highly suited for gopher tortoise burrows. Kanapaha-kanapaha, wet, fine sand is less suited for gopher tortoise burrows, and although not rated as hydric, have a hydric soil component. Pedro-Arredondo complex is unsuitable for gopher tortoise burrows. The southern boundary of the site contained mapped floodplains. There were no mapped NWI wetlands onsite. The site was completely fenced with a locked gate and could not be accessed during the reconnaissance.

# • Alternative Pond Site B6-C

This approximately 11-acre alternative pond site was located east of I-75, alternative pond site B7-A, and NW 33rd Avenue, and south of US 27. The site occurred primarily within an area classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix and FLUCFCS 1100 Residential, Low Density. The on-site soils were primarily mapped as Arredondo sand with less than one percent mapped as Arredondo-urban land complex, both of which are highly suited for gopher tortoise burrows. There were no mapped floodplains and no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site consisted of a dense oak canopy on gently sloped ground. There was a lot of dead wood on the ground and debris piles. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed included live oak, diamond oak, Carolina laurelcherry, cabbage palm, grape vine, and greenbrier.

# • Alternative Pond Site B7-A (Preferred Pond site)

This approximately 19-acre alternative pond site was located along the east side of I-75 and 1,300 feet south of US 27. The site occurred within an area classified as FLUCFCS 1500 Industrial and FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The onsite soils were mapped as Udorthents, excavated and have not been rated for gopher tortoise burrows. A very small portion of the site along the southern boundary contained mapped floodplains. There were no mapped hydric soils and no mapped NWI wetlands onsite.

Based on observations made during reconnaissance, the site was an FDOT-owned equipment yard. There was an open clearing in the center of the site fringed by paper mulberry. The central portion of the site was a maintained storage yard with aggregate piles. Significant earth work was evident within the area occupied by the paper mulberry. Beyond the fringe, pines intermixed with southern cedars and formed a dense canopy 50 to 60 feet high. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Coyote scat and tracks were observed onsite. Species observed included paper mulberry, diamond oak, slash pine, and southern cedar.

## • Alternative Pond Site B8-A & B9-A Combined

This approximately 49-acre alternative pond site was located to the east of I-75, and north of US 27. The site occurred within an area classified as FLUCFCS 2100 Cropland and Pastureland, FLUCFCS 1500 Industrial, and FLUCFCS 1100 Residential, Low Density. The site contained Udalfic Arents, Arredondo sand, Pedro-Arredondo complex, Candler sand, and less than one percent of the site along the eastern boundary consisted of Kendrick loamy sand. Arredondo sand and Candler sand are highly suited for gopher tortoise burrows. Kendrick loamy sand is moderately suited for gopher tortoise burrows, and Pedro-Arredondo complex is unsuitable for gopher tortoise burrows. Udalfic Arents have not been rated for gopher tortoise burrow suitability. A small portion of the southwestern side of the site contained mapped floodplains. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, this was a multiple use site. The eastern half of the site was used to store RV campers. There were private residences along the southwestern portion of the site and a sawmill (Fuqua's Sawmill) with wood products storage between the campers and the residences. The northwestern portion of the site was an open pasture. The sawmill area contained mulch, timber trees, and related equipment. There were waste piles and stored dilapidated equipment. The eastern boundary and southwestern quadrant of the site were weedy and shrub covered. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed included live oak, diamond oak, and paper mulberry.

# • Alternative Pond Site B8-B (Preferred Pond site)

This approximately 15-acre alternative pond site was located along the east side of I-75 with NW 35th Avenue Road to the east. The site occurred within an area entirely classified as FLUCFCS 4340 Upland Hardwood – Coniferous Mix. The onsite soils were primarily mapped as Arredondo sand with most of the western portion of the site mapped as Candler sand, both of which are highly suited for gopher tortoise burrows. The northwest quadrant of the site was mapped as floodplains. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site consisted of dense canopy forest with a disturbed groundcover. Three gopher tortoise burrows were observed in a clearing at the north-central site area. There was dense leaf litter and a homeless camp to the north. No jurisdictional wetlands or waters were observed. Species observed included live oak, diamond oak, Carolina laurelcherry, camphor tree, grape vine, jasmine, and greenbrier.

# • Alternative Pond Site B8-C

This approximately 14-acre alternative pond site was located west of I-75, north of US 27, and was adjacent to alternative pond site B9-C. The site occurred within an area classified as FLUCFCS 1900 Open Land with FLUCFCS 1400 Commercial and Services along the highway frontage. The onsite soils were mapped as Arredondo sand and Candler sand, both of which are highly suited for gopher tortoise burrows. A small portion of the site was mapped as floodplains. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the northern two-thirds of the site consisted of dense canopy forest. There was a homeless camp in the center of the site. The southern site area was mapped as a floodplain with surface water flows or scour lines evident and other depressions which appeared to be a result of past excavation/earthmoving. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Canopy species included live oak, diamond oak, Carolina laurelcherry, and cabbage palm. The understory was relatively open.

# • Alternative Pond Site B9-C (Preferred Pond site)

This approximately 12-acre alternative pond site was located west of I-75 and north of US 27, and was adjacent to alternative pond site B8-C. The site occurred within an area classified as FLUCFCS 1900 Open Land and FLUCFCS 1400 Commercial and Services. The on-site soils were primarily mapped as Arredondo sand, with less than 10% mapped as Candler sand, both of which are highly suited for gopher tortoise burrows. A small portion of the site was mapped as floodplains. There were no mapped hydric soils or mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site consisted of dense forest with an area to the north of sparse open woods, weedy groundcover, and vines. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed included live oak, diamond oak, Carolina laurelcherry, and cabbage palm.

## • Alternative Pond Site B10-B (Preferred Pond site)

This approximately 13-acre alternative pond site was located to the west of I-75 adjacent to NW 44th Avenue and north of US 27. The site occurred within an area classified as FLUCFCS 1100 Residential, Low Density. The majority of the on-site soils were mapped as Candler sand, with a small portions along the northern boundary of the site mapped as Arredondo sand, both of which are highly suited for gopher tortoise burrows. There were no mapped floodplains, and no mapped hydric soils or mapped NWI wetlands onsite. This site was added as an alternative pond site after completion of the site reconnaissance and therefore was not visited.

# • Alternative Pond Site B11-B & B12-B Combined

This approximately 36-acre alternative pond site was located along the west side of I-75, north of NW 35th Street and east of NW 44th Avenue. The site abutted the southern boundary of alternative pond site B11-C & B12-C & B13-A Combined. The site occurred within an area entirely classified as FLUCFCS 4340 Upland Hardwood - Coniferous Mix. The onsite soils are primarily mapped as Hague sand, with the southeastern portion mapped as Sparr fine sand and the southwestern portion mapped as Arredondo sand. Hague sand was moderately suited for gopher tortoise burrows. Sparr fine sand and Arredondo sand were highly suited for gopher tortoise burrows. There were no mapped floodplains or hydric soils onsite. There was a small mapped NWI wetland near the center of the site identified as freshwater emergent wetland.

Based on observations made during the reconnaissance, the site consisted of dense tree canopy and understory. There were east-west cut lines, indicating a previous topographic survey. The site elevation descended to the north. No evidence of gopher tortoises or burrows was observed. A small non-jurisdictional low area was present near the center of the site with damp surface soils and small fallen trees. This area appeared to temporarily collect surface water flows. Species observed on site include diamond oak, live oak, Carolina laurelcherry, southern cedar, paper mulberry, basket grass, and grape vine.

Alternative Pond Site B11-C & B12-C & B13-A Combined (Preferred Pond site) This approximately 34-acre alternative pond site was located along the west side of I-75, north of NW 35th Street and east of NW 44th Avenue. The site abutted the northern boundary of alternative pond site B11-B & B12-B Combined. The site occurred within an area primarily classified as FLUCFCS 1400 Commercial and Services with small areas in the southeastern and northern portion of the site classified as FLUCFCS 6530 Intermittent Ponds. The onsite soils were primarily mapped as Gainesville loamy sand and Hague sand, with a small portion to the southeast mapped as Blichton sand. Hague sand was moderately suited for gopher tortoise burrows. Gainesville loamy sand was highly suited for gopher tortoise burrows. Blichton sand was unsuitable for gopher tortoise burrows and, although not rated as hydric, have a hydric soil component. There were no mapped floodplains, and mapped NWI wetlands onsite.

Based on observations made during the site reconnaissance, the site was a flea market with internal roads, parking, and maintained grounds. It was generally level and contained a dry retention stormwater treatment pond. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed.

# • Alternative Pond Site B14-A & B15-C Combined (Preferred Pond site)

This approximately 35-acre alternative pond site was located adjacent to northbound I-75 and north of NW 63rd Street. The site occurred within an area classified as FLUCFCS 7400 Disturbed and FLUCFS 2600 Other Open Lands. Most of the site contained soils mapped as Arredondo sand with the southwestern corner mapped as Sparr fine sand, and a very small portion of the site to the west mapped as Micanopy fine sand. Except for the area mapped as Micanopy fine sand, the soils are highly suited for gopher tortoise burrows. Micanopy fine sand is not suitable for gopher tortoise burrows, and although not rated as hydric, have a hydric soil component. There were mapped floodplains in the southeastern quadrant of the site. There were no mapped NWI wetlands onsite.

Based on observations made during the reconnaissance, the site was mostly an open pasture with a forested fringe. There was active grazing and a residence in the southwestern site corner. The site elevations generally descended to the north. No evidence of gopher tortoises or burrows was observed. No jurisdictional wetlands or waters were observed. Species observed included diamond oaks, live oaks, and scattered pines surrounding pasture.



# **Appendix E - FNAI Standard Data Report**



# Florida Natural Areas Inventory

**Biodiversity Matrix Query Results** 

**UNOFFICIAL REPORT** 

Created 12/15/2023

(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 9 Matrix Units: 29841, 29842, 29843, 30129, 30130, 30131, 30132, 30133, 30134

	Descriptions
	<b>DOCUMENTED</b> - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.
	<b>DOCUMENTED-HISTORIC</b> - 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.
Study Area too Large to Display Map.	LIKELY - The species or community is known to occur in this vicinity, and is considered likely within this Matrix Unit because:
	<ol> <li>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</li> </ol>
	2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.
	<b>POTENTIAL</b> - 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: 29841

0 Documented Elements Found

0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit ID: 29842

0 **Documented** Elements Found

#### 0 Documented-Historic Elements Found

#### 1 Likely Element Found

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Upland hardwood forest	G5	S3	Ν	Ν

#### Matrix Unit ID: 29843

0 **Documented** Elements Found

#### 0 Documented-Historic Elements Found

1	l ikely	Element Fo	und
т.	LINCI		unu

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Upland hardwood forest	G5	S3	Ν	Ν

#### Matrix Unit ID: 30129

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

0 Likely Elements Found

### Matrix Unit ID: 30130

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit ID: 30131

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

#### 1 Likely Element Found

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Upland hardwood forest	G5	S3	Ν	Ν

#### Matrix Unit ID: 30132

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

0 Likely Elements Found

### Matrix Unit ID: 30133

0 Documented Elements Found

0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit ID: 30134

0 **Documented** Elements Found

#### 0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit IDs: 29841, 29842, 29843, 30129, 30130, 30131, 30132, 30133, 30134

38 **Potential** Elements Common to Any of the 9 Matrix Units

of the strate of				
Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<u>Agrimonia incisa</u> incised groove-bur	G3	S2	Ν	Т
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	Ν	ST
<u>Aphelocoma coerulescens</u> Florida Scrub-Jay	G2?	S1S2	Т	FT
Aquatic cave	G3	S3	Ν	Ν
<i>Asplenium x curtissii</i> Curtiss' spleenwort	GNA	S1	Ν	Ν
<i>Asplenium x heteroresiliens</i> Morzenti's spleenwort	G2	S1	Ν	Ν
Asplenium x plenum ruffled spleenwort	G1Q	S1	Ν	Ν
<u>Athene cunicularia floridana</u> Florida Burrowing Owl	G4T3	S3	Ν	ST
<u>Calopogon multiflorus</u> many-flowered grass-pink	G2G3	S2S3	Ν	Т
<u>Centrosema arenicola</u> sand butterfly pea	G2Q	S2	Ν	E
<u>Dicerandra cornutissima</u> longspurred mint	G2	S2	E	E
<i>Digitaria floridana</i> Florida fingergrass	G1	S1	Ν	Ν

15/23, 10:35 AM	FNAI Biod	diversity Matrix			
<u>Drymarchon couperi</u> Eastern Indigo Snake		G3	S2?	Т	FT
<u>Eriogonum longifolium var. gnaphalifolium</u> scrub buckwheat		G4T3	S3	Т	E
<u>Forestiera godfreyi</u> Godfrey's swampprivet		G2	S2	N	E
<u>Gopherus polyphemus</u> Gopher Tortoise		G3	S3	С	ST
Heterodon simus Southern Hognose Snake		G2	S2S3	N	Ν
<i>ampropeltis extenuata</i> Short-tailed Snake		G3	S3	Ν	ST
<i>ithobates capito</i> Gopher Frog		G2G3	S3	Ν	Ν
<u>itsea aestivalis</u> oondspice		G3?	S2	Ν	E
<u>Matelea floridana</u> Florida spiny-pod		G2	S2	N	E
<u>Monotropsis reynoldsiae</u> bygmy pipes		G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel		G5T3?	S3?	Ν	Ν
<u>Myotis austroriparius</u> Southeastern Myotis		G4	S3	Ν	Ν
<u>Veofiber alleni</u> Round-tailed Muskrat		G2	S2	Ν	Ν
<i>lolina atopocarpa</i> Iorida beargrass		G3	S3	Ν	Т
<u>Notophthalmus perstriatus</u> Striped Newt		G2G3	S2	Ν	С
Peucaea aestivalis Bachman's Sparrow		G3	S3	Ν	Ν
Podomys floridanus Florida Mouse		G3	S3	Ν	Ν
Procambarus lucifugus .ight-fleeing Cave Crayfish		G1G2	S2	Ν	Ν
<u>Pteroglossaspis ecristata</u> giant orchid		G2G3	S2	Ν	т
- <u>Pycnanthemum floridanum</u> Florida mountain-mint		G3	S3	Ν	т
<u>Salix floridana</u> Florida willow		G2G3	S2S3	Ν	E
Sciurus niger niger Southeastern Fox Squirrel		G5T5	S3	Ν	Ν
Selonodon floridensis Florida Cebrionid Beetle		G2G4	S2S4	Ν	Ν
<u>Sideroxylon alachuense</u> silver buckthorn		G1	S1	Ν	E

12/15/23, 10:35 AM	FNAI Biodiversity Matrix				
<u>Spigelia loganioides</u> pinkroot	G2Q	S2	Ν	Е	
Terrestrial cave	G3	S2	Ν	Ν	

#### 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 <u>Standard Data Request</u> option for those needing certifiable data.



# Florida Natural Areas Inventory

**Biodiversity Matrix Query Results** 

**UNOFFICIAL REPORT** 

Created 12/15/2023

(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 5 Matrix Units: 29836 , 29838 , 29839 , 29844 , 30136

	Descriptions
	<b>DOCUMENTED</b> - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.
	<b>DOCUMENTED-HISTORIC</b> - 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.
Study Area too Large to Display Map.	LIKELY - The species or community is known to occur in this vicinity, and is considered likely within this Matrix Unit because:
	<ol> <li>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</li> </ol>
	2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.
	<b>POTENTIAL</b> - 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: 29836

0 Documented Elements Found

0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit ID: 29838

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

#### 1 Likely Element Found

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Upland hardwood forest	G5	S3	Ν	Ν

#### Matrix Unit ID: 29839

0 **Documented** Elements Found

#### 0 Documented-Historic Elements Found

0 Likely Elements Found

#### Matrix Unit ID: 29844

0 Documented Elements Found

#### 0 Documented-Historic Elements Found

#### 1 Likely Element Found

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Mesic flatwoods	G4	S4	Ν	Ν

#### Matrix Unit ID: 30136

0 **Documented** Elements Found

#### 1 Documented-Historic Element Found

Scientific and Common Names	Global	State	Federal	State
	Rank	Rank	Status	Listing
Geological feature	GNR	SNR	Ν	Ν

#### 2 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mesic flatwoods	G4	S4	Ν	Ν
Upland hardwood forest	G5	S3	Ν	Ν

#### Matrix Unit IDs: 29836, 29838, 29839, 29844, 30136

40 Potential Elements Common to Any of the 5 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing	
		~~~ ~~~ ~ ~ ~ ~ ~ ~ ~			

https://data.labins.org/mapping/FNAI\_BioMatrix/GridSearch.cfm?sel\_id=29836,29838,29839,29844,30136&extent=574129.0136,572863.6881,577347.7016,587347.7831

5/23, 11:28 AM	FNAI Biodiversity Matrix			
A <u>grimonia incisa</u> ncised groove-bur	G3	S2	Ν	Т
Antigone canadensis pratensis Iorida Sandhill Crane	G5T2	S2	Ν	ST
A <u>phelocoma coerulescens</u> Iorida Scrub-Jay	G2?	S1S2	т	FT
quatic cave	G3	S3	Ν	Ν
A <u>rnoglossum diversifolium</u> ariable-leaved Indian-plantain	G2	S2	Ν	Т
<i>splenium x curtissii</i> urtiss' spleenwort	GNA	S1	Ν	Ν
<i>splenium x heteroresiliens</i> Iorzenti's spleenwort	G2	S1	Ν	Ν
<i>splenium x plenum</i> uffled spleenwort	G1Q	S1	Ν	Ν
<u>thene cunicularia floridana</u> Iorida Burrowing Owl	G4T3	S3	Ν	ST
<u>Calopogon multiflorus</u> nany-flowered grass-pink	G2G3	S2S3	Ν	Т
Sentrosema arenicola and butterfly pea	G2Q	S2	Ν	Е
D <u>icerandra cornutissima</u> Digspurred mint	G2	S2	E	E
<i>Digitaria floridana</i> Iorida fingergrass	G1	S1	Ν	Ν
D <u>rymarchon couperi</u> Jastern Indigo Snake	G3	S2?	т	FT
o <u>ryobates borealis</u> ed-cockaded Woodpecker	G3	S2	E, PT	FE
i <u>riogonum longifolium var. gnaphalifolium</u> crub buckwheat	G4T3	S3	т	E
f <u>orestiera godfreyi</u> Godfrey's swampprivet	G2	S2	Ν	E
<u>Sopherus polyphemus</u> Sopher Tortoise	G3	S3	С	ST
<u>leterodon simus</u> Southern Hognose Snake	G2	S2S3	Ν	Ν
<i>ampropeltis extenuata</i> Short-tailed Snake	G3	S3	Ν	ST
<i>ithobates capito</i> Gopher Frog	G2G3	S3	Ν	Ν
itsea aestivalis ondspice	G3?	S2	Ν	E
<u>latelea floridana</u> lorida spiny-pod	G2	S2	Ν	E
<u>Ionotropsis reynoldsiae</u> ygmy pipes	G2	S2	Ν	E
<i>Justela frenata peninsulae</i> Iorida Long-tailed Weasel	G5T3?	S3?	N	N

12/15/23, 11:28 AM	FNAI Biodiversity Matrix			
<u>Myotis austroriparius</u> Southeastern Myotis	G4	<b>S</b> 3	Ν	Ν
<u>Nemastylis floridana</u> celestial lily	G2	S2	Ν	E
<u>Neofiber alleni</u> Round-tailed Muskrat	G2	S2	Ν	Ν
<u>Notophthalmus perstriatus</u> Striped Newt	G2G3	S2	Ν	С
<i>Peucaea aestivalis</i> Bachman's Sparrow	G3	S3	Ν	Ν
<u>Podomys floridanus</u> Florida Mouse	G3	S3	Ν	Ν
Procambarus lucifugus Light-fleeing Cave Crayfish	G1G2	S2	Ν	Ν
<u>Pteroglossaspis ecristata</u> giant orchid	G2G3	S2	Ν	Т
<u>Pycnanthemum floridanum</u> Florida mountain-mint	G3	S3	Ν	Т
<u>Salix floridana</u> Florida willow	G2G3	S2S3	Ν	E
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	Ν	Ν
Selonodon floridensis Florida Cebrionid Beetle	G2G4	S2S4	Ν	Ν
<u>Sideroxylon alachuense</u> silver buckthorn	G1	S1	Ν	E
<u>Spigelia loganioides</u> pinkroot	G2Q	S2	Ν	E
Terrestrial cave	G3	S2	Ν	Ν

#### 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 <u>Standard Data Request</u> option for those needing certifiable data.



# Appendix F - USFWS Official Species List (IPaC)

# **IPaC** Information for Planning and Consultation U.S. Fish & Wildlife Service

# IPaC resource list

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

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

# <image>

12/18/23, 12:29 PM

IPaC: Explore Location resources

# Local office

Florida Ecological Services Field Office

**\$** (772) 562-3909

(772) 562-4288

✓ <u>fw4flesregs@fws.gov</u>

1339 20th Street Vero Beach, FL 32960-3559

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

# Endangered species

# This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

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

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

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

# Birds

NAME	STATUS
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
Whooping Crane Grus americana No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/758</u>	<u>EXPN</u>
Reptiles NAME	STATUS
Eastern Indigo Snake Drymarchon couperi Wherever found No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/646</u>	Threatened
Insects	STATUS

# Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9743

# **Flowering Plants**

NAME

Lewton's Polygala Polygala lewtonii No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/6688</u>

# **Critical habitats**

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

There are no critical habitats at this location.

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

# Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

Endangered

STATUS

Additional information can be found using the following links:

- Eagle Management <u>https://www.fws.gov/program/eagle-management</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/documents/nationwide-standard-</u> <u>conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

# There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME			

BREEDING SEASON

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.

# 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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

# Probability of Presence (

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

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

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

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

# Breeding Season (=)

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

# Survey Effort (|)

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

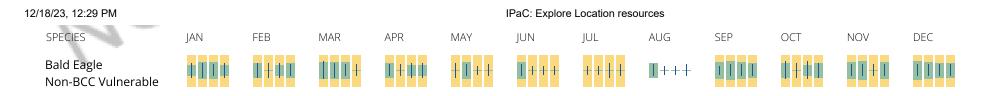
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

# No Data (–)

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

# Survey Timeframe

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



# 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 <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply). To see a list of all birds potentially present in your project area, please visit the <u>Rapid</u> <u>Avian Information Locator (RAIL) Tool</u>.

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

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator</u> (<u>RAIL</u>) Tool.

# What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the <u>Eagle Act</u> should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Eagle Management <u>https://www.fws.gov/program/eagle-management</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

The birds listed below are birds of particular concern either because they occur on the <u>USFWS Birds of Conservation</u> <u>Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

**BREEDING SEASON** 

American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9587</u>	Breeds Apr 1 to Aug 31
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
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
<b>Great Blue Heron</b> Ardea herodias occidentalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Jan 1 to Dec 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9679</u>	Breeds elsewhere
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

# Prairie Warbler Dendroica discolor

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

**Red-headed Woodpecker** Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

# Swallow-tailed Kite Elanoides forficatus

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

# 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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, 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.

Breeds May 10 to Sep 10

Breeds Mar 10 to Jun 30

- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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

# Breeding Season (=)

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

# Survey Effort ()

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

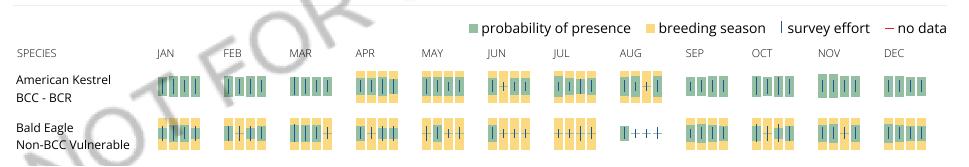
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

# No Data (–)

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

# **Survey Timeframe**

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



2/16/23, 12.29 FW						IFac. Explore	Location rest	Juices				
Chimney Swift BCC Rangewide (CON)	++++	++++	+ <mark>+⊥</mark> ⊥	111	1111	1+1+	111	11+1	111		∎+++	++++
Great Blue Heron BCC - BCR		1111	11+1	∎∔≢≢	1111	1111	111	1+1+	111		1111	1111
Lesser Yellowlegs BCC Rangewide (CON)		<b>I</b> ++I	<b>#</b> +++	┼┼∰┼	+∎++	++++	++++	+ • +	+		+	1111
Painted Bunting BCC - BCR	++++	++++	++++	++1+	++++	++-+	++++	+ + - +	++++	++++	++++	++++
Pectoral Sandpiper BCC Rangewide (CON)	++++	++++	++++	++++	++++	++++	++++	++++	+++	++++	++++	++++
Prairie Warbler BCC Rangewide (CON)	++∎	+∎++	+++∎		++++	++++	++++	++1+	+		1946	++++
Red-headed Woodpecker BCC Rangewide (CON)	1+11			1111	1111	<b>1</b> + <b>1</b> +	1+++	1++1	1111	m	ana	Шu
Swallow-tailed Kite BCC Rangewide (CON)	++++	++++	11+1	III	1111	1111	11]1	11++	++++	++++	++++	++++

# Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

<u>Nationwide Conservation Measures</u> describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. <u>Additional measures</u> or <u>permits</u> may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a

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### IPaC: Explore Location resources

BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator</u> (<u>RAIL</u>) <u>Tool</u>.

### 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 <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

# What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (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 <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

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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 <u>Northeast Ocean Data Portal</u>. 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 <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

# What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

# Proper Interpretation and Use of Your Migratory Bird Report

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



# Facilities

# National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> 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 <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

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

This location did not intersect any wetlands mapped by NWI.

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

### Data limitations

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

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

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

### Data exclusions

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

### **Data precautions**

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

# **IPaC** Information for Planning and Consultation U.S. Fish & Wildlife Service

# IPaC resource list

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

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



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IPaC: Explore Location resources

# Local office

Florida Ecological Services Field Office

**\$** (772) 562-3909

(772) 562-4288

✓ <u>fw4flesregs@fws.gov</u>

1339 20th Street Vero Beach, FL 32960-3559

# Endangered species

# This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

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

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

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

# Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/10477</u>	Threatened
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN
Reptiles 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	STATUS

Candidate

STATUS

Endangered

# Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743

# **Flowering Plants**

NAME

Lewton's Polygala Polygala lewtonii No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/6688</u>

# **Critical habitats**

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

There are no critical habitats at this location.

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

# Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

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 <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/documents/nationwide-standard-</u> <u>conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

# There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME			

BREEDING SEASON

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.

# 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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

# Probability of Presence (

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

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

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

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

# Breeding Season (=)

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

# Survey Effort (|)

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

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

# No Data (–)

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

# Survey Timeframe

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

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SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable	<b>+</b> 11+	8148	111+	<b>11</b> + <b>0</b> 0	+1++	<u> </u> +++	++++	∎+++	111	<b>1</b> + <b>4</b> 1	11+1	1111

# 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 <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply). To see a list of all birds potentially present in your project area, please visit the <u>Rapid</u> <u>Avian Information Locator (RAIL) Tool</u>.

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

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator</u> (<u>RAIL</u>) Tool.

# What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the <u>Eagle Act</u> should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Eagle Management <u>https://www.fws.gov/program/eagle-management</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

The birds listed below are birds of particular concern either because they occur on the <u>USFWS Birds of Conservation</u> <u>Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

**BREEDING SEASON** 

American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9587</u>	Breeds Apr 1 to Aug 31
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
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Great Blue Heron Ardea herodias occidentalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Jan 1 to Dec 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9679</u>	Breeds elsewhere
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Breeds May 1 to Jul 31

Breeds May 10 to Sep 10

Breeds Mar 10 to Jun 30

# Prairie Warbler Dendroica discolor

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

**Red-headed Woodpecker** Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

# Swallow-tailed Kite Elanoides forficatus

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

# 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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

# Probability of Presence (

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

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

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

- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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

# Breeding Season (=)

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

# Survey Effort ()

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

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

# No Data (–)

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

# **Survey Timeframe**

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



2/15/23, 9.45 AM						IPac. Explore	Location reso	urces				
Chimney Swift BCC Rangewide (CON)	++++	++++	┼┼║┃	I I I I	1111	1+1+	111	11+1	111		++++	++++
Great Blue Heron BCC - BCR	1111	111	11+1	<b>1</b> +++		1111	1111	1+1+	111		1111	1111
Lesser Yellowlegs BCC Rangewide (CON)		<b>I</b> ++I	<b>#</b> +++	++#+	+∎++	++++	++++	+	+		+	1111
Painted Bunting BCC - BCR	++++	++++	++++	++1+	++++	++-+	+++++	+ + - +	++++	++++	++++	++++
Pectoral Sandpiper BCC Rangewide (CON)	++++	++++	++++	++++	++++	++++	++++	++++	+++	++++	++++	++++
Prairie Warbler BCC Rangewide (CON)	++∎∎	+ -+++	+++		++++	++++	+++++	++1+	+		1946	++++
Red-headed Woodpecker BCC Rangewide (CON)	1+11	[11]		1111	1111	<b>I</b> + <b>I</b> +	<b>1</b> + <b>0</b> +	1++1	1111	m	ana	ш
Swallow-tailed Kite BCC Rangewide (CON)	++++	++++	11 <b>1</b> + 1		1111	1111	11]1	11++	++++	++++	++++	++++

# Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

<u>Nationwide Conservation Measures</u> describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. <u>Additional measures</u> or <u>permits</u> may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a

12/15/23 9·45 AM

12/15/23, 9:45 AM

### IPaC: Explore Location resources

BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator</u> (<u>RAIL</u>) <u>Tool</u>.

## 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 <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

# What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (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 <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### 12/15/23, 9:45 AM

# 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 <u>Northeast Ocean Data Portal</u>. 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 <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

# What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

# Proper Interpretation and Use of Your Migratory Bird Report

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



# Facilities

# National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> 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 <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

<u>PEM1A</u>

FRESHWATER POND
<u>PUBH</u>
<u>PAB4F</u>
<u>PUB/AB4H</u>

A full description for each wetland code can be found at the National Wetlands Inventory website

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

### **Data limitations**

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

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

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

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or 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

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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.



# **Appendix G - Effect Determination Keys for Listed Species**

#### 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 <u>must be closely followed</u> 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 shorthydroperiod 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 <sup>1</sup> May affect
	Project more than 2,500 feet from a colony sitego to B
B.	Project does not affect suitable foraging habitat <sup>2</sup> (SFH)no effect
	Project impacts SFH <sup>2</sup>
C.	Project impacts to SFH are less than or equal to 0.5 acre <sup>3</sup> NLAA <sup>4</sup>
	Project impacts to SFH are greater than or equal to 0.5 acre
D.	Project impacts to SFH not within a Core Foraging Area <sup>5</sup> (see attached map) of a colony site, and no wood storks have been documented foraging on site
	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
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 <i>Wood Stork</i>

*Foraging Habitat Assessment Procedure*<sup>6</sup> 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<sup>4</sup>

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

<sup>1</sup> 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.

<sup>2</sup> 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*.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> 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.

<sup>6</sup>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.

#### Literature Cited

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## United States Department of the Interior

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



August 1, 2017

Donnie Kinard U.S. Army Corps of Engineers Post Office Box 4970 Jacksonville, Florida 32232-0019

Subject: Consultation Key for the Eastern Indigo Snake - Revised

Dear Mr. Kinard:

This letter revises and replaces the January 25, 2010, and August 13, 2013, letters to the U.S. Army Corps of Engineers (Corps) regarding the use of the eastern indigo snake programmatic effect determination key (Key) for projects occurring within the South Florida Ecological Service's Office (SFESO) jurisdiction. This revision supersedes all prior versions of the Key in the SFESO area. The purpose of this revision is to clarify portions of the previous keys based on questions we have been asked, specifically related to habitat and refugia used by eastern indigo snakes (*Drymarchon corais couperi*), in the southern portion of their range and within the jurisdiction of the SFESO. This Key is provided pursuant to the Service's authorities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*). This Key revision has been assigned Service Consultation Code: 41420-2009-I-0467-R001.

The purpose of this Key is to assist the Corps (or other Federal action agency) in making appropriate effects determinations for the eastern indigo snake under section 7 of the Act, and streamline informal consultation with the SFESO for the eastern indigo snake when the proposed action can be walked through the Key. The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

This Key uses project size and home ranges of eastern indigo snakes as the basis for making determinations of "may affect, but is not likely to adversely affect" (NLAA) and "may affect. and is likely to adversely affect" (may affect). Suitable habitat for the eastern indigo snake consists of a mosaic of habitats types, most of which occur throughout South Florida. Information on home ranges for individuals is not available in specific habitats in South Florida. Therefore, the SFESO uses the information from a 26-year study conducted by Layne and Steiner (1996) at Archbold Biological Station, Lake Placid, Florida, as the best available

information. Layne and Steiner (1996) determined the average home range size for a female eastern indigo snake was 46 acres and 184 acres for a male.

Projects that would remove/destroy less than 25 acres of eastern indigo snake habitat are expected to result in the loss of a portion of an eastern indigo snakes home range that would not impair the ability of the individual to feed, breed, and shelter. Therefore, the Service finds that take would not be reasonably certain to occur due to habitat loss. However, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take. Consequently, projects less than 25 acres that include the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and a commitment to excavate underground refugia as part of the proposed action would be expected to avoid take and thus, may affect, but are not likely to adversely affect the species.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

Projects that would remove 25 acres or more of eastern indigo snake habitat could remove more than half of a female eastern indigo snakes home range. This loss of habitat within a home range would be expected to significantly impair the ability of that individual to feed, breed, and shelter. Therefore, the Service finds take through habitat loss would be reasonably certain to occur and formal consultation is appropriate. Furthermore, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures* for the *Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take.

Eastern indigo snakes use a variety of habitat and are difficult to detect. Therefore, site specific information on the land use, observations of eastern indigo snakes within the vicinity, as well as other factors, as appropriate, will all be considered by the Service when making a final recommendation on the appropriate effects determination and whether it is appropriate to conclude consultation with the Corps (or other Federal action agency) formally or informally for projects that will impact 25 acres or more of habitat. Accordingly, when the use of the Key results in a determination of "may affect," the Corps (or other Federal action agency) is advised that consultation may be concluded informally or formally, depending on the project specific effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps (or other Federal action agency) desires to proceed with a consultation request prior to receiving

additional technical assistance from the Service, we recommend the agency documents the biological rationale for their determination and proceed with a request accordingly.

If the use of the Key results in a determination of "no effect," no further consultation is necessary with the SFESO. If the use of the Key results in a determination of "NLAA," the SFESO concurs with this determination based on the rationale provide above, and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake. For "no effect" or "NLAA" determinations, the Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach your no effect or NLAA determination in the project record and proceed with other species analysis as warranted.

#### Eastern Indigo Snake Programmatic Effect Determination Key Revised July 2017 South Florida Ecological Service Office

#### Scope of the Key

This Key should be used only in the review of permit applications for effects determinations for the eastern indigo snake (*Drymarchon corais couperi*) within the South Florida Ecological Service's Office (SFESO) area (Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, and St. Lucie Counties). There is no designated critical habitat for the eastern indigo snake.

This Key is subject to revision as the Corps (or other Federal action agency) and Service deem necessary and in particular whenever there is new information on eastern indigo snake biology and effects of proposed projects.

The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

#### Habitat

Habitat use varies seasonally between upland and wetland areas, especially in the more northern parts of the species' range. In southern parts of their range eastern indigo snakes are habitat generalists which use most available habitat types. Movements between habitat types in northern areas of their range may relate to the need for thermal refugia (protection from cold and/or heat).

In northern areas of their range eastern indigo snakes prefer an interspersion of tortoise-inhabited sandhills and wetlands (Landers and Speake 1980). In these northern regions eastern indigo

snakes most often use forested areas rich with gopher tortoise burrows, hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs as thermal refugia during cooler seasons (Lawler 1977; Moler 1985a; Layne and Steiner 1996). The eastern indigo snake in the northern region is typically classified as a longleaf pine savanna specialist because here, in the northern four-fifths of its range, the eastern indigo snake is typically only found in vicinity of xeric longleaf pine-turkey oak sandhills inhabited by the gopher tortoise (Means 2006).

In the milder climates of central and southern Florida, comprising the remaining one fifth of its range, thermal refugia such as those provided by gopher tortoise burrows may not be as critical to survival of indigo snakes. Consequently, eastern indigo snakes in these regions use a more diverse assemblage of habitats such as pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, and xeric sandhill communities; with highest population concentrations of eastern indigo snakes occurring in the sandhill and pineland regions of northern and central Florida (Service 1999). Eastern indigo snakes have also been found on agricultural lands with close proximity to wetlands (Zeigler 2006).

In south Florida, agricultural sites (e.g., sugar cane fields and citrus groves) are occupied by eastern indigo snakes. The use of sugarcane fields by eastern indigo snakes was first documented by Layne and Steiner in 1996. In these areas there is typically an abundance of wetland and upland ecotones (due to the presence of many ditches and canals), which support a diverse prey base for foraging. In fact, some speculate agricultural areas may actually have a higher density of eastern indigo snakes than natural communities due to the increased availability of prey. Gopher tortoise burrows are absent at these locations but there is an abundance of both natural and artificial refugia. Enge and Endries (2009) reporting on the status of the eastern indigo snake included sugarcane fields and citrus groves in a Global Information Systems (GIS)base map of potential eastern indigo snake habitat. Numerous sightings of eastern indigo snakes within sugarcane fields have been reported within south Florida (Florida Fish and Wildlife Conservation Commission Indigo Snake Database [Enge 2017]). A recent study associated with the Comprehensive Everglades Restoration Plan (CERP) (A-1 FEB Project formerly A-1 Reservoir; Service code: 41420-2006-F-0477) documented eastern indigo snakes within sugarcane fields. The snakes used artificial habitats such as piles of limerock, construction debris, and pump stations. Recent studies also associated with the CERP at the C-44 Project (Service code: 41420-2009-FA-0314), and C-43 Project (Service code: 41420-2007-F-0589) documented eastern indigo snakes within citrus groves. The snakes used artificial habitats such as boards, sheets of tin, construction debris, pipes, drain pipes in abandoned buildings and septic tanks.

In extreme south Florida (*i.e.*, the Everglades and Florida Keys), eastern indigo snakes also utilize tropical hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats. Though eastern indigo snakes have been found in all available habitats of south Florida it is thought they prefer hammocks and pine forests since most observations occur there and use of these areas is disproportionate compared to the relatively small total area of these habitats (Steiner *et al.* 1983).

Even though thermal stress may not be a limiting factor throughout the year in south Florida, eastern indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigo snakes 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 (Layne and Steiner 1996; Wilson and Porras 1983). 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.

#### **Minimization Measures**

The Service developed protection measures for the eastern indigo snake "Standard Protection Measures for the Eastern Indigo Snake" (Service 2013) located at: <u>https://www.fws.gov/verobeach/ReptilesPDFs/20130812\_EIS%20Standard%20Protection%20M</u> <u>easures\_final.pdf</u>. These protections measures (or the most updated version) are considered a minimization measure for projects proposed within eastern indigo snake habitat.

#### **Determinations**

If the use of this Key results in a determination of "**no effect**," no further consultation is necessary with the SFESO.

If the use of this Key results in a determination of "NLAA," the SFESO concurs with this determination and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake.

For no effect or NLAA determinations, the Corps (or other Federal action agency) should make a note in the project file indicating the pathway used to reach your no effect or NLAA determination.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the subsequent Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

If the use of this Key results in a determination of "**may affect**," <u>consultation may be concluded</u> <u>informally or formally</u> depending on project effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps desires to proceed with a consultation request prior to receiving additional technical assistance from the Service, we recommend the Corps document the biological rationale for their determination and proceed with a request accordingly.

Α.	Project is not located in open water or salt marshgo to B
	Project is located solely in open water or salt marshno effect
Β.	Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction
	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
C.	The project will impact less than 25 acres of eastern indigo snake habitat (e.g., sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes)
D.	The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other <u>underground refugia</u> where a snake could be <u>buried, trapped and/or injured</u> during project activities
E.	Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow <sup>1</sup> . If an eastern 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 eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.

End Key

<sup>&</sup>lt;sup>1</sup> If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a Florida Fish and Wildlife Conservation Commission 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.

<sup>&</sup>lt;sup>2</sup> Please note, if the proposed project will impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, NLAA is not the appropriate conclusion. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range

Working with the Fish and Wildlife Foundation of Florida, the Service has established a fund to support conservation and recovery for the eastern indigo snake. Any project that has the potential to affect the eastern indigo snake and/or its habitat is encouraged to make a voluntary contribution to this fund. If you would like additional information about how to make a contribution and how these monies are used to support eastern indigo snake recovery please contact Ashleigh Blackford, Connie Cassler, or José Rivera at 772-562-3559.

This revised Key is effective immediately upon receipt by the Corps. Should circumstances change or new information become available regarding the eastern indigo snake and/or implementation of the Key, the determinations herein may be reconsidered and this Key further revised or amended.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. If you have any questions or comments regarding this Key, please contact the SFESO at 772-562-3909.

Sincerely

Roxanna Hinzman Field Supervisor South Florida Ecological Services

Cc:

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# Appendix H – Protected Species and Outstanding Florida Springs Map

