# NATURAL RESOURCES EVALUATION REPORT

Florida Department of Transportation

District 1

DeSoto Bridge (Bridge #130053) Replacement Project Development and Environment Study

Limits of Project: from SR 64 (Manatee Avenue East) to Haben Boulevard

Manatee County, Florida

Financial Management Number: 442630-1-22-01

ETDM Number: 14510

Date: March 28, 2024

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

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# Executive Summary

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study for the DeSoto Bridge (Bridge #130053) Replacement from SR 64 (Manatee Avenue East) to Haben Boulevard in Manatee County, Florida.

The purpose of this project is to address the structural degradation and substandard design elements of the existing DeSoto Bridge located between SR 64 and Haben Boulevard within the Cities of Bradenton and Palmetto in Manatee County. Other goals of the project are to 1) maintain a critical link for regional travel and 2) accommodate multimodal activity within the area. The need for the project is based on the following criteria: bridge deficiencies, system linkage, and multimodal accommodation.

The DeSoto Bridge was originally constructed in 1957 and is one of four bridges in Manatee County (along with Anna Maria Bridge, Cortez Bridge, and Longboat Pass Bridge) that requires replacement. Each has surpassed its 50-year life expectancy and is experiencing similar advanced corrosion issues; therefore, rehabilitation is no longer feasible. To avoid having all four bridges become structurally deficient at the same time, which would create challenging mobility issues for the traveling public and an unacceptable schedule of work in the geographic area, the FDOT District One has staggered the replacement of the bridges through a controlled schedule across several years. The DeSoto Bridge has been recommended for replacement within 5 to 10 years as it is expected to be classified as structurally deficient by year 2027.

This Natural Resources Evaluation (NRE) has been prepared as part of this PD&E Study. The NRE evaluates the Preferred Alternative's involvement with wetlands, surface waters, protected species, and their habitats, in addition to Essential Fish Habitat (EFH).

The project study area was evaluated for Critical Habitat (CH) as defined by Congress 50 CFR Chapter IV, Subchapter A, Part 424. The project area falls within U.S. Fish and Wildlife Service (USFWS)-designated CH for the West Indian Manatee (*Trichechus manatus latirostris*). The proposed project will not result in the destruction or adverse modification of CH, and appropriate compensatory mitigation will be provided to offset impacts to wetlands and surface waters within the CH.

Based on literature and field reviews, fifty-six (56) species of protected plants and animals are known to occur in Manatee County. Twenty-five (25) of the species are federally listed as endangered or threatened. Thirty (30) species are state listed as endangered or threatened. One species is not listed as endangered or threatened but is still managed and protected, which includes the bald eagle (*Haliaeetus leucocephalus*). There is one species, the tricolored bat (*Perimyotis subflavus*), that is a proposed candidate for federal listing and has been known to occur in Manatee County. Additionally, multiple species of state protected bats are known to occur within the project study area.

Effect determinations were made for each wildlife and plant species after evaluating the habitat requirements for each species, the types of habitats present within the project study area, and habitats that would be impacted by the Preferred Alternative.

Effect determinations for federally listed wildlife species are presented in **Table ES.1** and federally listed plant species are presented in **Table ES.2**. Effect determinations for state listed wildlife species are presented in **Table ES.3** and state listed plant species are presented in **Table ES.4**.

**Table ES-1 Effect Determination for Federally Listed Wildlife Species**

| Scientific Name | Common Name | USFWS Designation | Effect Determination |
|---|---|---|---|
| **FISH** | | | |
| *Acipenser oxyrinchus desotoi* | Gulf sturgeon | T | MANLAA |
| *Pristis pectinata* | Smalltooth sawfish | E | MANLAA |
| **REPTILES** | | | |
| *Caretta caretta* | Loggerhead sea turtle | T | MANLAA |
| *Chelonia mydas* | Green sea turtle | T | MANLAA |
| *Crocodylus acutus* | American crocodile | T | MANLAA |
| *Dermochelys coriacea* | Leatherback sea turtle | E | MANLAA |
| *Drymarchon couperi* | Eastern indigo snake | T | MANLAA |
| *Eretmochelys imbricata* | Hawksbill sea turtle | E | MANLAA |
| *Lepidochelys kempii* | Kemp's Ridley sea turtle | E | MANLAA |
| **BIRDS** | | | |
| *Aphelocoma coerulescens* | Florida scrub-jay | T | No Effect |
| *Calidris canutus rufa* | Red knot | T | MANLAA |
| *Charadrius melodus* | Piping plover | T | MANLAA |
| *Laterallus jamaicensis ssp. jamaicensis* | Eastern black rail | T | MANLAA |
| *Mycteria americana* | Wood stork | T | MANLAA |
| *Picoides borealis* | Red-cockaded woodpecker | E | No Effect |
| *Caracara plancus audubonii* | Audubon's crested caracara | T | No Effect |
| **MAMMALS** | | | |
| *Eumops floridanus* | Florida bonneted bat | E | No Effect |
| *Perimyotis subflavus* | Tricolored bat | NL[1] | - |
| *Trichechus manatus latirostris* | West Indian manatee | T | MANLAA |

**Key:**
USFWS = U.S. Fish and Wildlife Service
T = Threatened
E = Endangered
MANLAA = May affect, not likely to adversely affect
[1] The tricolored bat is a candidate for listing under the jurisdiction of the USFWS.

**Table ES-2 Effect Determination for Federally Listed Plant Species**

| Scientific Name | Common Name | USFWS Designation | Effect Determination |
|---|---|---|---|
| **PLANTS** | | | |
| *Bonamia grandiflora* | Florida bonamia | T | No Effect |
| *Chionanthus pygmaeus* | Pygmy fringe tree | E | No Effect |
| *Chrysopsis floridana* | Florida goldenaster | E | No Effect |
| *Cladonia perforata* | Perforate reindeer lichen | E | No Effect |
| *Harrisia aboriginum* | Aboriginal prickly apple | E | MANLAA |
| *Nolina brittoniana* | Britton's beargrass | E | No Effect |
| *Schwalbea americana* | Chaffseed | E | No Effect |

**Key:**
USFWS = U.S. Fish and Wildlife Service
T = Threatened
E = Endangered
MANLAA = May affect, not likely to adversely affect

**Table ES-3 Effect Determination for State Listed Wildlife Species**

| Scientific Name | Common Name | FWC Designation | Effect Determination |
|---|---|---|---|
| **REPTILES** | | | |
| *Gopherus polyphemus* | Gopher tortoise | T | No Adverse Effect Anticipated |
| *Pituophis melanoleucus mugitus* | Florida pine snake | T | No Effect Anticipated |
| **BIRDS** | | | |
| *Antigone canadensis pratensis* | Florida sandhill crane | T | No Adverse Effect Anticipated |
| *Athene cunicularia floridana* | Florida burrowing owl | T | No Effect Anticipated |
| *Charadrius nivosus* | Snowy plover | T | No Effect Anticipated |
| *Egretta caerulea* | Little blue heron | T | No Adverse Effect Anticipated |
| *Egretta rufescens* | Reddish egret | T | No Adverse Effect Anticipated |
| *Egretta tricolor* | Tricolored heron | T | No Adverse Effect Anticipated |
| *Haematopus palliates* | American oystercatcher | T | No Adverse Effect Anticipated |
| *Platalea ajaja* | Roseate spoonbill | T | No Adverse Effect Anticipated |
| *Rynchops niger* | Black skimmer | T | No Adverse Effect Anticipated |

**Key:**
FWC = Florida Fish and Wildlife Conservation Commission
T = Threatened

**Table ES-4 Effect Determination for State Listed Plant Species**

| Scientific Name | Common Name | FDACS Designation | Effect Determination |
|---|---|---|---|
| **PLANTS** | | | |
| *Acrostichum aureum* | Golden leather fern | T | No Adverse Effect Anticipated |
| *Andropogon arctatus* | Pinewoods bluestem | T | No Effect Anticipated |
| *Calopogon multiflorus* | Many-flowered grass-pink | T | No Effect Anticipated |
| *Celtis iguanaea* | Iguana hackberry | E | No Effect Anticipated |
| *Ctenitis sloanei* | Florida tree fern | E | No Effect Anticipated |
| *Eragrostis pectinacean var. tracyi* | Sanibel lovegrass | E | No Adverse Effect Anticipated |
| *Glandularia tampensis* | Tampa vervain | E | No Effect Anticipated |
| *Lantana depressa var. sanibelensis* | Gulf Coast Florida lantana | E | No Effect Anticipated |
| *Lechea cernua* | Nodding pinweed | T | No Effect Anticipated |
| *Lechea divaricata* | Pine pinweed | E | No Effect Anticipated |
| *Lythrum flagellare* | Lowland loosestrife | E | No Effect Anticipated |
| *Matelea floridana* | Florida spiny-pod | E | No Effect Anticipated |
| *Pecluma ptilota var. bourgeauana* | Comb polypody | E | No Effect Anticipated |
| *Rhynchospora megaplumosa* | Large-plumed beaksedge | E | No Effect Anticipated |
| *Rudbeckia nitida* | St. John's black-eyed Susan | E | No Effect Anticipated |
| *Thelypteris serrata* | Toothed maiden fern | E | No Effect Anticipated |
| *Tillandsia flexuosa* | Banded wild-pine | T | No Adverse Effect Anticipated |
| *Triphora amazonica* | Broad-leaved nodding-caps | E | No Effect Anticipated |
| *Zephyranthes simpsonii* | Redmargin zephyrlily | T | No Effect Anticipated |

**Key:**
FDACS = Florida Department of Consumer Services
T = Threatened
E = Endangered

Four (4) wetland and surface water community types were identified within the project study area: reservoirs (FLUCFCS 5300/USFWS: PUBHx [Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated]), bays and estuaries (FLUCFCS: 5400/USFWS: E1UB2 [Estuarine, Subtidal, Unconsolidated Bottom, Sand]), mangrove swamps (FLUCFCS: 6120/USFWS: E2FO3N [Estuarine, Intertidal, Forested, Broad-Leaved Evergreen, Regularly Flooded]), and seagrass, sparse to medium (FLUCFCS: 9111/USFWS: E1AB3L [Estuarine, Intertidal, Aquatic Bed, Rooted Vascular, Subtidal]).

The total wetland impact is 0.31 acres of mangrove swamp for the Preferred Alternative, which equates to a total functional loss of 0.23 estuarine forested units. The total secondary wetland impact is 0.71 acres of mangrove swamps, resulting in a total functional loss of 0.04 estuarine forested units.

The total surface water impact is less than 0.10 acres, which equates to a total functional loss of less than 0.01 units of estuarine freshwater credits. Shade impacts are not considered since this area of surface waters consists of non-vegetated bottom. The functional loss for surface waters is considered de minimis and will not require mitigation. Functional loss for project impacts was calculated using the Uniform Mitigation Assessment Methodology (UMAM). A summary of impacts requiring mitigation is provided in **Table ES-5**.

**Table ES-5 Summary of Impacts Associated with the Preferred Alternative**

| FLUCFCS | USFWS Classification | Preferred Alternative | | | |
|---|---|---|---|---|---|
| | | Impact Type | Impact Acreage | UMAM Score | Functional Loss |
| **Wetlands** | | | | | |
| 6120 | E2FO3N | Fill | 0.31 | 0.73 | 0.23 |
| | | Secondary | 0.71 | 0.06 | 0.04 |
| | | **Total** | **1.02** | **-** | **0.27** |
| **Surface Waters** | | | | | |
| 5400 | E1UB2 | Fill | <0.10 | - | <0.01 |

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, Florida Statutes (FS), to satisfy all mitigation requirements of Part IV of Chapter 373, FS and 33 U.S. Code (USC) 1344. The use of a mitigation bank to offset adverse impacts resulting from a project is the preferred mitigation option. The project must fall within the service area of an approved mitigation bank. Currently, portions of the proposed project are located within the service area of three mitigation banks: Mangrove Point Mitigation Bank, Braden River Mitigation Bank, and Nature Coast Mitigation Bank. Mangrove Point Mitigation Bank is within the U.S. Army Corps of Engineers (USACE) and Southwest Florida Water Management District (SWFWMD) service area for the project study area and has federal and state estuarine credits available. Braden River Mitigation Bank and Nature Coast Mitigation Bank are within the SWFWMD basin and have state only credits available. Therefore, Mangrove Pointe Mitigation Bank is the most feasible option.

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act of 1996 (50 CFR Section 600.920), as amended through January 12, 2007 and as administered by the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS), federal agencies must consult with NMFS regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. As stated in the PD&E Manual, NMFS has designated FDOT to conduct EFH consultations in Florida pursuant to 50 CFR § 600.920(c) in a July 19, 2000, letter to Federal Highway Administration (FHWA) and FDOT.

EFH for several species is present within the Manatee River. Impacts to wetlands (FLUCFCS 6120) within EFH caused by the proposed project were assessed and determined to be **minimal** since the

use of best management practices, avoidance and minimization measures, and mitigation strategies will be taken to ensure no adverse effects occur.

# 1.0 Introduction

## 1.1 Project Description

This project involves the in-kind replacement alternatives of the Hernando DeSoto Bridge (DeSoto Bridge), which carries US 301/US 41/SR 55 across the Manatee River which is navigable waters between the Cities of Bradenton and Palmetto within Manatee County (**Figure 1-1**), a project length of approximately 1.30 miles. To bring the bridge up to current FDOT design standards, the inclusion of paved shoulders as well as bicycle and pedestrian facilities will be considered as part of the project.

As the Manatee River divides the western half of Manatee County, separating the Cities of Bradenton and Palmetto, the DeSoto Bridge is one of three north-south crossings of the river that connects the two communities. The current bridge structure is a mid-level fixed structure consisting of two 12-foot travel lanes in each direction (four lanes total) separated by concrete Jersey barriers in the middle. It is 62 feet wide, 2,225 feet long, and consists of 30 concrete approach spans and three steel main spans. No shoulders or bicycle/pedestrian facilities are present on the bridge.

The landside segments of the roadway include two 12-foot travel lanes in each direction separated by a raised concrete and/or grass median with intermittent left and right turn lanes. Short sidewalk segments exist on the far southern and northern ends of the landside portions of the project corridor. While no transit service operates north-south on the project corridor, Manatee County Area Transit (MCAT) Route 3-Manatee Avenue operates along SR 64, crossing the project corridor twice.

The DeSoto Bridge was originally constructed in 1957 and is one of four bridges in Manatee County (along with Anna Maria Bridge, Cortez Bridge, and Longboat Pass Bridge) that requires replacement. Each has surpassed its 50-year life expectancy and is experiencing similar advanced corrosion issues; therefore, rehabilitation is no longer feasible. To avoid having all four bridges become structurally deficient at the same time, which would create challenging mobility issues for the traveling public and an unacceptable schedule of work in the geographic area, the FDOT District One has staggered the replacement of the bridges through a controlled schedule across several years. The DeSoto Bridge has been recommended for replacement within 5 to 10 years as it is expected to be classified as structurally deficient by year 2027.

Existing right-of-way along the project corridor ranges from 65 feet to 160 feet, narrower at the northern bridge approach and wider at the intersections with SR 64 and Haben Boulevard. Less than one acre of additional right-of-way is needed to provide the proposed typical section with sidewalk and shared use path connectivity.

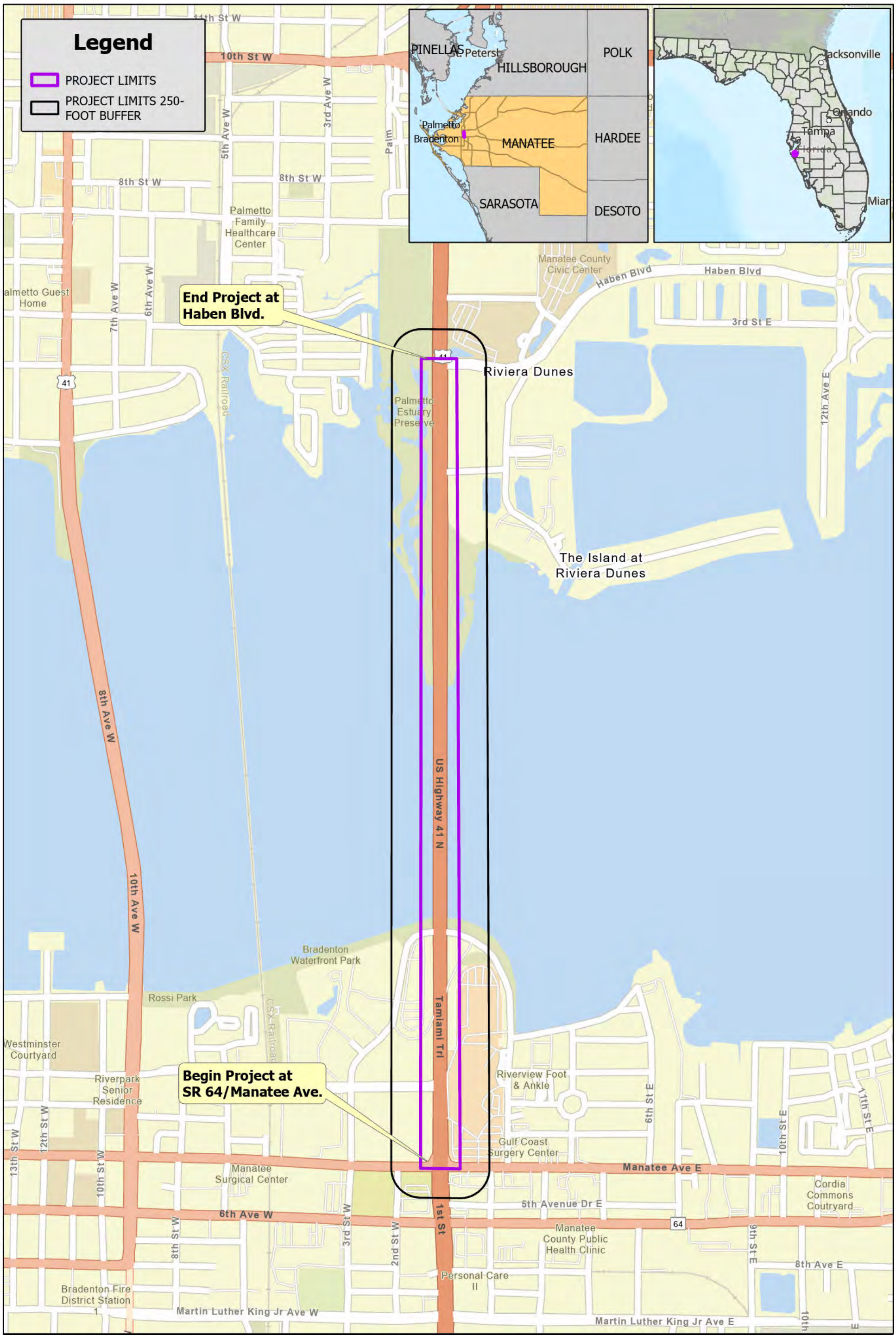



**Figure 1-1 Study Area Location**

FPID #: 442630
From Manatee Avenue East (SR 64) to Haben Blvd.
Manatee County, Florida

0 1,000 2,000 3,000 US Feet

Data Source: ESA, ESRI

NORTH

## 1.2 Purpose and Need

The purpose of this project is to address the structural degradation and substandard design elements of the existing DeSoto Bridge located between SR 64 and Haben Boulevard within the Cities of Bradenton and Palmetto in Manatee County. Other goals of the project are to 1) maintain a critical link for regional travel and 2) accommodate multimodal activity within the area. The primary need for the project is based on structural degradation and substandard design elements.

The need for the project is based on the following criteria:

### 1.2.1 Primary Need

#### *1.2.1.1 BRIDGE DEFICIENCIES: Address Continued Structural Degradation and Substandard Design Elements*

As noted within the FDOT District 1 2023 Summary Report regarding the condition of the DeSoto Bridge, the bridge has exceeded its design life of 50 years. The bridge superstructure is composed of 1950s pre-American Association of State Highway and Transportation Officials (AASHTO) standards post-tensioned (PT) concrete beams reinforced with steel PT bars. These beams have a long history of problems in Florida and are of concern due to their tendency to excessively deteriorate and the possibility of sudden failure. Although corrosion has not substantially affected the anchorage of the bridge beams to date, corrosion has been identified on the beam end anchorage zones. The substructure is also rapidly deteriorating; gunite repairs previously performed on the footers are now failing on 93% of the footers. In addition, as revealed through an assessment of the bridge conducted by FDOT District 1 in March 2019 (which included corrosion testing of the concrete bridge material and rate of future corrosion progression), DeSoto Bridge falls on the low end of the fair condition per National Bridge Inspection ratings (with poor, fair, and good serving as the ratings). The substructure elements that were tested exceed the threshold levels (two to three times) for chloride intrusion and for corrosion potential concentrations. There is evidence that the high chloride contamination levels in the existing concrete are causing recent concrete repairs to fail prematurely; the pier columns and footings have reached a point where repairing concrete materials is no longer an option to provide long-term corrosion control.

The existing DeSoto Bridge does not meet current Florida Department of Transportation (FDOT) design standards due to its lack of the required inside and outside shoulder widths and bicycle and pedestrian facilities. According to the 2024 FDOT Design Manual, the typical section for this type of bridge requires 12-foot lanes, 10-foot outside shoulders, and 6-foot inside shoulders. Sidewalks and/or bicycle facilities need to be considered to allow for the safe movement of pedestrians and bicyclists along the bridge. The lack of inside and outside shoulders on the bridge restricts the ability of drivers to avoid hazards or react to changing driving conditions within the directional travel lanes without causing crashes. In addition, the current bridge configuration constrains emergency and service vehicle access, particularly during periods of congestion.

The project is intended to address the bridge's systemic deterioration and design deficiencies.

## 1.2.2 Secondary Needs

### *1.2.2.1 SYSTEM LINKAGE: Maintain a Critical Link for Regional Travel*

The DeSoto Bridge is integral to facilitating the movement of regional commuter, visitor, and freight traffic as one of three crossings, US 41 Bus (Green Bridge), and the I-75 bridges over the Manatee River on Florida's west coast. According to United States Census Longitudinal Employer-Household Dynamics data, 10,633 jobs exist within 0.25 mile of the project corridor; 99.7% of these jobs are filled by individuals who commute from outside the area within a 0.25-mile radius. Over 30 percent of the workforce/regional traffic (Central Manatee Network Alternatives Analysis Origin-Destination Study Technical Memorandum) uses the DeSoto, Green, and I-75 Bridges to access the provided jobs. This percentage is anticipated to increase because Sarasota and Manatee Counties are expected to reach a regional population of over 1.1 million by 2050.

In addition, Transform 2045 (the Sarasota/Manatee Metropolitan Planning Organization's [MPO] Long Range Transportation Plan [LRTP], October 26, 2020), identifies the safe and convenient crossing of the Manatee River as a major transportation concern. The plan notes that improvements to all river crossings are critical in maintaining access between Tampa Bay and the surrounding region. LRTP as two of the primary surface transportation routes used to transport goods to and through the region, underscoring the importance of the DeSoto Bridge to the local and regional economies and associated transportation network.

Maintaining and enhancing this regional link allows commuters, visitors, and freight providers to access the area, jobs, services, tourist destinations, and distribution centers.

### *1.2.2.2 MODAL INTERRELATIONSHIPS: Accommodate Multimodal Activity*

Currently, no pedestrian or bicycle facilities are present on the DeSoto Bridge. The closest crossing of the Manatee River with bicycle and pedestrian accommodations is the Green Bridge (US 41 Business/8th Ave) located 0.5 mile to the west. In addition, no transit service operates north-south on the project corridor; only one Manatee County Area Transit bus route (Route 3-Manatee Avenue) operates along SR 64 (southern project limit).

The current population, projected population growth, the concentrated efforts by both cities to invest in and revitalize their respective older central cores (designating an Opportunity Zone in the City of Bradenton and a Community Redevelopment Area in the City of Palmetto), and the appeal of destinations within the area to tourists (i.e. Bradenton Area Convention Center and waterfront recreational features) have created latent demand for increased bicycle and pedestrian activity in the area. Additionally, the areas around the bridge approaches are home to a significant transit-dependent population. This group includes low-income individuals, those who are young or of driving age but unable to drive, and households without access to a vehicle. They are more likely to walk, bike, or use public transportation to reach essential services. Recognizing these factors highlights the urgent need to provide diverse transportation options. The inclusion of bicycle and pedestrian facilities in the design of the proposed replacement bridge is expected to improve multimodal connectivity and accessibility across the Manatee River, thereby supporting local transportation planning objectives.

## 1.3 Alternatives Analysis

The DeSoto Bridge is scheduled for an in-kind replacement in FY 2027 due to being considered structurally deficient. Two build alternatives were analyzed for the DeSoto Bridge (East and West Alternatives) and are described in more detail in the Preliminary Engineering Report. Based on engineering and environmental analysis, the East Alternative was determined to be the Preferred Alternative.

1) The Preferred Alternative would provide a new 4-lane bridge. The new bridge would have an alignment shifted to the east of the existing bridge.

The Preferred Alternative provides a new bridge over the Manatee River, the proposed construction includes the removal of the existing bridge and bringing the new bridge crossing up to current FDOT design standards.

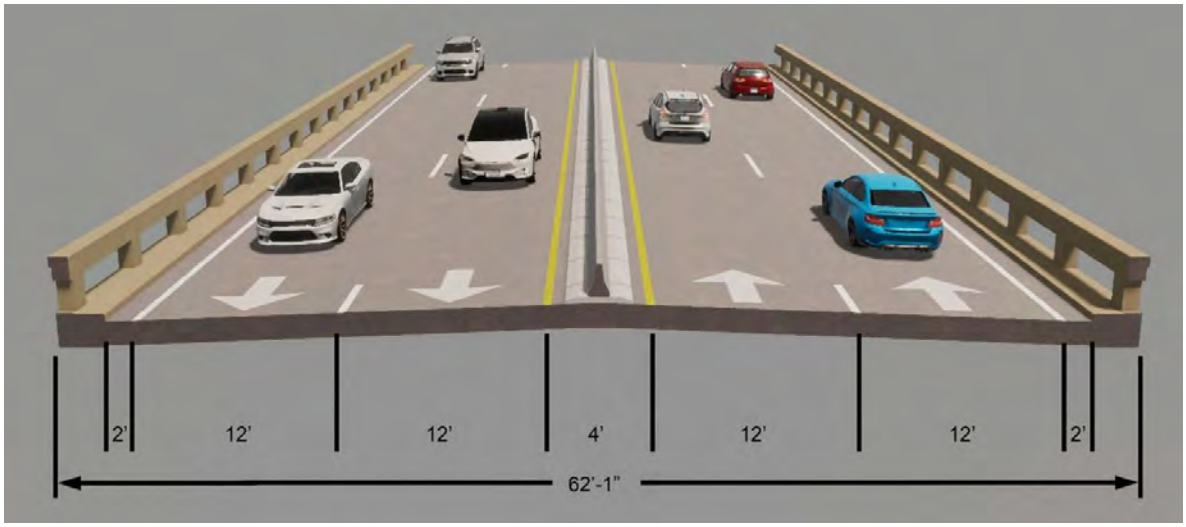
### 1.3.1 Typical Section

#### *1.3.1.1 Existing Conditions*

Within the project limits, US 41/US 301/SR 55 is classified as an Urban Principal Arterial and falls within the 2020 Urban Area Boundary for Manatee County, in the Cities of Bradenton and Palmetto. The context classification for US 41/US 301/SR 55 is C3C-Suburban Commercial. The current design and posted speeds for the project corridor are 50 miles per hour (mph).

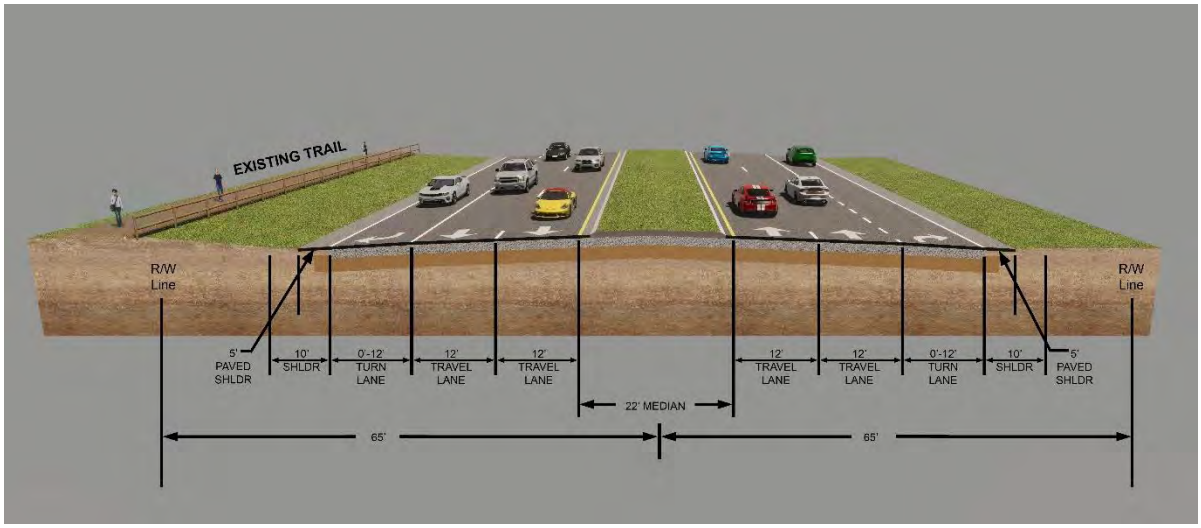
The existing bridge is a mid-level fixed structure that consists of two 12-foot travel lanes in each direction, totaling four lanes, separated by a four-foot median with a concrete barrier in the middle. Additionally, it has 2-foot outside shoulders and 3.5-foot raised traffic railing. The bridge measures 62 feet in width, 2,225 feet in length, comprises 30 concrete approach spans along with three steel main spans, as shown in **Figure 1-2**. Currently, no bicycle or pedestrian facilities are present on the bridge. Furthermore, the bridge has grades of ±3%, a vertical channel clearance of 40 feet above the mean water level and 75 feet of horizontal clearance.

**Figure 1-2 Typical Section – Existing Bridge**



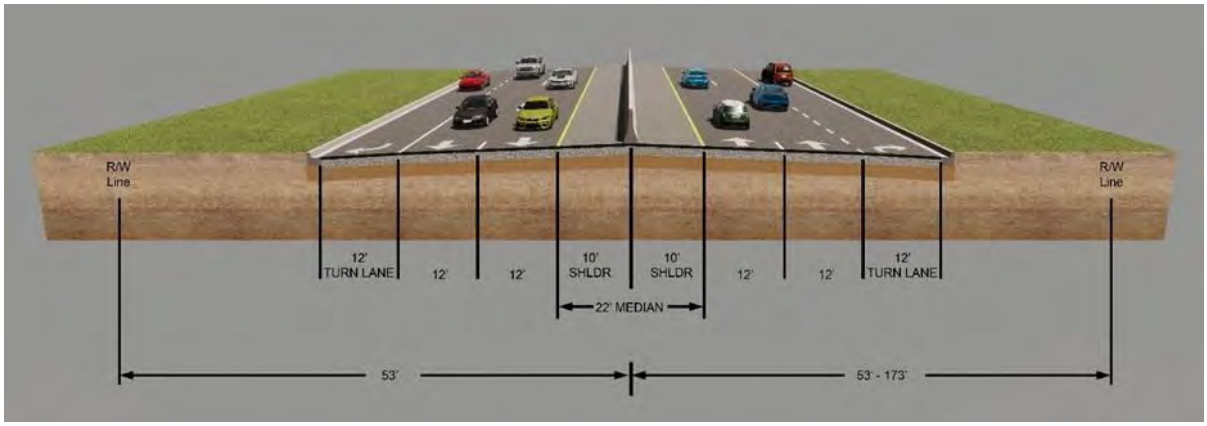

The northern landside segment rural roadway features include two-12-foot travel lanes in each direction, separated by a raised concrete median with 10-foot inside shoulders that transitions to a 22-foot median, and five-foot paved shoulders. There is a short segment of sidewalk near the 7-Eleven Convenience Store as shown in **Figure 1-3**. While no transit service operates north-south within the project limits, the Manatee County Area Transit (MCAT) Route 3-Manatee Avenue does operate along SR 64.

**Figure 1-3 Typical Section –Existing Roadway North**




The southern landside urban segment roadway features include two 12-foot travel lanes in each direction, separated by a raised concrete median with 10-foot inside shoulders, and right turn lanes and a short segment of sidewalk at the begin project as shown in **Figure 1-4**.

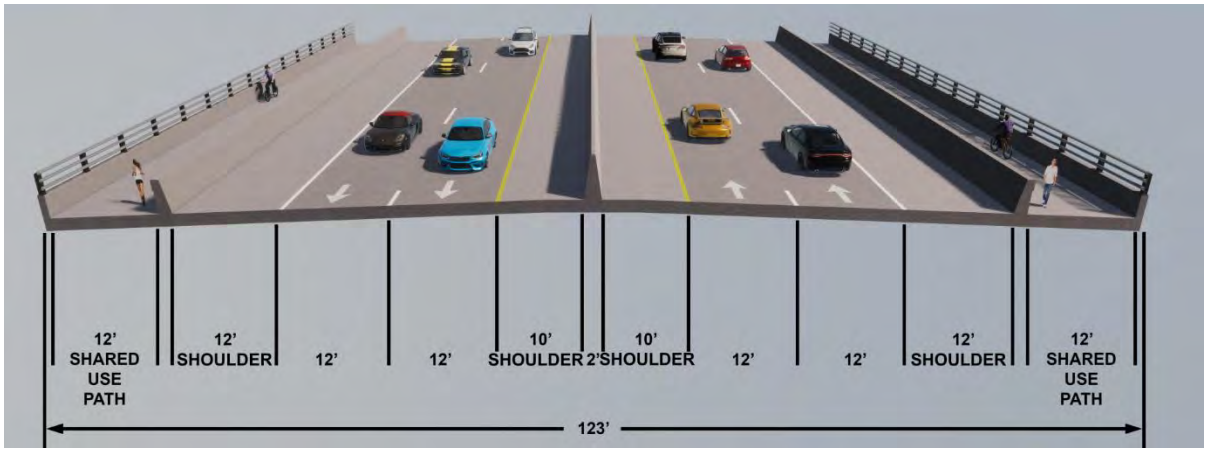
**Figure 1-4 Typical Section –Existing Roadway South**




### *1.3.1.2 Proposed Conditions*

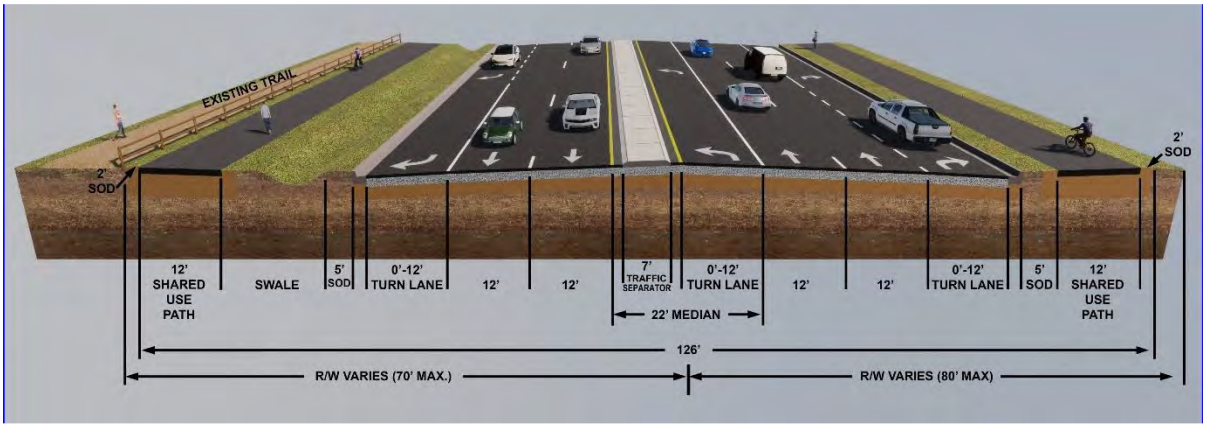
The typical section for the proposed bridge features 12-foot lanes, 12-foot outside shoulders, and 10-foot inside shoulders. A 12-foot shared use path is proposed on the northbound and southbound sides of the bridge, which allows for the safe movement of pedestrians and bicyclists along the bridge. The total width of the new bridge would be 123 feet, which nearly doubles the width of the existing bridge (**Figure 1-5**).

**Figure 1-5 Typical Section – Proposed Bridge**



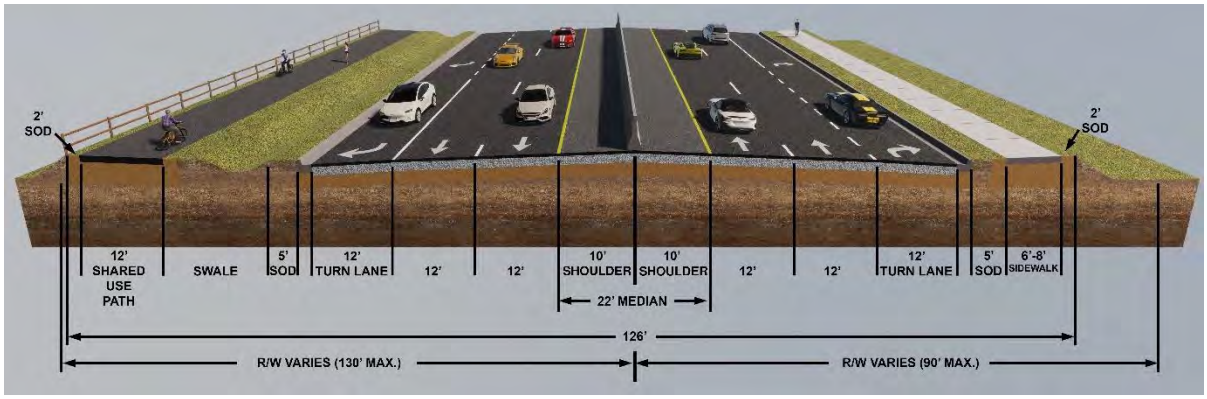

Modifications to US 41/US 301/SR 55, north of the bridge, include two, 12-foot wide lanes, with up to two turn lanes of varying widths up to 12-feet wide. The southbound lane has two turn lanes (right and left), while the northbound lane has one right turn lane option. There is a 5-foot sod shoulder on each side of the roadway, followed by a drainage swale on the southbound side. A 7-foot traffic separator will be in the center of the roadway, combined with the northbound left turn lane will give the roadway a 22-foot median. North of the bridge will feature a 12-foot shared use path on the northbound and southbound sides, for pedestrians and bicyclists. These paths will continue south and continue over the new DeSoto Bridge (**Figure 1-6**).

**Figure 1-6 Typical Section – Proposed Roadway North**




Modifications to US 41/US 301/SR 55, south of the bridge, include two, 12-foot wide throughway lanes, with one, 12-foot wide turn lane. There is a 5-foot sod shoulder on each side of the roadway, followed by a drainage swale on the southbound side. Two, 10-foot shoulders are proposed in the center of the roadway, for a 22-foot median. South of the bridge will feature one, 12-foot shared use path on the southbound side and one sidewalk up to 8 feet wide on the northbound side, for pedestrians and bicyclists (**Figure 1-7**).

**Figure 1-7 Typical Section – Proposed Roadway South**




The new facility will have a reduced posted speed, allowing for the use of a curb and gutter system for stormwater collection, which results in a narrower typical section.

The northbound half of the new bridge will begin construction independently of the existing bridge, with a centerline shift of approximately 41 feet to the east. This will allow for a spacing of about 10 feet between the new and old bridges, maintaining all traffic as normal on the existing bridge and roadway while the construction of the new bridge proceeds without interference. After the completion of the northbound half of the new bridge, temporary striping will provide four lanes, with two lanes in each direction, for all traffic to be shifted onto the new bridge. The old DeSoto Bridge will then be removed, and the southbound half of the new bridge will be constructed and joined with the northbound structure. The new bridge will be approximately 2,225 feet in length

and have grades of ±3.2%. It will have a vertical channel clearance of 40 feet above the mean water level and 75 feet of horizontal clearance. The new bridge will meet all current FDOT design standards and could be widened in the future.

Traffic patterns on the landside will not change, as the through lanes will remain consistent with existing conditions. The roadway will have to be slightly adjusted and will begin to skew eastward approximately 490 feet from the project's start at Manatee Avenue East. A new sidewalk that will transition into the shared-use path is proposed closer to the Manatee Memorial Hospital parking lot, but this infrastructure will be constructed within the existing right-of-way. Most improvements are located within the existing right-of-way, but some will need to be purchased throughout the corridor in areas to accommodate additional new sidewalks and the shared-use paths. Shared-use paths on both the northern and southern ends will be implemented to accommodate the new paths on the bridge.

## 1.4 Natural Resources Evaluation

This Natural Resources Evaluation (NRE) was prepared to document the natural resources analysis performed to support decisions related to the evaluation of project alternatives and to summarize potential impacts to wetlands, federal and state protected species, critical habitats, and Essential Fish Habitat (EFH). Measures considered to avoid, minimize, and mitigate potential impacts are also discussed.

## 1.5 Existing Environmental Conditions

### 1.5.1 Methodology

In order to determine the approximate locations and boundaries of existing upland and wetland communities within the project study area, available site-specific data was collected and reviewed. The project study area includes all of the limits of the DeSoto Bridge (Bridge #130053) Replacement project from SR 64 (Manatee Avenue East) to Haben Boulevard plus an approximate 250-foot buffer. The following information was collected and analyzed:

- U.S. Department of Agricultural (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx),
- NRCS Soil Survey of Manatee County (1983);
- USFWS, National Wetlands Inventory (NWI) Wetlands Mapper (https://www.fws.gov/wetlands/data/mapper.html);
- Southwest Florida Water Management District (SWFWMD) Land Use and Cover, published by the Florida Department of Environmental Protection (FDEP), 2017;
- FDOT, Florida Land Use, Cover and Forms Classification System (FLUCFCS), 3rd edition, 1999;
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin, et. al. 1979);
- Florida Natural Areas Inventory's (FNAI). 2010. Guide to the Natural Communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, Florida; and
- 2022 aerial photographs of the project area.

Using the above referenced information, the approximate boundaries of upland and wetland communities within the project study area were mapped on color aerial photographs. Each community type was then classified using the *FDOT, FLUCFCS* (FDOT 1999). Wetlands were also classified using the *USFWS Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al. 1979).

### 1.5.2 Soils

For the purposes of this report, the project study area consists of the footprint of all build alternatives and a 250-foot buffer of those limits. According to the *NRCS Soil Survey of Manatee County* (1983), there are four soil types and one water classification present within the project study area. The two most prevalent features in the project study area are Waters of the Gulf of Mexico and Canaveral Sand, Filled. Two of the four soil types within the study area are classified as hydric. All soils documented within the project study area and their relative acreages are in **Table 1-1**. Project study area soil types are depicted in **Figure 1-6** and are described in more detail **Appendix A**.

**Table 1-1 Existing NRCS Soil Types within the Project Study Area**

| NRCS Code | NRCS Soil Description | Hydric Status | Acres | Percent of Total |
|---|---|---|---|---|
| 5 | Bradenton Fine Sand, Limestone Substratum | Hydric | 7.68 | 5.6 |
| 9 | Canaveral Sand, Filled | Non-Hydric | 50.98 | 36.8 |
| 12 | Cassia Fine Sand, Moderately Well Drained | Non-Hydric | 16.96 | 12.3 |
| 21 | Estero Muck, Tidal, 0 to 1 Percent Slopes | Hydric | 15.90 | 11.5 |
| 100 | Waters of the Gulf of Mexico | Unranked | 46.73 | 33.8 |
| | | **Total** | **138.25** | **100.0** |


FDOT

All data within this map are supplied as is, without warranty. This product has not been prepared for legal, engineering, or survey purposes. Users of this information should review or accept the primary data sources to ascertain the usability of the information.

## Figure 1-6 Soils Map

FPID #: 442630-1-22-01
DeSoto Bridge Replacement PD&E
Manatee County, Florida

0 600 1,200 1,800 US Feet

Data Source: ESA, NRCS, ESRI

NORTH

### 1.5.3 Land Use and Cover Types

Land use was reviewed within the study area using the 2017 data layer from SWFWMD. Habitats were subsequently field verified on July 13, 2023, and land use/land cover mapping was updated to reflect the current field conditions.

All land use and cover types documented within the project study area and their relative acreages are in **Table 1-2**. Project study area land use and cover types are depicted in **Figure 1-7** and are described in more detail in **Appendix B**. The project study area totals 138.25 acres. The majority land use classification is Bays and Estuaries (FLUCFCS 5400) with 50.64 acres, or 36.8 percent of the total project study area.

**Table 1-2 Existing Land Use/Land Cover (FLUCFCS) within the Project Study Area**

| FLUCFCS Code | | FLUCFCS Description | Project Study Area (Acres) | Percent of Total |
|---|---|---|---|---|
| 1000: URBAN AND BUILT UP | 1300 | Residential High Density | 5.40 | 3.9 |
| | 1400 | Commercial and Services | 19.00 | 13.7 |
| | 1700 | Institutional | 18.38 | 13.3 |
| | 1860 | Community Recreational Areas | 5.71 | 4.1 |
| | 1900 | Open Land | 7.50 | 5.4 |
| 4000: UPLANDS | 4370 | Australian Pine | 0.26 | 0.2 |
| 5000: WATER | 5300 | Reservoirs | 0.34 | 0.2 |
| | 5400 | Bays and Estuaries | 50.64 | 36.8 |
| 6000: WETLANDS | 6120 | Mangrove Swamps | 11.37 | 8.2 |
| 8000: TRANSPORTATION, COMMUNICATION & UTILITIES | 8100 | Transportation | 18.40 | 13.3 |
| 9000: SPECIAL CLASSIFICATIONS | 9111 | Seagrass, Sparse to Medium | 1.25 | 0.9 |
| | | **Total** | **138.25** | **100.0** |

**Legend**

- PROJECT LIMITS
- PROJECT LIMITS 250-FOOT BUFFER
- FLUCFCS
  - 1300, RESIDENTIAL HIGH DENSITY
  - 1400, COMMERCIAL AND SERVICES
  - 1700, INSTITUTIONAL
  - 1860, COMMUNITY RECREATIONAL AREAS
  - 1900, OPEN LAND
  - 4370, AUSTRALIAN PINE
  - 5300, RESERVOIRS
  - 5400, BAYS AND ESTUARIES
  - 6120, MANGROVE SWAMPS
  - 8100, TRANSPORTATION
  - 9111, SEAGRASS; SPARSE TO MEDIUM

Riviera Dunes
The Island at Riviera Dunes
CSX Railroad
US Highway 41 N
10th Ave W
Bradenton Waterfront Park
Rossi Park
Riverfront Blvd
Veterans Memorial Park
1st Ave E
Riverview Foot & Ankle
3rd Ave W
4th Ave W
3rd St W
9th St W
3rd Ave E
6th St E
8th St E
Gulf Coast Surgery Center
Manatee Ave E
Manatee Surgical Center
Manatee County School Board Administration Complex
5th Avenue Dr E
6th Ave W

**Figure 1-7 Land Use Map**

FPID #: 442630-1-22-01
DeSoto Bridge Replacement PD&E
Manatee County, Florida

0 500 1,000 1,500 US Feet

Data Source: ESA, ESRI SWFWMD

NORTH

# 2.0 Protected Species and Habitats

This project was evaluated for impacts to wildlife and habitat resources, including protected species, in accordance with 50 CFR Part 402 of the Endangered Species Act (ESA) of 1973, as amended, the Florida Endangered and Threatened Species Act, Section 379.2291, FS, and the Protected Species and Habitat chapter of the FDOT PD&E Manual. Wildlife agencies with jurisdiction in the project area include the USFWS, Florida Fish and Wildlife Conservation Commission (FWC), and National Marine Fisheries Service (NMFS). The Florida Department of Agriculture and Consumer Services (FDACS) has jurisdiction over state protected plant species.

The project study area was also evaluated for Critical Habitat (CH) as defined by Congress 50 CFR Chapter IV, Subchapter A, Part 424, and it was determined that the project area falls within USFWS-designated CH for the West Indian manatee.

The project falls entirely within the USFWS Consultation Area (CA) of the Florida scrub-jay (*Aphelocoma coerulescens*). The project also falls partially or entirely within the core foraging area (CFAs) of one wood stork (*Mycteria americana*) colony, Ayers Point, approximately 2.37 miles away from the project study area.

## 2.1 Methodology

Literature and agency database searches of potential habitat areas were conducted to identify state and federally protected species occurring or potentially occurring within the project area. The *Manatee County Soil Survey*, recent aerial imagery (2022), and 2017 SWFWMD land use/land cover mapping were reviewed to determine habitat types occurring within and adjacent to the project corridor.

Information sources and databases reviewed for the project include the following:

- USFWS, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12;
- USFWS, Information for Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac);
- USFWS, Critical Habitat portal (http://ecos.fws.gov/crithab/);
- USFWS – Central Florida Wood Stork Core Foraging Areas (15-mile colony radius);
- FWC, Florida's Endangered Species and Threatened Species, updated December 2022;
- FWC, Florida's Imperiled Species Management Plan, updated December 2018;
- National Audubon Society, EagleWatch Program (https://cbop.audubon.org/conservation/about-eaglewatch-program);
- FWC Breeding Bird Atlas Project;
- Rules for the Department of Agriculture and Consumer Services, Division of Plant Industry, Chapter 5B-40, Preservation of Native Flora of Florida;
- Notes on Florida's Endangered and Threatened Plants. Botany Contribution No. 38, 4th edition. FDACS, Division of Plant Industry, Coile, N.C. and M.A. Garland. 2003;
- Florida Natural Areas Inventory (FNAI) maps and database; and

- FDOT's Efficient Transportation Decision Making (ETDM) Summary Report DeSoto Bridge [Bridge #130053] published on October 7, 2023 (ETDM Project No. 14510).

Based on the results of database searches, preliminary field reviews, and review of aerial photographs and soil surveys, field survey methods for specific habitat types and tables of potentially occurring protected fauna and flora were developed.

Project scientists conducted initial general surveys in July 2023. Field reviews consisted of vehicular and pedestrian surveys through natural areas and altered habitats with the potential to support protected species. In the absence of physical evidence of a protected species, evaluation of the appropriate habitat along with regional occurrence data was conducted to determine the likelihood of a species being present.

Using vehicular and pedestrian survey methods during daylight hours, appropriate habitat within the study area was visually scanned for evidence of listed species as well as general wildlife. All natural areas within the project study area provide some level of potential suitable habitat for protected species. All observations of wildlife in the study area were recorded and occurrence locations were depicted on project aerials. These occurrence records include observations of the actual species, or signs of their presence including tracks, burrows, dens, scat, nests, or calls. Special attention was given to identifying signs of listed species. A protected species occurrence map for the project study area is included as **Figure 2-1**.

### 2.1.1 Agency Coordination

An ETDM Programming Screen Summary Report was published on October 7, 2023, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. The USFWS, FWC, and FDACS provided comments and a list of wildlife species that, based on known range and preferred habitat type, have the potential to occur along the proposed alignment or in the near regional area. The species list included: Audubon's crested caracara (*Caracara plancus audubonii*) (Federally listed Threatened [FT]), eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*) (FT), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) (Federally listed Endangered [FE]), piping plover (*Charadrius melodus*) (FT), red knot (*Calidris canutus rufa*) (FT), wood stork (*Mycteria americana*) (FT), Florida scrub-jay (*Aphelocoma coerulescens*) (FE), American oystercatcher (*Haematopus palliatus*) (State listed Threatened [ST]), little blue heron (*Egretta caerulea*) (ST), reddish egret (*Egretta rufescens*) (ST), tricolored heron (*Egretta tricolor*) (ST), eastern indigo snake (*Drymarchon couperi*) (FT), gopher tortoise (*Gopherus polyphemus*) (ST), pygmy fringe-tree (*Chionanthus pygmaeus*) (FE), Florida perforate cladonia (*Cladonia perforata*) (FE), green sea turtle (*Chelonia mydas*) (FT), loggerhead sea turtle (*Caretta caretta*) (FT), Gulf sturgeon (*Acipenser oxyrinchus desotoi*) (FT), smalltooth sawfish (*Pristis pectinata*) (FE), and West Indian manatee (FT).

**Legend**

- PROJECT LIMITS
- PROJECT LIMITS 250-FOOT BUFFER
- SEA TURTLE STRANDING 2021
- MANATEE CARCASS RECOVERY LOCATION
- FLORIDA SEAGRASS 2021
- FLORIDA OYSTER BEDS
- SPINYLOBSTER ESSENTIAL HABITAT
- WEST INDIAN MANATEE CRITICAL HABITAT
- ESSENTIAL FISH HABITAT FOR SHRIMP RED DRUM & REEF FISH

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FDOT

All data within this map are supplied as is, without warranty. This product has not been prepared for legal, engineering, or survey purposes. Users of this information should review or consult the primary data sources to ascertain the usability of the information.

**Figure 2-1 Species Occurrence Map**

FPID #: 442630-1-22-01
DeSoto Bridge Replacement PD&E
Manatee County, Florida

0 1,000 2,000 3,000 Feet

Data Source: ESA, ESRI, USFWS, FWC, FNAI

NORTH

## 2.2 Protected Wildlife Species Evaluation

A review of USFWS, FWC, and FNAI data indicates thirty (30) protected wildlife species are known to occur in Manatee County. Eighteen (18) of the species are federally listed endangered or threatened. Eleven (11) listed species are state listed endangered or threatened. The bald eagle (*Haliaeetus leucocephalus*) was delisted from protection under the Endangered Species Act in 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and State law (Florida Administrative Code [F.A.C.] 68A-16.002). There is one species, the tricolored bat (*Perimyotis subflavus*), that is a proposed candidate for federal listing and has been known to occur in Manatee County. Multiple species of bats are state-protected by F.A.C. 68A-4.001 General Prohibitions and 68A-9.010 Taking Nuisance Wildlife.

To further summarize the results of desktop and field data collection efforts, each potentially occurring species was assigned a likelihood for occurrence of "none", "low", "moderate", or "high" within habitats found in the project study area. Definitions of probability of species presence are provided subsequently. **Table 2-1** lists the federally and state-protected wildlife species known to occur within Manatee County that could potentially occur near the project area based on availability of suitable habitat and known ranges.

**Probability of Occurrence**

**None** – Species has been documented in Manatee County, but due to complete absence of suitable habitat, could not be naturally present within the project corridor.

**Low** – Species with a low likelihood of occurrence within the project area are defined as those species that are known to occur in Manatee County or the bio-region, but suitable habitat is limited in the project area, or the species is rare.

**Moderate** – Species with a moderate likelihood of occurrence are those species known to occur in Manatee or nearby counties, and for which suitable habitat is well represented in the project area, but no observations or positive indications exist to verify presence.

**High** – Species with a high likelihood of occurrence are suspected within the project area based on known ranges and existence of sufficient suitable habitat in the area; are known to occur adjacent to the project; or have been previously observed or documented in the vicinity.

**Table 2-1 Potentially Occurring Listed Wildlife Species**

| Scientific Name | Common Name | Listing Status | | Suitable Habitat | Probability of Occurrence | Effect Determination |
|---|---|---|---|---|---|---|
| | | USFWS | FWC | | | |
| **FISH** | | | | | | |
| *Acipenser oxyrinchus desotoi* | Gulf sturgeon | T | T | Primarily marine/estuarine in winter; migrates to upper rivers in spring for spawning; returns to sea/estuary in fall; some may remain near spawning areas. First two years are spent in riverine habitats. Spawns in fresh water (sometimes tidal) usually over bottom of hard clay, rubble, gravel, or shell. May spawn in brackish water. Most spawn in natal river. | Low | MANLAA |
| *Pristis pectinata* | Smalltooth sawfish | E | E | Southwest Florida waters, particularly within the Caloosahatchee River. Young prefer shallow estuarine waters near red mangroves, as well as waters under docks, bridges, and piers. Adults prefer deeper, more open waters but have been documented near coral reefs and travel inshore for mating and birth. | Low | MANLAA |
| **REPTILES** | | | | | | |
| *Caretta caretta* | Loggerhead sea turtle | T | T | Subtropical and temperate oceans, coastal beaches. May be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. | Low | MANLAA |
| *Chelonia mydas* | Green sea turtle | T | T | Subtropical and temperate oceans, coastal beaches. | Low | MANLAA |
| *Crocodylus acutus* | American crocodile | T | T | Coastal estuarine marshes, tidal swamps, and creeks along edges of mainland and islands. Usually associated with mangroves. Nests on beaches, stream banks, and levees. | Low | MANLAA |
| *Dermochelys coriacea* | Leatherback sea turtle | E | E | Marine waters, sandy beaches. | Low | MANLAA |
| *Drymarchon couperi* | Eastern indigo snake | T | T | Hydric hammock, palustrine, sandhill scrub, upland pine forest, mangrove swamp. | Moderate | MANLAA |
| *Eretmochelys imbricata* | Hawksbill sea turtle | E | E | Marine coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves. Nests on coastal sand beaches, often in vegetation. | Low | MANLAA |
| *Gopherus polyphemus* | Gopher tortoise | NL | T | Old fields, sandhill, scrub, xeric hammock, road shoulder, dry prairie, pine flatwoods. | Moderate | No Adverse Effect Anticipated |
| *Lepidochelys kempii* | Kemp's Ridley sea turtle | E | E | Marine coastal waters, sandy beaches. | Low | MANLAA |
| *Pituophis melanoleucus mugitus* | Florida pine snake | NL | T | Well-drained, sandy open area or longleaf pine forests, sandhills. | Low | No Effect Anticipated |
| **BIRDS** | | | | | | |
| *Antigone canadensis pratensis* | Florida sandhill crane | NL | T | Freshwater marsh, prairies, pastures. | Moderate | No Adverse Effect Anticipated |
| *Aphelocoma coerulescens* | Florida scrub-jay | T | T | Relict dune ecosystems or scrub on well drained to excessively well drained sandy soils, sand dunes along coast. | None | No Effect |
| *Athene cunicularia floridana* | Florida burrowing owl | NL | T | Native prairies and cleared areas with short groundcover. | Low | No Effect Anticipated |
| *Calidris canutus rufa* | Red knot | T | T | Coastal marine and estuarine habitats with large areas of exposed intertidal sediments. | Moderate | MANLAA |
| *Charadrius melodus* | Piping plover | T | T | Open sandy beaches, sand flats, mudflats, coastal areas. | Moderate | MANLAA |
| *Charadrius nivosus* | Snowy plover | NL | T | Dry sandy beaches. | Low | No Effect Anticipated |
| *Egretta caerulea* | Little blue heron | NL | T | Coastal areas, freshwater lakes, brackish water, marshes, swamps, streams. | Moderate | No Adverse Effect Anticipated |
| *Egretta rufescens* | Reddish egret | NL | T | Marine tidal flats, shorelines, coastal mangroves. | Moderate | No Adverse Effect Anticipated |
| *Egretta tricolor* | Tricolored heron | NL | T | Wetlands, mangrove swamps, tidal creeks, ditches, ponds and lakes. | Moderate | No Adverse Effect Anticipated |
| *Haematopus palliates* | American oystercatcher | NL | T | Beaches, sandbars, shell rakes, salt marsh, oyster reef. | Moderate | No Adverse Effect Anticipated |
| *Haliaeetus leucocephalus* | Bald eagle | BGEPA[1] | BGEPA[1] | Forests, estuarine, lacustrine, riverine, tidal marsh, tidal swamp. | Moderate | - |
| *Laterallus jamaicensis ssp. jamaicensis* | Eastern black rail | T | T | Salt, brackish, and freshwaters marshes that can be tidally or non-tidally influenced. | Moderate | MANLAA |

| Scientific Name | Common Name | Listing Status | | Suitable Habitat | Probability of Occurrence | Effect Determination |
|---|---|---|---|---|---|---|
| | | USFWS | FWC | | | |
| *Mycteria americana* | Wood stork | T | T | Nests colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, and mangroves. Increasingly nesting in artificial habitats (e.g., impoundments and dredged areas with native or exotic vegetation) in north and central Florida. Forages mainly in shallow water in freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches, where they are attracted to falling water levels that concentrate food sources (mainly fish). | Moderate | MANLAA |
| *Picoides borealis* | Red-cockaded woodpecker | E | E | Inhabits open, mature pine woodlands that have a diversity of grass, forb, and shrub species. Generally, occupies longleaf pine flatwoods in north and central Florida, mixed longleaf pine and slash pine in south-central Florida, and slash pine in south Florida outside the range of longleaf pine. Forage in several forested habitat types that include pines of various ages but prefer more mature pines. | None | No Effect |
| *Platalea ajaja* | Roseate spoonbill | NL | T | Coastal mangrove, dredge spoils, marine tidal flats, ponds, coastal marshes, freshwater sloughs and marshes. | Moderate | No Adverse Effect Anticipated |
| *Caracara plancus audubonii* | Audubon's crested caracara | T | T | Wet prairies with cabbage palms, wooded areas with saw palmetto, cypress, scrub oaks and pastures. | None | No Effect |
| *Rynchops niger* | Black skimmer | NL | T | Beaches, bays, estuaries, sandbars, tidal creek, large lakes, phosphate pits, flooded agricultural fields. | Moderate | No Adverse Effect Anticipated |
| **MAMMALS** | | | | | | |
| *Eumops floridanus* | Florida bonneted bat | E | E | Roosting habitat: Forest and other areas with tall, mature trees or other areas with suitable roost structures. Artificial roosting structure includes buildings, bridges, and bat houses. Foraging habitat: open fresh water, permanent or seasonal freshwater wetlands, wetland and upland forests, and wetland and upland shrub. | Low | No Effect |
| *Perimyotis subflavus* | Tricolored bat | NL[2] | NL | Roosting habitat: Mature hardwood forests, caves, and less commonly manmade structures. Foraging habitat: Waterways, forests, and agricultural areas where small insects can be found. | Low | - |
| *Trichechus manatus latirostris* | West Indian manatee | T | T | Coastal waters, estuarine waters, bays, rivers, lakes. | High | MANLAA |
| | Bats (multiple species) | - | * | Forested areas, manmade structures | Moderate | - |

**Key:**
USFWS = U.S. Fish and Wildlife Service
FWC = Florida Fish and Wildlife Conservation Commission
MANLAA = May affect, not likely to adversely affect
NL = Not Listed
E = Endangered
T = Threatened

[1]The bald eagle was delisted from protection under the Endangered Species Act in 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), and State law (F.A.C. 68A-16.002).
[2] The tricolored bat is a candidate for listing under the jurisdiction of the USFWS.
*Bats are protected by F.A.C. 68A-4.001 General Prohibitions and 68A-9.010 Taking Nuisance Wildlife

**Sources:**
USFWS - U.S. Fish and Wildlife Service status, Official lists of Threatened and Endangered species, 50 CFR 17.11
Florida Fish and Wildlife Conservation Commission. 2016. Florida's Imperiled Species Management Plan Amended January 2017. Tallahassee, Florida
FWC - Florida's Endangered and Threatened Species, Updated December 2022
USFWS ECOS - Environmental Conservation Online System https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=12081, accessed 8/17/2023
FNAI Florida Natural Areas Inventory Tracking List https://www.fnai.org/species-communities/tracking-main, accessed 8/17/2023

### 2.2.1 Federally Listed Wildlife Species and Designated Critical Habitat

Eighteen (18) species are listed by the USFWS as endangered or threatened. Federally listed species are also considered state listed species. One species, the tricolored bat (*Perimyotis subflavus*), is a candidate for federal listing. Three of the 18 species, Florida scrub-jay (*Aphelocoma coerulescens*), red-cockaded woodpecker (*Picoides borealis*), and Audubon's crested caracara (*Caracara plancus audubonii*), were determined to have no probability of occurrence due to a lack of suitable habitat within the project study area. Therefore, the proposed project will have no effect on these species.

Optimal Florida scrub-jay habitat consists of low growing, scattered scrub canopy species with patches of bare sandy soil such as those found in sand pine scrub, xeric oak scrub, scrubby flatwoods, and scrubby coastal strand habitats. In areas where these types of habitats are unavailable, scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks or citrus orchards. No current or historic observations have been recorded for this species within the project study area.

The red-cockaded woodpecker inhabits open, mature pine woodlands that have a diversity of grass, forb, and shrub species. Generally, occupies longleaf pine flatwoods in north and central Florida, mixed longleaf pine and slash pine in south-central Florida, and slash pine in south Florida outside the range of longleaf pine. Additionally, the project study area is not within the CA for the red-cockaded woodpecker. No current or historic observations have been recorded for this species within the project study area.

Audubon's crested caracara inhabits open xeric to mesic habitats. Its preferred habitat is native dry or wet prairie with associated marshes, cabbage palm (*Sabal palmetto*), and cabbage palm - live oak (*Quercus virginiana)* hammocks. Additionally, the project study area is not within the CA for the Audubon's crested caracara. No current or historic observations have been recorded for this species within the project study area.

A description of the fifteen (15) remaining federally protected species is provided in the subsequent sections. Additionally, a description of the tricolored bat is provided below.

#### *2.2.1.1 Fish*

**Gulf Sturgeon**

The Gulf sturgeon (*Acipenser oxyrinchus desotoi*), listed by the USFWS and FWC as Threatened, is a large anadromous species that occurs in the lower sections of large rivers and estuaries along the Gulf coast. The species spends most of the year in brackish and saline water and migrates in the spring up coastal rivers to freshwater in order to spawn. The Gulf sturgeon is a bottom feeder, rooting along the bottom with their snouts and ingesting food by "vacuuming" the substrate with their protrusible mouths. The probability of occurrence for Gulf sturgeon within the project study area was designated as low. No known occurrences of the species have been recorded within 10 miles of the project area. No observations were made during field reviews, and there are no known historical observations of the species in this area. Suitable habitat for the species is present within the Manatee River; however, based on the lack of observations of the species in the vicinity, a determination of **may affect, not likely to adversely affect** is appropriate for the Gulf sturgeon.

**Smalltooth Sawfish**

The smalltooth sawfish (*Pristis pectinata*) is listed by the USFWS and FWC as Endangered. The species is under the jurisdiction of NMFS and was the first marine fish to receive federal protection. The range for the smalltooth sawfish has reduced during the last century and currently, this species is primarily found in southwest Florida waters, particularly within the Caloosahatchee River. Young smalltooth sawfish prefer shallow estuarine waters near red mangroves, as well as waters under docks, bridges, and piers. Juveniles will remain in this habitat until they are two to three years old. Adults prefer deeper, more open waters but have been documented near coral reefs and travel inshore for mating and birth. The smalltooth sawfish diet consists primarily of fish, but it will also eat small invertebrates such as shrimps and crabs. The project study area does not occur within designated CH for the smalltooth sawfish, and the closest smalltooth sawfish observation was recorded in Port Gasparilla Sound – Charlotte Harbor, over 50 miles south of the project study area. Though there is suitable foraging and sheltering habitat for various life stages of the smalltooth sawfish, it was determined that a species occurrence as far north as the project area was unlikely. Additionally, no smalltooth sawfish were observed within or adjacent to the study area during wetland delineation and seagrass surveys. The *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office, 2021)* will be adhered to during construction of the project. Mangrove swamps within the project study area are proposed to be impacted by the project; however, mitigation will be provided for these impacts. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the smalltooth sawfish.

### *2.2.1.2 Reptiles*

**Loggerhead Sea Turtle**

The loggerhead sea turtle (*Caretta caretta*), listed by the USFWS and FWC as Threatened, is a medium sized sea turtle. The loggerhead sea turtle is distinguished by its reddish-brown shell and yellow plastron and large head. Loggerhead sea turtles may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. The probability of occurrence for the loggerhead sea turtle was designated as low. Suitable habitat for the loggerhead sea turtle is present within the Manatee River. Bridge replacement activities may impact the loggerhead sea turtle; however, the *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office, 2021)* (**Appendix C**) will be adhered to for all in-water work. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the loggerhead sea turtle.

**Green Sea Turtle**

The green sea turtle (*Chelonia mydas*), listed by the USFWS and FWC as Threatened, is a large sea turtle. The upper shell (carapace) of adults is olive with dark spots, and juveniles have brown to olive carapaces with radiating lines. Adults reach 35 to 48 inches. Green sea turtles are found in estuarine and marine coastal and oceanic waters, nesting on coastal sand beaches, often near dune lines. The probability of occurrence for the green sea turtle was designated as low. Suitable habitat for the green sea turtle is present within the Manatee River. Bridge replacement activities may impact the green sea turtle; however, *NMFS Protected Species Construction Conditions (NOAA*

*Fisheries Southeast Regional Office, 2021)* (**Appendix C**) will be adhered to for all in-water work. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the green sea turtle.

**American Crocodile**

The American crocodile (*Crocodylus acutus*), listed by the USFWS and FWC as Threatened, is a large, gray to brown crocodilian with a long, tapered snout. All ages may have dark crossbands or spots on the back, tail, and legs; the belly is a whitish color. Adults range from 7 to 15 feet, hatchlings about 10 inches. The probability of occurrence for the American crocodile was designated as low. Potential habitat utilized by the American crocodile is present within the mangrove swamps in the northern section of the project area; however, the project study area is not within the CH for the American crocodile and the nearest sighting was recorded in Pine Island, Florida, over 75 miles south of the project study area. Minimal impacts are anticipated to these habitats and compensatory mitigation will be provided to offset impacts. It is unlikely that an American crocodile may be found so far north of its range; however, since suitable habitat is present within the project area, a determination of **may affect, not likely to adversely affect** is appropriate for the American crocodile.

**Leatherback Sea Turtle**

The leatherback sea turtle (*Dermochelys coriacea*), listed by the USFWS and FWC as Endangered, is the largest, deepest diving, and most migratory and wide ranging of all sea turtles. The adult leatherback can reach 4 to 8 feet in length and 500 to 2000 pounds in weight. Its shell is composed of a mosaic of small bones covered by firm, rubbery skin with seven longitudinal ridges or keels. Suitable habitat utilized by the leatherback sea turtle is present within the Manatee River; however, because this species is so wide ranging and uncommonly seen in waters near the project study area, the probability of occurrence was designated as low. Bridge replacement activities may impact the leatherback sea turtle; however, the *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office, 2021)* (**Appendix C**) will be adhered to for all in-water work. A determination of **may affect, not likely to adversely affect** is appropriate for the leatherback sea turtle.

**Eastern Indigo Snake**

The eastern indigo snake (*Drymarchon couperi*), listed by the USFWS and FWC as Threatened, is a large, stout-bodied, shiny black snake reaching lengths up to eight feet. Its chin, throat, and sides of head may be reddish or sometimes white. The eastern indigo snake utilizes a wide variety of habitats ranging from mangrove swamps to xeric scrub communities. The eastern indigo snake prefers upland/wetland ecotone breaks for feeding, and often lives in association with gopher tortoise burrows, especially in the winter. The probability of occurrence for the eastern indigo snake was designated as moderate due to suitable habitat within the project study area. No eastern indigo snakes were observed, and no gopher tortoise burrows were noted during field reviews. However, the *Standard Protection Measures for the Eastern Indigo Snake* guidelines will be adhered to during construction to minimize the probability of any species impacts (**Appendix D**). The *Eastern Indigo Snake Programmatic Effect Determination Key (North Florida)* was used for this project (**Appendix**

**E**). The path followed through the key was A > B > C > D >E = NLAA. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the eastern indigo snake.

**Hawksbill Sea Turtle**

The hawksbill sea turtle (*Eretmochelys imbricata*), listed by the USFWS and FWC as Endangered, is a medium-sized sea turtle with a brown, somewhat heart-shaped upper shell (carapace), often marked with "tortoise shell" pattern of light and dark streaks. The upper jaw is narrowly pointed as a beak with two pairs of scales between eyes. Adults range from 25 to 37 inches for the shell length and weight ranges from 95 to 165 pounds. The probability of occurrence for the hawksbill sea turtle was designated as low due to its presence is more common where coral reef habitat is present, typically the Florida Keys. Suitable habitat is present within the mangrove swamps near the northern portion of the project area and within the Manatee River. No current or historic observations of the species have been documented in this area. Bridge replacement activities may impact the hawksbill sea turtle; however, *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office, 2021)* (**Appendix C**) will be adhered to for all in-water work. A determination of **may affect, not likely to adversely affect** is appropriate for the hawksbill sea turtle.

**Kemp Ridley's Sea Turtle**

The Kemp Ridley's sea turtle (*Lepidochelys kempii*), listed by the USFWS and FWC as Endangered, is a small to medium-sized sea turtle with a nearly circular shell. The upper shell is olive-green to gray, with the lower shell yellow to white. Adults reach 23 to 28 inches shell length and weigh 70 to 100 pounds. The probability of occurrence for the Kemp Ridley's sea turtle was designated as low. Suitable habitat utilized by the Kemp Ridley's sea turtle is present within the Manatee River. No observations of the species have been recorded within or adjacent to the project study area. Bridge replacement activities may impact the Kemp Ridley's sea turtle, but *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office, 2021)* (**Appendix C**) will be adhered to for all in-water work. A determination of **may affect, not likely to adversely affect** is appropriate for the Kemp Ridley's sea turtle.

#### *2.2.1.3 Birds*

**Red Knot**

The red knot (*Calidris canutus rufa*), listed by the USFWS and FWC as Threatened, is a stocky, medium-sized shorebird with relatively short bill and legs. They measure about 9 to 11 inches in length, with a wingspan up to 20 inches. The probability of occurrence for the red knot was designated as moderate due to the presence of coastal estuarine habitat. No red knots were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the species.

**Piping Plover**

The piping plover (*Charadrius melodus*), listed by the USFWS and FWC as Threatened, is a small shorebird with a short, stout, black bill, yellow to greenish-olive legs, and very pale upperparts. In Florida, piping plovers are usually encountered in winter plumage. The probability of occurrence

for the piping plover was designated as moderate due to the presence of coastal habitat. No piping plovers were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the species.

**Eastern Black Rail**

The eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), listed by the USFWS and FWC as Threatened, is gray black in coloration, with white speckled upperparts, and has a grayish crown, a chestnut-colored nape of the neck, and a short tail. Adults have an average length of 4 to 6 inches and a wingspan of 8.7 to 11 inches. The probability of occurrence for the eastern black rail was designated as moderate due to the presence of suitable habitat in the vicinity of the project area. No eastern black rails were observed during field reviews, and there are no known occurrence records for the area. Estuarine marshes are present within the project study area, and these habitats will remain unaffected in the vicinity of the project. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the eastern black rail has been assigned a **may affect, not likely to adversely affect** determination for this project.

**Wood Stork**

The wood stork (*Mycteria americana*), listed by the USFWS and FWC as Threatened, is a very large, white wading bird with black wings and a short black tail. Wood storks soar with their necks and legs extended, displaying long, broad wings. Black flight feathers contrast with white along the length of wings. It nests colonially in a variety of inundated wetlands including cypress swamps, mixed hardwood swamps, sloughs, and mangroves and utilizes freshwater marshes, flooded pastures, and roadside ditches for feeding.

For Central Florida, the USFWS has defined the CFA for a wood stork colony as the area within a 15-mile radius from the colony location. The project study area is located within the CFA of one wood stork colony, Ayers Point, approximately 2.37 miles away from the project study area.

The probability of occurrence for the wood stork was designated as moderate due to presence of suitable foraging habitat (SFH) within the project area. Impacts associated with the Preferred Alternative include 1.02 acres (0.31 acres permanent impact and 0.71 acres secondary impact) to mangrove swamps (FLUCFCS 612) which are considered to be wood stork SFH. The *Effect Determination Key for the Wood Stork in Central and North Peninsular Florida* was utilized for this project (**Appendix F**). The path followed through the key for the Preferred Alternative was A > B > C > D > E = NLAA. FDOT will provide mitigation for impacts to wood stork SFH within the Service Area of a USFWS-approved wetland mitigation bank or wood stork conservation bank. Currently, portions of the proposed project are located within the service area of three mitigation banks: Mangrove Point Mitigation Bank, Braden River Mitigation Bank, and Nature Coast Mitigation Bank. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the wood stork.

### *2.2.1.4 Mammals*

**Florida Bonneted Bat**

The Florida bonneted bat (*Eumops floridanus*) is listed as endangered by the USFWS. Suitable habitat for the Florida bonneted bat includes areas that are relatively open and provide a water source such as freshwater systems and wetlands. The species has been documented foraging in a variety of habitats including semitropical forests with tropical hardwood, and pineland habitats, as well as developed areas such as golf courses and neighborhoods. Suitable roosting habitat includes forests and other areas where tall, mature live or dead trees are present and in artificial roosting structures including buildings, bridges, and bat houses. No Florida bonneted bat observations were documented within the bridge structure during field reviews. The project is not within the designated CA for the Florida bonneted bat, documented in the *October 2019 USFWS Florida Bonneted Bat Consultation Guidelines*. Additionally, the project is not within the designated CH for the species, documented in the *March 2024 Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Endangered Florida Bonneted Bat*. Therefore, the proposed project will have **no effect** on the species.

**Tricolored Bat**

The tricolored bat (*Perimyotis subflavus*) is a proposed candidate for listing under the jurisdiction of the USFWS. As of September 14, 2022, the USFWS proposed to list the tricolored bat as an endangered species under the ESA. Designated CH is not proposed for the tricolored bat at this time. Tricolored bats are found throughout Florida; however, they are more common in the northern half of the state. The tricolored bat populations have been drastically impacted by a fungal infection, white nose syndrome, that affects hibernating bat colonies. The small, insect-eating bats prefer to roost in mature hardwood forests, caves, and less commonly manmade structures. Tricolored bats forage in waterways, forests, and agricultural areas where small insects can be found. There is suitable roosting and foraging habitat for the species available within and adjacent to the project limits. However, no observations or evidence of roosting were noted in the bridge. If the listing status of the tricolored bat is elevated by USFWS to Threatened or Endangered and the Preferred Alternative is located within the CA, FDOT commits to re-initiating consultation with the USFWS during the design and permitting phase of the project to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the tricolored bat.

**West Indian Manatee**

The West Indian manatee (*Trichechus manatus latirostris*), listed by the USFWS and FWC as Threatened, is a large, gray, nearly hairless aquatic mammal. The tail is broad, rounded, and flattened. Front limbs are flipper-like, with three nails and hind limbs are absent. The probability of occurrence for the West Indian manatee is designated as high due to suitable habitat present within the project area. Potential habitat utilized by the West Indian manatee is present within the mangrove swamps near the northern portion of the project area and within the Manatee River. Manatees were not observed during field reviews. In-water work during construction is anticipated to include pile driving and assembly of bridge components. Much of the work will be conducted from barges and small vessels. Anchored barges will avoid seagrasses outside the project area to prevent shading impacts. At this time, bridge demolition is not anticipated to be through blasting.

Bridge replacement activities may impact the West Indian manatee, but *Standard Manatee Conditions for In-Water Work* (**Appendix G**) will be adhered to during construction. The *Effect Determination Key for the Manatee in Florida* was utilized for this project (**Appendix H**). The path followed through the key for the Preferred Alternative was A > B > C > G > N > O > P = MANLAA. Therefore, a determination of **may affect, not likely to adversely affect** is appropriate for the West Indian manatee.

#### *2.2.1.5 Critical Habitat*

The study area occurs within areas of CH for the West Indian manatee. The proposed project will include the replacement of an existing overwater structure and minor impacts to mangroves and surface waters (Manatee River), which is suitable habitat utilized by manatees. Impacts to mangroves total 1.02 acres (0.31 acres permanent fill impacts and 0.71 acres secondary impact) and are considered minor given the small size of impact relative to the available habitat in the region. Additionally, compensatory mitigation to offset the loss of similar habitat will be provided. No impact to seagrass is proposed, which is a main food source for manatees. Seagrasses in the vicinity of the bridge will be unaffected by construction. Water depths are shallow around the mangrove swamps but deepen under the main stretch of bridge where pilings will be added. Boat traffic is common within the channel/Manatee River. Impacts to surface waters considered critical habitat will result from the pilings; however, these impacts will be minimal. Impacts to water quality during construction may occur due to pile driving and assembly of bridge components, which may cause an increase in turbidity. Anchored barges will avoid seagrasses outside the project to prevent shading impacts. These impacts will be temporary and Best Management Practices (BMPs) will be implemented. For these reasons, it was determined that the Preferred Alternative will **not result in the destruction or adverse modification of critical habitat** for the West Indian manatee.

### 2.2.2 State Listed Wildlife Species

Twenty-nine (29) species are listed by FWC as endangered or threatened. Eighteen (18) of the species are also federally listed and discussed in Section 2.3.1. In-house research and field reviews were conducted evaluating the habitat requirements for each species and the types of habitats present within the project study area. All eleven (11) state-listed species were determined to potentially have a probability of occurrence within the project area. A description of the species is provided below.

#### *2.2.2.1 Reptiles*

**Gopher Tortoise**

The gopher tortoise (*Gopherus polyphemus*), listed by the FWC as Threatened, is a long-lived reptile that occupies upland habitat throughout Florida including forests, pastures, and residential areas. The gopher tortoise digs deep burrows for shelter and forages on low-growing plants. Gopher tortoises are commonly found in areas containing xeric, well-drained soils including sandhills, xeric pine-oak hammocks, scrub-shrub habitats, pine flatwoods, coastal dunes, pastures, orange groves, and disturbed sites. The probability of occurrence for the gopher tortoise was designated as high due to the presence of suitable habitat within the project study area, and a gopher tortoise observation was included in the FNAI Report. No gopher tortoises or burrows were observed during

field reviews. Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC. Gopher tortoises will be addressed in accordance with FWC *Gopher Tortoise Permitting Guidelines*. The gopher tortoise has been assigned a **no adverse effect anticipated** determination for this project.

**Florida Pine Snake**

The Florida pine snake (*Pituophis melanoleucus mugitus*), listed by the FWC as Threatened, is one of the largest eastern snakes in North America reaching lengths up to 84 inches. The Florida pine snake has a brown back with dark blotches, white belly, ridged scales, small head, and pointed snout. The pine snake inhabits areas that feature well-drained sandy soils with a moderate to open canopy and are known gopher tortoise burrow commensals. The probability of occurrence for the Florida pine snake was designated as low. No Florida pine snakes or gopher tortoise burrows were observed during field reviews and no suitable habitat is present within the project study area. Therefore, the Florida pine snake has been assigned a **no effect anticipated** determination for this project.

#### *2.2.2.2 Birds*

**Florida Sandhill Crane**

The Florida sandhill crane (*Antigone canadensis pratensis*), listed as Threatened by the FWC, is a tall, long-necked, long-legged bird with a clump of feathers that droops over the rump. Adults are gray overall, with a whitish chin, cheek, and upper throat, and dull red skin on the crown and lores (lacking in immatures). Nesting habitat consists of shallow, vegetated freshwater marshes. Cranes will construct nests on fairly isolated rafts of vegetation to limit access to the nest by predators. Nesting season for this species is December through August. Limited nesting and foraging habitat are present in the proposed project area. Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. Therefore, a **no adverse effect anticipated** determination for Florida sandhill cranes is appropriate.

**Florida Burrowing Owl**

The Florida burrowing owl (*Athene cunicularia floridana*), designated by the FWC as Threatened, is a small, ground-dwelling owl with long legs, white chin stripe, round head, and stubby tail. Adults are boldly spotted and barred with brown and white. The species creates subterranean burrows in native prairies and cleared pastures. Tracts of cleared right-of-way with low groundcover exist within the project limits. The probability of occurrence for the species is low due to no observations of burrowing owls documented within the project vicinity, no burrows observed during field reviews, and suboptimal habitat in the project study area is fragmented. No impacts to Florida burrowing owls are anticipated due to the proposed project. A **no effect anticipated** determination for the Florida burrowing owl is appropriate.

**Snowy Plover**

The snowy plover (*Charadrius nivosus*), listed as Threatened by the FWC, is a small plover with a slim, dark bill, dark ear patch, and dark legs. This species is pale gray or brownish above with dark collar patches on each side of its breast and a black band across its forehead. Suitable habitat consists of dry sandy beaches for nesting. Foraging occurs on tidal flats along inlets and creeks. The probability of occurrence for snowy plovers within the project area was designated as low due to the absence of suitable habitat, no known recorded occurrences in the vicinity of the project study area, and no observations of the species during field reviews. There is suitable habitat in the vicinity of the project area, which will be unaffected by the construction. Therefore, a **no effect anticipated** determination for the species is appropriate.

**Little Blue Heron**

The little blue heron (*Egretta caerulea*), listed as Threatened by the FWC, is a medium sized heron with purplish to maroon-brown head and neck, slate-blue body, and a small white patch on its throat and upper neck. The little blue heron is found in shallow freshwater, brackish, and saltwater habitats. Their nesting vegetation varies, breeding in bald cypress (*Taxodium distichum*), Carolina willow (*Salix caroliniana*), red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*), red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), cabbage palm (*Sabal palmetto*), and Brazilian pepper (*Schinus terebinthifolia*). The probability of occurrence for the little blue heron was designated as moderate due to the presence of suitable foraging habitat within the project area. No little blue herons were observed during field reviews. While small areas of foraging habitat may be affected by this project, large areas will remain intact in the vicinity of the project and mitigation will be provided for any wetland impacts. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the little blue heron has been assigned a **no adverse effect anticipated** determination for this project.

**Reddish Egret**

The reddish egret (*Egretta rufescens*), designated by the FWC as Threatened, is the rarest egret species found in North America. It can reach a length of approximately 27 to 32 inches with a wingspan of 46 to 48 inches. The reddish egret has both a dark and white morph. Suitable habitat consists of coastal areas, mainly on estuaries near mangroves and lagoons, but they can also be found on dredge spoil islands. The probability of occurrence for reddish egret within the project study area was designated as moderate due to the presence of suitable habitat. No reddish egrets were observed during field reviews. While small areas of foraging habitat may be affected by this project, large areas will remain intact in the vicinity of the project and wetland impacts will be mitigated. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the reddish egret has been assigned a **no adverse effect anticipated** determination for this project.

**Tricolored Heron**

The tricolored heron (*Egretta tricolor*), listed as Threatened by the FWC, is a medium sized heron with a slender neck, two-toned body color with dark slate coloration on its head, neck, and body that contrasts with its white rump, belly, and undertail. Tricolored herons are closely associated

with wetlands throughout Florida but are most common in estuarine habitats. Tricolored herons nest on islands or in woody vegetation over standing water. The probability of occurrence for the tricolored heron was designated as moderate due to the presence of suitable foraging habitat within the project study area, which includes mangrove swamps. No tricolored herons were observed during field reviews. While small areas of foraging habitat may be affected by this project, large areas will remain intact in the vicinity of the project. Surveys will be conducted during the permitting phase of the project, if necessary. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Additionally, only a small amount of wetland impact is expected for the project, which will be mitigated. Therefore, the tricolored heron has been assigned a **no adverse effect anticipated** determination for this project.

**American Oystercatcher**

The American oystercatcher (*Haematopus palliates*), designated by the FWC as Threatened, is a large, heavy shorebird with bright red bill and pink legs. The bird is black on the back, head, and chest, and largely white below. Suitable habitat consists of large areas of beach, sandbars, mud flats, and shellfish beds for foraging. They use sparsely vegetated sandy areas or shell-covered beaches for nesting but will also use beach wrack and marsh grass. The probability of occurrence for the American oystercatcher within the project study area was designated as moderate due to the presence of suitable habitat. No American oystercatchers were observed during field reviews. While small areas of foraging habitat may be affected by this project, large areas will remain intact in the vicinity of the project and wetland impacts will be mitigated. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the American oystercatcher has been assigned a **no adverse effect anticipated** determination for this project.

**Roseate Spoonbill**

The roseate spoonbill (*Platalea ajaja*), designated by the FWC as Threatened, is a shorebird with a bright pink body, contrasting white neck, and flat, spoon-like bill. Immature birds are whitish and acquire pink coloration as they mature. The probability of occurrence for the roseate spoonbill within the project study area was designated as moderate due to the presence of suitable habitat. No roseate spoonbills were observed during field reviews. While small areas of foraging habitat may be affected by this project, large areas will remain intact in the vicinity of the project and wetland impacts will be mitigated. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the roseate spoonbill has been assigned a **no adverse effect anticipated** determination for this project.

**Black Skimmer**

The black skimmer (*Rhynchops niger*), designated by the FWC as Threatened, is a coastal waterbird with a red, black-tipped bill and red legs. The top of the head, back, and most of the upper sides of the wings are black in adults and mottled dingy brown in juveniles. The bird skims food (mostly small fishes) from the surface of the water while flying with its lower mandible in the water. Suitable habitat consists of coastal waters, including beaches, bays, estuaries, sandbars, tidal creeks (foraging), and inland waters of large lakes, phosphate pits, and flooded agricultural fields.

Additionally, black skimmers have been documented to roost on certain suitable flat roofs of buildings, to which there are plenty of in the vicinity of the project area. The probability of occurrence for the black skimmer within the project study area was designated as moderate due to the presence of suitable habitat. No black skimmers were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction are not anticipated. Therefore, the black skimmer has been assigned a **no adverse effect anticipated** determination for this project.

### 2.2.3 Other Protected Wildlife Species

**Bald Eagle**

The bald eagle (*Haliaeetus leucocephalus*) was delisted from protection under the Endangered Species Act in 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and State law. It is a large bird with dark plumage, white head (in adults), white tail, and large yellow bill. Bald eagles are commonly observed near large open water habitats such as rivers, lakes, and the coast. Bald eagles nest in large pine trees near water bodies that provide dependable food sources.

The location and activity of bald eagle nest sites throughout the state are closely monitored by the Audubon Society and FWC. A desktop review of Audubon EagleWatch mapping indicates that there is one documented nest near the proposed project. Nest MN048 is located west of US 41 Bypass and 14th Avenue West, in a residential neighborhood. It is approximately two miles west of the proposed project and was documented as occupied during the 2022 nesting season survey, in a pine tree. Since this nest tree is located outside the 660-foot secondary protection buffer, no impacts are anticipated to the species as a result of the proposed project.

**Bats (multiple species)**

Bats in the state of Florida are protected via F.A.C. 68A-4.001 General Prohibitions, F.A.C. 68A-9.010 Taking Nuisance Wildlife, and F.A.C. 68A-29.002 Regulations Relating to the Taking of Mammals. Solitary bats may roost in small tree cavities or palm fronds while larger colonies of bats may roost in manmade structures such as the joints of bridges. Within the study area are structures which could provide roosting habitat for state-protected bats, primarily within the existing bridge, which is a suitable size for a colony of bats. During field reviews, no evidence of bat utilization was noted within the existing DeSoto Bridge. Bats were observed in the bat boxes at the Palmetto Estuary Park. Bat surveys will be conducted during the design phase to ensure no roosting bats are inhabiting the bridge. If bats are present, bat exclusion would be required due to the proposed bridge replacement activities. Since bats are not currently roosting in the bridge impacts to bats are not anticipated.

## 2.3 Protected Plant Species Evaluation

A total of twenty-six (26) federal and state protected plants are known to occur within Manatee County. Of the 26 species, seven (7) plants are federally listed species, and nineteen (19) plants are state-protected species. **Table 2-2** presents federal and state protected plant species descriptions, habitat preference, and probability of occurrence within the project study area.

**Table 2-2 Potentially Occurring Listed Plant Species**

| Scientific Name | Common Name | Listing Status | | Habitat Preference | Probability of Occurrence | Effect Determination |
|---|---|---|---|---|---|---|
| | | USFWS | FDACS | | | |
| **PLANTS** | | | | | | |
| *Acrostichum aureum* | Golden leather fern | NL | T | Tidal swamps and marshes; sinkholes in rockland hammocks. | Low | No Adverse Effect Anticipated |
| *Andropogon arctatus* | Pinewoods bluestem | NL | T | Dry to wet flatwoods and sand pine scrub. | None | No Effect Anticipated |
| *Bonamia grandiflora* | Florida bonamia | T | E | Openings or disturbed areas in white sand scrub on central Florida ridges, with scrub oaks, sand pine, and lichens. | None | No Effect |
| *Calopogon multiflorus* | Many-flowered grass-pink | NL | T | Dry to moist flatwoods with longleaf pine, wiregrass, saw palmetto. | None | No Effect Anticipated |
| *Celtis iguanaea* | Iguana hackberry | NL | E | Shell mounds and middens in tropical coastal hammocks. | Low | No Effect Anticipated |
| *Chionanthus pygmaeus* | Pygmy fringe tree | E | E | Scrub, sandhill, and xeric hammock, primarily on the Lake Wales Ridge. | None | No Effect |
| *Chrysopsis floridana* | Florida goldenaster | E | E | Sunny, bare patches of sand in sand pine scrub and ecotones between this community and scrubby flatwoods; disturbed areas of loose sand. | None | No Effect |
| *Cladonia perforata* | Perforate reindeer lichen | E | E | Rosemary scrub on FL Panhandle coasts, Lake Wales Ridge, and Atlantic Coastal Ridge. | None | No Effect |
| *Ctenitis sloanei* | Florida tree fern | NL | E | Humid forests. | None | No Effect Anticipated |
| *Eragrostis pectinacean var. tracyi* | Sanibel lovegrass | NL | E | Found on drier, compact soils of disturbed beach dunes, maritime hammocks, coastal strands, coastal grasslands, old fields, clearings, and other disturbed sites. | Low | No Adverse Effect Anticipated |
| *Glandularia tampensis* | Tampa vervain | NL | E | Live oak–cabbage palm hammocks and pine– palmetto flatwoods. Disturbed, sandy areas. | None | No Effect Anticipated |
| *Harrisia aboriginum* | Aboriginal prickly apple | E | E | Shell mounds, coastal strands, upland fringes of mangrove swamps, coastal berms, and maritime hammocks. | Low | MANLAA |
| *Lantana depressa var. sanibelensis* | Gulf Coast Florida lantana | NL | E | Dunes and sandy inland ridges. | Low | No Effect Anticipated |
| *Lechea cernua* | Nodding pinweed | NL | T | Open, unshaded white sands of scrub and scrubby flatwoods. | None | No Effect Anticipated |
| *Lechea divaricata* | Pine pinweed | NL | E | Scrub and scrubby flatwoods. | None | No Effect Anticipated |
| *Lythrum flagellare* | Lowland loosestrife | NL | E | Wet prairies, floodplain marshes, and roadside ditches. | Low | No Effect Anticipated |
| *Matelea floridana* | Florida spiny-pod | NL | E | Sandhill, upland pine, and dry hammocks. | None | No Effect Anticipated |
| *Nolina brittoniana* | Britton's beargrass | E | E | Scrub, sandhill, scrubby flatwoods, and xeric hammock. | None | No Effect |
| *Pecluma ptilota var. bourgeauana* | Comb polypody | NL | E | Mesic-hydric hammock, swamps, hydric hardwood forests. | None | No Effect Anticipated |
| *Rhynchospora megaplumosa* | Large-plumed beaksedge | NL | E | Scrubby flatwoods and scrubby to mesic flatwoods transition areas. | None | No Effect Anticipated |
| *Rudbeckia nitida* | St. John's black-eyed Susan | NL | E | Wet or mesic pine flatwoods, bogs, savannas, seepage slopes; roadside ditches. | Low | No Effect Anticipated |
| *Schwalbea americana* | Chaffseed | E | E | Moist, grassy ecotones around ponds in longleaf pine sandhills; longleaf pine savannas, sandhills, and flatwoods. | None | No Effect |
| *Thelypteris serrata* | Toothed maiden fern | NL | E | Cypress swamps, sloughs, floodplains. | None | No Effect Anticipated |

| Scientific Name | Common Name | Listing Status | | Habitat Preference | Probability of Occurrence | Effect Determination |
|---|---|---|---|---|---|---|
| | | USFWS | FDACS | | | |
| *Tillandsia flexuosa* | Banded wild-pine | NL | T | Hammocks, cypress swamps, scrub, and coastal communities. | Low | No Adverse Effect Anticipated |
| *Triphora amazonica* | Broad-leaved nodding-caps | NL | E | Rich, well-drained, moist humus of upland hardwood hammocks. | None | No Effect Anticipated |
| *Zephyranthes simpsonii* | Redmargin zephyrlily | NL | T | Dome swamp, wet flatwoods, wet prairie. In ditches, wet pastures, roadsides. Often in burned areas. | Low | No Effect Anticipated |

**Key:**
USFWS = U.S. Fish and Wildlife Service
FDACS = Florida Department of Agriculture and Consumer Services
NL = Not Listed
E = Endangered
T = Threatened
MANLAA = May affect, not likely to adversely affect

**Sources:**
USFWS ECOS - Environmental Conservation Online System https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=12081, accessed 8/17/2023

FNAI Florida Natural Areas Inventory Tracking List https://www.fnai.org/species-communities/tracking-main, accessed 8/17/2023

### 2.3.1 Federally Listed Plant Species

Six (6) of the seven (7) federally listed plant species have no probability of occurrence within the project area due to lack of suitable habitat; therefore, the proposed project will have **no effect** on those species. These species include the Florida bonamia (*Bonamia grandiflora),* pygmy fringe tree (*Chionanthus pygmaeus*), Florida goldenaster (*Chrysopsis floridana*), perforate reindeer (*Cladonia perforate*), Britton's beargrass (*Nolina brittoniana*), and chaffseed (*Schwalbea americana*). These species are included in **Table 2-2**. The one remaining federally listed plant species description and effect determination is listed below.

**Aboriginal Prickly Apple**

The aboriginal prickly apple (*Harrisia aboriginum*), listed by USFWS as Endangered, is an erect to reclining cactus with simple or branching, cylindrical, spiny stems to 20 feet tall but more often around 10 feet, with 9 to 11 longitudinal ribs, often leaning on nearby vegetation. The probability of occurrence for the species was designated as low even though there are mangrove swamps within the project area; no observations of the species were made during field reviews, groundcover vegetation was sparse within the mangrove swamps, and the areas surrounding the mangrove swamps were disturbed by foot traffic and the proximity to the roadway. Species presence is considered unlikely within areas proposed to be impacted by the project. Therefore, the appropriate effect determination is **may affect, not likely to adversely affect** for the aboriginal prickly apple.

### 2.3.2 State Listed Plant Species

Eleven (11) of the 19 state-listed plant species have no probability of occurrence within the project area due to lack of suitable habitat (**Table 2-2**); therefore, the appropriate effect determination is **no effect anticipated** for those species. These species include the pinewoods bluestem (*Andropogon arctatus*), many-flowered grass-pink (*Calopogon multiflorus*), Florida tree fern (*Ctenitis sloanei*), Tampa vervain (*Glandularia tampensis*), nodding pinweed (*Lechea cernua*), pine pinweed (*Lechea divaricata*), Florida spiny-pod (*Matelea floridana*), comb polypody (*Pecluma ptilota var. bourgeauana*), large-plumed beaksedge (*Rhynchospora megaplumosa*), toothed maiden fern (*Thelypteris serrata*), and broad-leaved noddingcaps (*Triphora amazonica*). The remaining state-protected plant species descriptions and effect determinations are listed below. If any listed plants are observed during surveys FDOT will notify FDACS.

**Golden Leather Fern**

The golden leather fern (*Acrostichum aureum*), listed by FDACS as Threatened, is a large shrub-like herbaceous fern with ascending or arching fronds. Suitable habitat consists of tidal swamps; which exists within the project area; however, no observations were made for the species. Impacts are proposed to the disturbed edges of mangroves swamps, so a **no adverse effect anticipated** is appropriate for the golden leather fern.

**Iguana Hackberry**

The iguana hackberry (*Celtis iguanaea*), listed by FDACS as Threatened, is a low, spreading shrub with stout, curved spines on branches and at leaf nodes. Suitable habitat consists of shell mounds, which are not present within the project study area; therefore, an effect determination of **no effect anticipated** is appropriate for iguana hackberry.

**Sanibel Lovegrass**

Sanibel lovegrass (*Eragrostis pectinacean var. tracyi*), listed by FDACS as Endangered, is found on drier, compact soils of disturbed beach dunes, maritime hammocks, coastal strands, coastal grasslands, old fields, clearings, and other disturbed sites. Suitable habitat is present within the project area, but no observations of the species were made during field reviews. Proposed impacts are anticipated within mangrove swamps, which were observed to have minimal ground vegetation cover. Therefore, although it is unlikely that Sanibel lovegrass will be impacted by the proposed project and the appropriate effect determination is **no adverse effect anticipated** for the species.

**Gulf Coast Florida Lantana**

Gulf Coast Florida lantana (*Lantana depressa var. sanibelensis*), listed by FDACS as Endangered, is a low, mat-forming shrub. Suitable habitat consists of dunes and coastal grasslands. Suitable habitat for the species is not present within the project study area. Therefore, the appropriate effect determination is **no effect anticipated** for the Gulf Coast Florida lantana.

**Lowland Loosestrife**

Lowland loosestrife (*Lythrum flagellare*), listed by FDACS as Endangered, is a low-growing, creeping wildflower with purple to pinkish flowers. No suitable habitat for the species is present within the project area; therefore, the appropriate effect determination is **no effect anticipated** to the lowland loosestrife.

**St. John's Black-eyed Susan**

St. John's black-eyed Susan (*Rudbeckia nitida*), listed by FDACS as Endangered, is a perennial herb with a single, stiff, erect, ribbed stem, occasionally branched, topped by a flower head. Ray flowers are bright yellow. No suitable habitat for the species exists within the project area; therefore, the appropriate effect determination is **no effect anticipated** to the St. John's black-eyed Susan.

**Banded Wild-pine**

The banded wild-pine (*Tillandsia flexuosa*), listed by FDACS as Threatened, is a medium-large rosette airplant. The overlapping leaves are spirally twisted at the base and banded green and silver. Flowers are borne on a slender stalk with few blooms, pink in color. Banded wild-pine is one of the most distinctive airplants in Florida. The combination of twisted leaves and horizontal bands of green and silver are unique to this species. Suitable habitat for the species consists of coastal communities, present within the project study area. No banded wild-pine individuals were identified during field surveys. Impacts of the proposed project are mainly to mangrove swamps. These habitats within the project study area were observed to be densely forested with minimal groundcover. Therefore, the effect determination for the species is **no adverse effect anticipated**.

**Redmargin Zephyrlily**

The redmargin zephyrlily (*Zephyranthes simpsonii*), listed by FDACS as Threatened, is a showy, lily-like flower arising from a perennial underground bulb. No suitable habitat exists within the project area; therefore, there is **no effect anticipated** to the redmargin zephyrlily.

### 2.3.3 Non-Listed Rare Plants

Non-listed native plant species are generally not afforded the type of protection that state or federally protected listed plant or wildlife species are. The FDOT Office of Environment Management (OEM) partnered with the Florida Wildflower Foundation (FWF) and the Florida Native Plant Society (FNPS) to form the Native Florida Plants FDOT Working Group. Through the working group, the FWF and FNPS can engage and review projects early in the process so that their comments regarding potential plants of concern can be considered by FDOT. The working group also includes representatives from FDACS to ensure the procedures under 581.185 Florida Statutes and Chapter 5B-40, F.A.C. are followed.

Included in the ETDM Summary Report No. 14510, published on October 7, 2023, FDACS recommended surveys for rare and listed plants be conducted, and if present, plants should be protected or translocated to a suitable alternative site by a qualified organization such as the FDOT working group. The Peninsular Florida Genera of Concern List (2021) provided by FNPS was reviewed and plants that were identified with the potential to occur within the study area were not documented during field reviews.

## 2.5 Special Designations and Conservation Lands

The bridge replacement takes place over the Manatee River which is a designated Outstanding Florida Water (OFW) as listed in F.A.C. Chapter 62-302. The Palmetto Estuary Preservation Project is located within the project study area, adjacent to the roadway in the northwest section of the project. These lands are owned and managed by the City of Palmetto. Coordination with the City of Palmetto will occur throughout PD&E and permitting phases of the project. Direct impacts to the Palmetto Estuary Preservation Project are not anticipated.

# 3.0 Wetlands and Surface Waters

An ETDM Programming Screen Summary Report was published on October 7, 2023, containing comments from the ETAT on the project's effects on various natural, physical, and social resources. Wetlands received a summary degree of effect of 3 (moderate) with comments received from USACE, SWFWMD, USEPA, USFWS, FDEP, and NMFS. Specific concerns regarding impacts to wetlands and seagrass areas are raised in the ETDM comments. Concerns included impacts to seagrass habitats within the Manatee River, impacts to estuarine forested wetlands, concerns about wood stork foraging habitats, implementation of manatee special provisions, permitting requirements for the projects, and appropriate mitigation measures be taken for all impacts to wetlands and surface waters.

## 3.1 Methodology

The extent and types of wetlands in the project study limits were documented in accordance with Executive Order 11990, Protection of Wetlands, and the Wetlands and Other Surface Waters chapter of the FDOT PD&E Manual. Wetlands were identified through the review of available literature, geographic information systems (GIS) data, and field verification. The following sources were reviewed prior to conducting the field review:

- USFWS NWI maps;
- Land use and land cover maps (SWFWMD 2017);
- NRCS Soil Survey of Manatee County, Florida (1983);
- ETDM Summary Report (2023);
- SWFWMD Seagrass Cover maps (2022); and
- True color aerial photography (2022).

Following the review of all available materials, field assessments were conducted on July 13, 2023, to identify the presence of submerged aquatic vegetation, wetland vegetation, evidence of hydrology, and hydric soil indicators. The jurisdictional limits of the wetlands were estimated using the criteria stated in the Florida statewide unified wetland delineation methodology as adopted by the Water Management Districts per Chapter 62-340, F.A.C., and described in *The Florida Wetlands Delineation Manual*, and the *USACE Final Regional Supplement to the Corps of Engineers Wetland Delineations Manual: Atlantic and Gulf Coastal Plain Region* (October 2010). Waters of the U.S. designations were based on the USACE and U.S. Environmental Protection Agency's (USEPA) "Revised Definition of `Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"), to conform to the 2023 Supreme Court decision in *Sackett* v. EPA (2023) ("*Sackett*"). Biologists evaluated wetland and surface water systems nearby the project area using the Uniform Mitigation Assessment Method (UMAM, Chapter 62-345, F.A.C.). The results presented in this report are a compilation of information collected from field assessments performed by project biologists and from the data sources described above.

## 3.2 Avoidance and Minimization

Avoidance and minimization of wetland impacts was considered during development of alternatives for the project. Right-of-way is limited along the project length and other constraints exist as well. The new facility will have a reduced posted speed, allowing for the use of a curb and gutter system for stormwater collection, which results in a narrower typical section. In addition, retained earth walls will be used in the areas of transition from roadway to bridge. Finally, north of the river, gravity walls will be designed along the roadway section as needed to reduce impacts.

With regard to stormwater, the project will be designed to the greatest extent possible with certain BMPs which will benefit water quality and wetlands locally. These features may include vegetated swales, rain gardens and or sediment traps. In a pre-application meeting with SWFWMD, held on September 20, 2023, it was agreed the Desoto Bridge Replacement project would require an Individual Permit because of the extent of work proposed over wetlands and surface waters exceeds the 0.5 acre threshold of a general permit. Furthermore, it was agreed that SWFWMD would not require formal water quality treatment for the project. Meeting minutes are included as **Appendix I**.

This project is in conformance with Executive Order 11990, Protection of Wetlands; consideration was given to avoiding and/or minimizing wetland impacts. The proposed project will have no significant short-term or long-term adverse impacts to wetlands, there is no practicable alternative to construction in wetlands, and measures have been taken to minimize harm to wetlands.

## 3.3 Results

Wetlands within the project study area (includes 250-foot buffer) include Reservoirs (FLUCFCS 5300), Bays and Estuaries (FLUCFCS 5400), Mangrove Swamps (FLUCFCS 6120), and Seagrass, Sparse - Medium (FLUCFCS 9111). A wetland map is included as **Figure 3-1**. Wetland descriptions are detailed below.

**Reservoirs (FLUCFCS: 5300; USFWS: PUBHx - Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated)**

This land classification includes artificial water impoundments, which may provide irrigation, flood control, hydro-electric power generation, municipal and rural water supplies, and recreation. This land use category occurs where Haben Boulevard and US 41 North intersect. A large stormwater pond is present within the parcel.

**Bays and Estuaries (FLUCFCS: 5400; USFWS: E1UB2 - Estuarine, Subtidal, Unconsolidated Bottom, Sand)**

This land classification includes inlets of the sea that are included in the landmass of Florida because they extend into the land. These embayments must be more than a nautical mile in width to be classed as bays and estuaries. This land use describes the Manatee River and this surface water spans the entire length of the DeSoto Bridge. Minimal vegetation was present, except for two seagrass areas in the northern quadrants of the DeSoto Bridge. More details regarding seagrass are found in FLUCFCS 9111 description.

**Mangrove Swamps (FLUCFCS: 6120; USFWS: E2FO3N - Estuarine, Intertidal, Forested, Broad-Leaved Deciduous, Regularly Flooded)**

This land use code is located along the northern quadrants of the existing DeSoto Bridge. Forested mangrove wetland systems are comprised of red and black mangrove species (*Rhizophora mangle, Avicennia germinans*), buttonwood (*Conocarpus erectus*), groundsel tree (*Baccharis halimifolia*), and Brazilian pepper (*Schinus terebinthifolia*). Groundcover includes salt wort (*Batis maritima*), sawgrass (*Cladium jamaicense*), and flatsedges (*Cyperus* sp.).

**Seagrass, Sparse – Medium (FLUCFCS: 9111, USFWS: E1AB3L - Estuarine, Intertidal, Aquatic Bed, Rooted Vascular, Subtidal)**

This land cover represents seagrass beds present within the Manatee River, within the northwest and northeast quadrants of the DeSoto Bridge. These sparse to medium covered seagrass beds consisted of shoal grass (*Halodule wrightii*) and star grass (*Halophila sp.*). Algae was present within the systems.

PROJECT LIMITS
PROJECT LIMITS 250-FOOT BUFFER
WETLANDS
6120, MANGROVE SWAMPS
SEAGRASS
9111, SEAGRASS, SPARSE TO MEDIUM
SURFACE WATERS
5300, RESERVOIRS
5400, BAYS AND ESTUARIES

Palm Ln
Melody Ln
Merry Ln
5300
Haben
Riviera Dunes
Palmetto Estuary Preserve
6120
Tamiami Trl
6120
The Island at Riviera Dunes
41
9111
9111
Tamiami Trl
US Highway 41 N
5400
CSX Railroad
Tamiami Trl
Riverfront Blvd
Bradenton Waterfront Park
Veterans Memorial Park
Rossi Park
1st Ave E
Manatee Memorial Hospital
Riverview Foot & Ankle
3rd Ave W
3rd Ave W
3rd St W
4th Ave W
1st St
1st St
3rd Ave E
6th St E
3rd Ave E
8th St E
4th Ave E
Gulf Coast Surgery Center
Manatee Ave E
Manatee Surgical Center
Manatee County School Board Administration Complex
3rd St E
5th St E

All data within this map are supplied as is, without warranty. This product has not been prepared for legal engineering, or survey purposes. Users of this information should review or consult the primary data sources to ascertain the usability of the information.

**Figure 3-1 Wetland Map**

FPID #: 442630-1-22-01
DeSoto Bridge Replacement PD&E
Manatee County, Florida

0 500 1,000 1,500 US Feet

Data Source: ESA, ESRI

NORTH

### 3.3.1 Direct Wetland and Surface Water Impacts

A total of 1.02 acres of mangroves swamps (FLUCFCS 6120) (0.31 acres permanent impact and 0.71 acres of secondary impact) will be impacted by the Preferred Alternative. The total functional loss for this wetland system totals 0.27 units. The proposed bridge will cross 6.09 acres of USACE and SWFWMD-jurisdictional surface waters. Construction of bridge pilings will result in less than 0.10 acre of permanent surface water impacts which are considered de minimis, as they result in less than 0.01 functional unit loss. Therefore, impacts to surface waters do not require mitigation. Shade impacts are not considered since this area for surface waters consists of non-vegetated bottom. No other surface waters (OSWs) were identified within the project study area.

UMAM scores and functional loss analysis for wetlands and surface waters within the project footprint are summarized in **Table 3-1**. UMAM datasheets for wetlands proposed for impact under the Preferred Alternative is provided in **Appendix J**. Wetland impact maps for the Preferred Alternative is included as **Figure 3-2**.

**Table 3-1 Potential Wetland and Surface Water Impacts Associated with Preferred Alternative**

| FLUCFCS | USFWS Classification | Preferred Alternative | | | |
|---|---|---|---|---|---|
| | | Impact Type | Impact Acreage | UMAM Score | Functional Loss |
| **Wetlands** | | | | | |
| 6120 | E2FO3N | Fill | 0.31 | 0.73 | 0.23 |
| | | Secondary | 0.71 | 0.06 | 0.04 |
| | | **Total** | **1.02** | **-** | **0.27** |
| **Surface Waters** | | | | | |
| 5400 | E1UB2 | Fill | <0.10 | - | <0.01 |

### 3.3.2 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Potential secondary effects include migrating edges of invasive species. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project area. Due to the developed nature of the surrounding area and the project's minimal impacts, no cumulative impacts are anticipated to occur.


All data within this map are supplied as is, without warranty. This product has not been prepared for legal, engineering, or survey purposes. Users of this information should review or consult the primary data sources to ascertain the usability of the information.

**Figure 3-2 Wetland Impact Map**

FPID #: 442630-1-22-01
DeSoto Bridge Replacement PD&E
Manatee County, Florida

0 200 400 600 US Feet

Data Source: ESA, ESRI

NORTH

U:\GIS\GIS\Projects\19xxxx\D2019010B2_02_DeSoto_Bridge_PDE\03_Project\DeSoto_Bridge_20231205.aprx

## 3.4 Wetland Impact Mitigation

A number of mitigation options are potentially available to compensate for impacts to wetlands including public or private wetland mitigation banks and wetland creation, restoration, or enhancement within watersheds in the project area.

The proposed project is located within the service area of three mitigation banks: Mangrove Point Mitigation Bank, Braden River Mitigation Bank, and Nature Coast Mitigation Bank. Braden River Mitigation Bank and Nature Coast Mitigation Bank are within the SWFWMD basin but are not federally permitted; therefore, the most feasible option is Mangrove Point Mitigation Bank.

Mangrove Point Mitigation Bank is within the USACE service area and SWFWMD basin for the project study area and has adequate federal and state estuarine credits available to compensate for impacts associated with the Preferred Alternative. According to the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS), the Mangrove Point Mitigation Bank has 14.75 estuarine intertidal, forested credits available. According to RIBITS, the last transaction at this mitigation bank was September 22, 2022. A credit availability letter, dated January 22, 2024, confirmed that a total of 13.95 federal estuarine forested credits (mangrove) and a total of 12 state estuarine forested credits (mangrove) were available at the Mangrove Point Mitigation Bank. It should be noted that credit requirements and availability may change over the duration of the PD&E and design phases of the project. Mitigation options will be investigated throughout all phases of the project.

All UMAM functional loss calculations, and preliminary wetland and surface water boundaries discussed are subject to revisions and approval by regulatory agencies during the permitting process. The exact type of mitigation to offset impacts will be coordinated with the SWFWMD and USACE during the permitting phase(s) of this project. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137 FS, to satisfy all mitigation requirements of Part IV of Chapter 373, FS, and 33 U.S. Code (USC) 1344.

# 4.0 Essential Fish Habitat

## 4.1 Introduction

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1996 (50 CFR Section 600.920), as amended through January 12, 2007, and as administered by the NOAA NMFS, federal agencies must consult with NMFS regarding any of their actions authorized, funded, undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. EFH is defined in the MSFCMA as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." The MSFCMA set forth a mandate to NMFS and regional fishery management councils (FMC) to designate EFH for species managed under federal Fishery Management Plans (FMPs). FMPs are prepared by regional FMCs and contain information pertaining to conservation and management measures for each specific fisheries' resources as well as other provisions required by the MSFCMA. Subsets of EFH that are designated based on ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of the habitat type are referred to as EFH Habitat Areas of Particular Concern (HAPC). HAPCs are identified by the region's FMC. The regional FMC that has jurisdiction over Western Florida where this project is located, is the Gulf of Mexico Fishery Management Council (GMFMC).

As stated in the FDOT PD&E Manual, NMFS has designated FDOT to conduct EFH consultations in Florida pursuant to 50 CFR § 600.920(c) in a July 19, 2000, letter to FHWA and FDOT. This EFH Assessment has been prepared in accordance with the MSFCMA as well as the EFH Chapter of the FDOT PD&E Manual.

The objective of this EFH Assessment is to describe how the proposed DeSoto bridge replacement may affect EFH within the tidally influenced Manatee River. As noted by NMFS in the *ETDM Programming Screen Summary Report No. 14510* (dated October 7, 2023), seagrass habitat exists within the Manatee River in the vicinity of this proposed project and recommended avoidance measures be implemented to prevent impacts.

## 4.2 Methodology

### 4.2.1 Data Collection and Field Surveys

Prior to a field review, scientists performed a GIS database and literature review to identify protected species, wetlands, and EFH documented within and adjacent to the study area. Referenced materials included the following data sources:

- USFWS NWI maps;
- ETDM Summary Report (2023);
- SWFWMD Seagrass Cover maps (2022);
- FWC Statewide Seagrass GIS data layer (2022); and
- NOAA EFH mapper (accessed 2023).

According to the GMFMC, there are no identified HAPCs within or adjacent to the study area. The Statewide Seagrass GIS data layer (FWC, 2022) and SWFWMD Seagrass Cover maps (2022) identified seagrass beds located along the northern coastline around the DeSoto Bridge as well as areas that could support other submerged aquatic vegetation (SAV) in the project area. Additionally, mangrove wetlands were identified in the project area through the review of the NWI GIS data layer (USWFS, 2023). These identified habitats within the project area potentially provide EFH for species within the coastal migratory pelagics, red drum, reef fish, spiny lobster, and shrimp FMPs. As such, field reviews were warranted to determine the existing limits of these resources.

To determine benthic marine resources in the project study area, qualified biologists conducted an in-water SAV survey during the seagrass growing season (June 1 to September 30) per *A Science-based Seagrass Survey Window for Coastal Construction Project Planning in Florida* (NOAA NMFS, 2010). The survey was conducted at low tide using snorkeling gear to perform transects that were spaced a maximum of five feet apart. Two seagrass beds were identified on the northwest and northeast sides of the DeSoto Bridge and were mapped using a sub-meter accurate handheld Arrow GPS Unit. These seagrass areas are outside the proposed footprint of the project and will not be impacted. The Manatee River substrate outside these seagrass areas was found to generally consist of bare silty-sand bottom with no SAV coverage. The field review also documented and mapped mangroves in the study area that are dominated by red and black mangroves (described in Section 3.2.1). The limits of these identified resources were compared to the footprint of the Preferred Alternative to determine the potential for impacts to EFH from the project.

## 4.3 EFH Involvement

### 4.3.1 Description of the Proposed Action

In-water work is required to replace the DeSoto Bridge. In-water work during construction is anticipated to include pile driving and assembly of bridge components. Much of the work will be conducted from barges and small vessels. Anchored barges will avoid seagrasses outside the project to prevent shading impacts. At this time, bridge demolition is not anticipated to be through blasting. This construction has the potential to impact EFH and the associated species that utilize this habitat. Since the specifications for in-water work and piling driving have not been finalized at this time, consultation with NMFS regarding Section 7 and EFH will be deferred to the design phase of the project.

### 4.3.2 Managed Species

Seagrass habitat can provide EFH that is typically utilized during various life stages for many of the species within the FMPs managed by the GMFMC. **Table 4-1** lists some of the species within the FMPs managed by the GMFMC that may utilize the project area during some life stage. However, based on the location of the identified seagrass resources outside of the project's proposed footprint, no direct or indirect impacts are anticipated to any seagrasses or other estuarine and marine SAV from the construction of the Preferred Alternative. In addition, no HAPCs were identified in the project area; therefore, no involvement with HAPCs is anticipated for this project.

Potential EFH proposed to be impacted by this project includes the edge of existing mangrove wetlands (estuarine forested) to the northeast of the bridge along with unconsolidated bottom substrate (silty-sand bottom) within the Manatee River. These habitat types provide EFH for species within the FMPs listed in **Table 4-1**; however, these impacts are anticipated to have a negligible effect on any species within these FMPs. Proposed mangrove impacts by the Preferred Alternative occur along the roadside edge of an existing mangrove fringe and total 0.31 acres of direct impact and an additional 0.71 acres of secondary impact of the 5.12-acre total mangrove fringe. The remaining mangroves will not be impacted and will continue to provide higher quality habitat, as they experience greater tidal fluctuations and are less disturbed than the mangroves to be impacted. Temporary displacements for individuals of the species within these FMPs may occur during project construction; however, all the species within these FMPs would be expected to return post-construction as similar pre-construction conditions will persist in the project area post-construction regardless of the direct impacts to any of the EFH within the project area. Therefore, no adverse impacts are anticipated to the any species within the FMPs managed by the GMFMC. Further details on behavior patterns and life history for species within each FMP are provided in the sections below.

**Table 4-1 GMFMC FMPs with Species Potentially Occurring in Project Area**

| Fishery Management Plan | Scientific Name | Common Name |
|---|---|---|
| Shrimp | *Penaeus duorarum* | Pink Shrimp |
| | *Penaeus aztecus* | Brown Shrimp |
| | *Penaeus setiferus* | White Shrimp |
| Red Drum | *Sciaenops ocellatus* | Red Drum |
| Reef Fish | *Lutjanus campechanus* | Red snapper |
| | *Lutjanus cyanopterus* | Cubera Snapper |
| | *Lutjanus griseus* | Gray Snapper |
| | *Lutjanus synagris* | Lane Snapper |
| | *Ocyurus chrysurus* | Yellowtail Snapper |
| | *Epinephelus itajara* | Goliath Grouper |
| | *Epinephelus morio* | Red Grouper |
| | *Mycteroperca bonaci* | Black Grouper |
| | *Mycteroperca microlepis* | Gag Grouper |
| | *Mycteroperca venenose* | Yellowfin Grouper |
| | *Lachnolaimus maximus* | Hogfish |
| Coastal Migratory Pelagics | *Scomberomorus cavalla* | King Mackerel |
| | *Scomberomorus maculatus* | Spanish mackerel |
| | *Rachycentron canadum* | Cobia |
| Spiny Lobster | *Panulurus argus* | Caribbean Spiny Lobster |

#### *4.3.2.1 Shrimp FMP*

The shrimp within this FMP include brown (*Penaeus aztecus*), white (*Penaeus setiferus*), and pink (*Penaeus duorarum*) shrimp. EFH for shrimp, includes inshore estuarine nursery areas, offshore marine habitats used for spawning and growth to maturity, and all interconnecting water. Inshore nursery areas include tidal freshwater (palustrine), estuarine, and marine emergent wetlands (e.g., intertidal marshes); tidal palustrine forested areas; mangroves; tidal freshwater, estuarine, and marine submerged aquatic vegetation (e.g., seagrass); and subtidal and intertidal non-vegetated flats. Mangrove wetlands and unconsolidated sand bottom exist in the project area and provide EFH for the shrimp species within this FMP. Proposed impacts to these habitats are anticipated to be minor with similar/equivalent benthic conditions persisting post-construction.

#### *4.3.2.2 Red Drum FMP*

Red Drum are common on the west coast of Florida and found throughout Florida waters. Depending on life stage, they are found from estuarine to offshore waters and occur over a variety of habitat types including SAV, soft bottom, hard bottom, emergent marsh, sand/shell, and early life stages are water column associated. Adults can typically be found over muddy, sandy, or oyster reef bottoms with little or no seagrass. These fish tend to utilize the inshore seagrass beds, oyster flats, structure such as docks and pilings, and deeper channels and are most prevalent during the warmest and coolest months of the year. EFH for this federally managed fishery includes the following habitats to a depth of 160 feet offshore: tidal freshwater; estuarine emergent vegetated wetlands (flooded saltmarshes, brackish marsh, tidal creeks); estuarine scrub/shrub (mangrove fringe); submerged rooted vascular plants (seagrasses); oyster reefs and shell banks; unconsolidated bottom (soft sediments); ocean high salinity surf zones; and artificial reefs. Mangrove wetlands and unconsolidated sand bottom provide EFH for the red drum in the project area. Proposed impacts to these habitats are anticipated to be minor with similar/equivalent benthic conditions persisting post-construction.

#### *4.3.2.3 Reef Fish FMP*

Several representative species from the Reef Fish FMP are known to occur within the project area including snappers, groupers and wrasses. EFH for this fishery includes coral reefs, live/hardbottom substrate, SAV, artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 600 feet where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical FMP. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including sargassum, required for larval survival and growth up to and including settlement. For specific life stages of estuarine dependent and nearshore reef fish species, EFH includes areas inshore of the 100-foot contour, such as attached macroalgae; SAV; estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and/or live/hard bottom. Mangrove wetlands and unconsolidated sand bottom exist in the project area and provide EFH for the fish species within this FMP. Proposed impacts to these habitats are anticipated to be minor with similar/equivalent benthic conditions persisting post-construction.

#### *4.3.2.4 Coastal Migratory Pelagics FMP*

EFH for species within the coastal migratory pelagic FMP consists of Gulf of Mexico waters and substrates extending from the US/Mexico border to the boundary between the areas covered by the GMFMC as well as the South Atlantic Fishery Management Council (SAFMC) from estuarine waters out to depths of 100 fathoms. The larval habitat for all species included under the coastal pelagic FMP is the water column in each species spawning areas, typically offshore. The habitat for all adults of the species included under the coastal pelagic FMP, except dolphin (mahi-mahi), are the coastal waters out to the edge of the continental shelf in the Gulf of Mexico and Atlantic Ocean. Dolphins are an oceanic species which may be found on the shelf. Many of the species the coastal pelagic fish species prey upon are estuarine dependent, spending some portion of their lives in estuaries; making estuaries particularly important for these species even though they do not typically inhabit these waters. Mangrove wetlands and unconsolidated sand bottom provide EFH in the project area for prey species for the fish within this FMP. Proposed impacts to these habitats are anticipated to be minor with similar/equivalent benthic conditions persisting post-construction.

#### *4.3.2.5 Spiny Lobster FMP*

The spiny lobster is found in coastal and shallow continental shelf waters along the western Atlantic coast from North Carolina to Brazil, including Bermuda, and throughout the Gulf of Mexico. The species is particularly abundant off the southern Florida coast from Florida Bay to Dry Tortugas. In Florida, spiny lobster mating season is from February to April, but can occur year-round, and generally occurs offshore in open Gulf waters or on coral reefs. Spiny lobster typically utilize the crevices and relief provided by benthic features such as sponges, corals and seagrasses as well as artificial structures like docks and pilings. EFH for spiny lobster includes nearshore shelf/oceanic waters; shallow subtidal bottom; seagrass habitat; unconsolidated bottom (soft sediments); coral and live/hard bottom habitat; sponges; algal communities; and mangrove habitat (prop roots). Mangrove wetlands and unconsolidated sand bottom provide EFH in the project area for the spiny lobster in the project area. Proposed impacts to these habitats are anticipated to be minor with similar/equivalent benthic conditions persisting post-construction.

## 4.4 Analysis of Effects on EFH

The replacement bridge will span over approximately 6.09 acres of surface waters of the Manatee River. The direct and indirect impacts to EFH anticipated from the Preferred Alternative are discussed in the subsections below.

### 4.4.1 Direct and Indirect Impacts

Proposed mangrove impacts by the Preferred Alternative total 0.31 acres of direct impact. Indirect impacts were calculated in EFH areas 25 feet beyond the limits of the direct wetland impacts. The Preferred Alternative will indirectly (i.e., secondary) impact 0.71 acres of mangrove wetlands considered EFH (**Table 3-1**). Potential EFH that is proposed to be impacted by this project includes the edges of these mangrove wetlands (estuarine forested) along with unconsolidated bottom substrate (silty-sand bottom) within the Manatee River. These habitat types provide EFH for species within the FMPs listed in **Table 4-1**; however, these impacts are anticipated to have a negligible effect on any species within these FMPs.

Minor direct (in-water bridge support structures) and indirect (shading) impacts to the unconsolidated/silty-sand bottom within Manatee River are anticipated from construction of the bridge. Direct impacts from the construction of additional pilings for the replacement bridge are anticipated to be in the magnitude of less than 0.10 acres of permanent impacts; and the indirect impacts amount to approximately 3.45 acres of additional shading beyond the existing bridge to the east. The bridge runs north-south and has been designed with ample vertical clearance from the water below for navigational purposes; therefore, shading impacts would be anticipated to be insignificant. Due to the small size of the direct impacts, the lack of SAV or other photosynthetic species in this footprint, along with the abundance of equivalent silty-sand bottom in the surrounding area of Manatee River and beyond, these impacts cumulatively were determined to be minimal for EFH.

### 4.4.2 Avoidance and Minimization Measures and Potential Mitigation

Avoidance and minimization measures for wetland and EFH impacts were taken into consideration during this study and will continue to be evaluated throughout the design phase of the project. Since the specifications for in-water work and piling driving have not been finalized at this time, consultation with NMFS regarding Section 7 and EFH will be deferred to a later phase of the project. The majority of the proposed project is within existing FDOT right-of-way. The replacement bridge is proposed to be wider to accommodate paved shoulders and pedestrian features which the existing bridge does not have. Vehicular capacity, however, will not increase as the replacement bridge will have the same amount of travel lanes as the existing bridge, and, therefore, would not be expected to affect potential stormwater pollution levels into the Manatee River below and ultimately Tampa Bay. The existing bridge uses scuppers which allow stormwater to drain directly through holes in the bridge, untreated, into the Manatee River. Stormwater collection and treatment will be facilitated through a curb and gutter system. This improved stormwater design would have beneficial effects to water quality, and therefore EFH, in the project area. BMPs including proper turbidity control measures will be utilized during project construction to further prevent water quality impacts in Manatee River.

Degradation of water quality resulting from construction activities for the project or excess pollutant loading of stormwater runoff from the project has the potential to adversely affect waters of Manatee River. Impacts to water quality from construction activities will be avoided and minimized through the use of BMPs. BMPs generally include phased construction, turbidity screens, silt fences, cofferdams, and other construction techniques approved by the regulatory agencies. Stormwater management will be evaluated further and during the design phase of this project. The project will be designed to meet all applicable water quality standards during permitting. Furthermore, the latest version of the FDOT's *Standard Specification for Road and Bridge Construction,* the NMFS' *Protected Species Construction Conditions,* and the USFWS' *Standard Manatee Conditions for In-Water Work* will be adhered to during the construction of this project and mitigation for wetland impacts will be provided.

Construction of the Preferred Alternative will result in minimal unavoidable impacts to surface waters and wetlands considered EFH; however, the project will not impact seagrasses or other SAV.

If changes are made during design that may result in seagrass or other SAV impacts, mitigation measures will be developed. FDOT has committed to resurveying for seagrasses and SAV within the project footprint, once finalized, during the design phase of the project. Mitigation for the proposed mangrove impacts will be provided in the form of credits from an approved mitigation bank within the drainage basin pursuant to Section 373.4137 FS, to satisfy all mitigation requirements of Part IV of Chapter 373, FS, and 33 U.S. Code (USC) 1344. Specifically, the Preferred Alternative will result in direct impacts to 0.31 acres of mangrove wetlands and less than 0.10 acres to surface waters and indirect impacts to 0.71 acres of mangrove wetlands and 3.45 acres to surface waters. These impacts resulted in 0.27 units of functional loss which is anticipated to be mitigated through the purchase of credits from Mangrove Point Mitigation Bank.

## 4.5 EFH Determination

Proposed impacts to EFH from this bridge replacement project are anticipated to be minor. These impacts include: 0.31 acres of direct impacts and 0.71 acres of indirect impacts to the roadside edge of the mangrove fringe to the northeast of the existing bridge (with the rest of the fringe remaining); less than 0.10 acres of direct/permanent impacts to unconsolidated sandy bottom; and approximately 3.45 acres of indirect impacts (shading) from the wider replacement bridge structure. As the majority of the waterward portion of the mangrove fringe will not be impacted by the project and would remain intact, EFH in the project footprint would be anticipated to return to similar/equivalent conditions post-construction. Therefore, based on the environmental review of the current design of the Preferred Alternative, it is anticipated that this project will have **minimal** impacts to EFH. Both Section 7 and EFH consultation will occur with NMFS for this project and further guidance and/or recommendations may be provided for avoidance and minimization measures or potential mitigation requirements as a result of this coordination. Since the specifications for in-water work and piling driving have not been finalized at this time, consultation with NMFS regarding Section 7 and EFH will be deferred to the design phase.

# 5.0 Anticipated Permits

The USACE and SWFWMD regulate impacts to wetlands within the project area. Other agencies, including the USFWS, U.S. Environmental Protection Agency (EPA), and the FWC, review and comment on wetland permit applications. The FWC issues permits for gopher tortoise relocation activities and protected bird nest take. No gopher tortoise burrows or nests were recorded within the project study area. Additional surveys and coordination may be required during the permitting phase. In addition, the FDEP regulates stormwater discharges from construction sites. The U.S. Coast Guard (USCG) reviews permits for new bridges over navigable waters. The complexity of the permitting process will depend on the impact to jurisdictional wetlands and surface waters, EFH, CH, and listed species areas. It is anticipated that the following permits will be required for this project:

| **Permit** | **Issuing Agency** |
|---|---|
| Section 404 Dredge and Fill NWP 14 | USACE |
| ERP | SWFWMD |
| National Pollutant Discharge Elimination System (NPDES) Permit | FDEP |
| Bridge Permit | USCG |

## 5.1 Section 404 Dredge and Fill Permit

It is anticipated that a NWP 14 (Linear Transportation Projects) will be required from the USACE. Wetland and surface water impacts are related to proposed modifications to abutments and bridge approaches. A standard permit will require compliance with the 404(b)(1) guidelines, avoidance and minimization, and that unavoidable impacts have been mitigated in the form of wetlands creation, restoration, and/or enhancement.

## 5.2 ERP

SWFWMD requires an ERP when construction of any project results in the creation or modification of a surface water management system or results in impacts to jurisdictional wetlands. The ERP permitting process depends on the size of the project and/or the extent of wetland impacts. This project is anticipated to require an individual permit.

## 5.3 NPDES

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the U.S. without an NPDES permit. Under the State of Florida's delegated authority to administer the NPDES program, construction sites that will result in greater than one acre of disturbance must file for and obtain either coverage under an appropriate generic permit contained in Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C.

## 5.4 Bridge Permit

The new DeSoto Bridge over the Manatee River will require a Bridge Permit through the USCG since the Manatee River is a navigable waterway.

# 6.0 Conclusions

## 6.1 Protected Species and Critical Habitat

Based on literature and field reviews, fifty-six (56) species of protected plants and animals are known to occur in Manatee County. Twenty-five (25) of the species are federally listed, thirty (30) species are state listed, and one species, the bald eagle, is protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and State law. One species, the tricolored bat, is a candidate for federal listing. Multiple bat species are state-protected by F.A.C. 68A-4.001 General Prohibitions and 68A-9.010 Taking Nuisance Wildlife.

Effect determinations for federal and state listed wildlife and plant species are summarized in **Tables 6-1** through **6-4** below.

**Table 6-1 Effect Determination for Federally Listed Wildlife Species**

| Scientific Name | Common Name | USFWS Designation | Effect Determination |
|---|---|---|---|
| **FISH** | | | |
| *Acipenser oxyrinchus desotoi* | Gulf sturgeon | T | MANLAA |
| *Pristis pectinata* | Smalltooth sawfish | E | MANLAA |
| **REPTILES** | | | |
| *Caretta caretta* | Loggerhead sea turtle | T | MANLAA |
| *Chelonia mydas* | Green sea turtle | T | MANLAA |
| *Crocodylus acutus* | American crocodile | T | MANLAA |
| *Dermochelys coriacea* | Leatherback sea turtle | E | MANLAA |
| *Drymarchon couperi* | Eastern indigo snake | T | MANLAA |
| *Eretmochelys imbricata* | Hawksbill sea turtle | E | MANLAA |
| *Lepidochelys kempii* | Kemp's Ridley sea turtle | E | MANLAA |
| **BIRDS** | | | |
| *Aphelocoma coerulescens* | Florida scrub-jay | T | No Effect |
| *Calidris canutus rufa* | Red knot | T | MANLAA |
| *Charadrius melodus* | Piping plover | T | MANLAA |
| *Laterallus jamaicensis ssp. jamaicensis* | Eastern black rail | T | MANLAA |
| *Mycteria americana* | Wood stork | T | MANLAA |
| *Picoides borealis* | Red-cockaded woodpecker | E | No Effect |
| *Caracara plancus audubonii* | Audubon's crested caracara | T | No Effect |
| **MAMMALS** | | | |
| *Eumops floridanus* | Florida bonneted bat | E | No Effect |
| *Perimyotis subflavus* | Tricolored bat | NL[1] | - |
| *Trichechus manatus latirostris* | West Indian manatee | T | MANLAA |

**Key:**
USFWS = U.S. Fish and Wildlife Service
T = Threatened
E = Endangered
MANLAA = May affect, not likely to adversely affect
[1] The tricolored bat is a candidate for listing under the jurisdiction of the USFWS.

**Table 6-2 Effect Determination for Federally Listed Plant Species**

| Scientific Name | Common Name | USFWS Designation | Effect Determination |
|---|---|---|---|
| **PLANTS** | | | |
| *Bonamia grandiflora* | Florida bonamia | T | No Effect |
| *Chionanthus pygmaeus* | Pygmy fringe tree | E | No Effect |
| *Chrysopsis floridana* | Florida goldenaster | E | No Effect |
| *Cladonia perforata* | Perforate reindeer lichen | E | No Effect |
| *Harrisia aboriginum* | Aboriginal prickly apple | E | MANLAA |
| *Nolina brittoniana* | Britton's beargrass | E | No Effect |
| *Schwalbea americana* | Chaffseed | E | No Effect |

**Key:**
USFWS = U.S. Fish and Wildlife Service
T = Threatened
E = Endangered
MANLAA = May affect, not likely to adversely affect

**Table 6-3 Effect Determination for State Listed Wildlife Species**

| Scientific Name | Common Name | FWC Designation | Effect Determination |
|---|---|---|---|
| **REPTILES** | | | |
| *Gopherus polyphemus* | Gopher tortoise | T | No Adverse Effect Anticipated |
| *Pituophis melanoleucus mugitus* | Florida pine snake | T | No Effect Anticipated |
| **BIRDS** | | | |
| *Antigone canadensis pratensis* | Florida sandhill crane | T | No Adverse Effect Anticipated |
| *Athene cunicularia floridana* | Florida burrowing owl | T | No Effect Anticipated |
| *Charadrius nivosus* | Snowy plover | T | No Effect Anticipated |
| *Egretta caerulea* | Little blue heron | T | No Adverse Effect Anticipated |
| *Egretta rufescens* | Reddish egret | T | No Adverse Effect Anticipated |
| *Egretta tricolor* | Tricolored heron | T | No Adverse Effect Anticipated |
| *Haematopus palliates* | American oystercatcher | T | No Adverse Effect Anticipated |
| *Platalea ajaja* | Roseate spoonbill | T | No Adverse Effect Anticipated |
| *Rynchops niger* | Black skimmer | T | No Adverse Effect Anticipated |

**Key:**

FWC = Florida Fish and Wildlife Conservation Commission
T = Threatened

**Table 6-4 Effect Determination for State Listed Plant Species**

| Scientific Name | Common Name | FDACS Designation | Effect Determination |
|---|---|---|---|
| **PLANTS** | | | |
| *Acrostichum aureum* | Golden leather fern | T | No Adverse Effect Anticipated |
| *Andropogon arctatus* | Pinewoods bluestem | T | No Effect Anticipated |
| *Calopogon multiflorus* | Many-flowered grass-pink | T | No Effect Anticipated |
| *Celtis iguanaea* | Iguana hackberry | E | No Effect Anticipated |
| *Ctenitis sloanei* | Florida tree fern | E | No Effect Anticipated |
| *Eragrostis pectinacean var. tracyi* | Sanibel lovegrass | E | No Adverse Effect Anticipated |
| *Glandularia tampensis* | Tampa vervain | E | No Effect Anticipated |
| *Lantana depressa var. sanibelensis* | Gulf Coast Florida lantana | E | No Effect Anticipated |
| *Lechea cernua* | Nodding pinweed | T | No Effect Anticipated |
| *Lechea divaricata* | Pine pinweed | E | No Effect Anticipated |
| *Lythrum flagellare* | Lowland loosestrife | E | No Effect Anticipated |
| *Matelea floridana* | Florida spiny-pod | E | No Effect Anticipated |
| *Pecluma ptilota var. bourgeauana* | Comb polypody | E | No Effect Anticipated |
| *Rhynchospora megaplumosa* | Large-plumed beaksedge | E | No Effect Anticipated |
| *Rudbeckia nitida* | St. John's black-eyed Susan | E | No Effect Anticipated |
| *Thelypteris serrata* | Toothed maiden fern | E | No Effect Anticipated |
| *Tillandsia flexuosa* | Banded wild-pine | T | No Adverse Effect Anticipated |
| *Triphora amazonica* | Broad-leaved nodding-caps | E | No Effect Anticipated |
| *Zephyranthes simpsonii* | Redmargin zephyrlily | T | No Effect Anticipated |

**Key:**
FDACS = Florida Department of Consumer Services
T = Threatened
E = Endangered

Compensatory mitigation and conservation measures implemented during construction will offset negative impacts to federally protected species. The tricolored bat is not likely to roost within the bridge structure. FDOT will continue coordination with USFWS to determine the potential effect to the tricolored bat once a final listing decision has been made. No impacts are anticipated to state or federally protected bats due to the proposed project.

Compensatory mitigation, conservation measures implemented during construction, and the ability of avian species to move away from construction will offset negative impacts to state protected species.

No bald eagle nests are located within the secondary protection zone (660-foot) of the project study area. Therefore, no impacts are anticipated to the species.

No roosting bats were observed within the DeSoto Bridge during field reviews.

Multiple avenues of protection will be employed to negate and minimize any potential effects to federal and state listed species. Some of the measures employed may include detailed surveys and agency coordination during the project design phase, including providing appropriate mitigation to offset impacts. During construction, BMPs, adherence to FDOT's "Standard Specification for Road and Bridge Construction", and use of preconstruction surveys are strategies that will be considered, as needed, for protection of listed species.

The study area occurs within areas of CH for the West Indian manatee. The proposed project will include the replacement of an existing overwater structure and minor impacts to mangroves and surface waters (Manatee River), which provides suitable habitat utilized by manatees. Impacts to mangroves are minor given the small size of impact to mangroves relative to the available habitat in the region. Additionally, compensatory mitigation to offset the loss of similar habitat will be provided. No impact to seagrass is proposed, which is a main food source for manatees. Seagrasses in the vicinity of the bridge will be unaffected by construction. Water depths are shallow around the mangroves swamps but deepen under the main stretch of bridge where pilings will be added. Boat traffic is common within the channel/Manatee River. Impacts to surface waters considered critical habitat will result from the pilings; however, these impacts will be minimal. Impacts to water quality during construction may occur due to pile driving and other in-water work; however, these will be temporary and BMPs will be implemented. For these reasons, it was determined that the Preferred Alternative will **not result in the destruction or adverse modification of critical habitat** for the West Indian manatee.

## 6.2 Wetlands

A total of 0.31 acres of mangrove swamps (FLUCFCS 6120) will be impacted by the Preferred Alternative. The total functional loss for this wetland system is 0.23 units. Compensatory mitigation options for wetland impacts will be addressed in future phases of this project but at this time Mangrove Point Mitigation Bank has a service area that overlaps the project and has the appropriate credits available.

The proposed bridge will cross 6.09 acres of USACE and SWFWMD-jurisdictional surface waters. Construction of bridge pilings will result in permanent surface water impacts; however, these impacts are considered de minimis, for they total less than 0.10 acre of impact and result in less than 0.01 units of functional loss; therefore, mitigation is not required. Shade impacts are not considered since this area for surface waters consists of non-vegetated bottom. Based upon the current seagrass bed boundaries, no seagrass impacts are anticipated.

## 6.3 Essential Fish Habitat

The Preferred Alternative will result in direct impacts to 0.31 acres of mangrove wetlands and less than 0.10 acres to surface waters and indirect impacts to 0.71 acres of mangrove wetlands and 3.45 acres to surface waters. These impacts resulted in 0.27 units of functional loss which is anticipated to be mitigated through the purchase of credits from Mangrove Point Mitigation Bank.

Based on the environmental review of the current design of the Preferred Alternative, it is anticipated that this project will have **minimal** impacts to EFH.

## 6.4 Implementation Measures

Implementation measures are actions that the FDOT is required to take per procedure, standard specifications, or other agency requirements. These are standard measures which will be implemented at a later project phase. For this project, implementation measures that address protected species and wetlands-related items include:

- BMPs will be utilized for erosion control during construction to minimize impacts to any wetlands and surface waters that are affected by the proposed project;
- Unavoidable impacts to wetlands and surface waters will be mitigated pursuant to S. 373.4137 FS to satisfy all mitigation requirements of Part IV, Chapter 373 FS and 33 U.S.C.s 1344 should state and/or federal regulations require it;
- Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC;
- Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction; and
- FDOT's Standard Specifications for Road and Bridge Construction will be utilized.

## 6.5 Commitments

Based upon findings of the preliminary data collection, general corridor surveys, and ongoing coordination with the USFWS and FWC, the FDOT is considering the following project commitments:

1. The most recent version of the *USFWS Standard Protection Measures for the Eastern Indigo Snake* will be adhered to during construction of the proposed project;
2. The most recent version of the *USFWS Standard Manatee Conditions for In-Water Work* will be adhered to during construction of the proposed project;
3. The *NMFS Protected Species Construction Conditions* will be adhered to during construction of the proposed project;
4. Updated surveys for Submerged Aquatic Vegetation (SAV) will be conducted during the design phase of the project;
5. Consultation will be re-initiated with NMFS regarding Section 7 and EFH during the design phase of the project;

6. FDOT will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank; and
7. If the listing status of the tricolored bat is elevated by USFWS to Threatened or Endangered and the Preferred Alternative is located within the consultation area, FDOT commits to re-initiating consultation with the USFWS to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the tricolored bat.

## 6.6 Agency Coordination

This Natural Resource Evaluation will be submitted to the following agencies: USFWS, NMFS, FWC, USCG, USACE, FDACS, and SWFWMD.

# 7.0 References

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# Appendix A NRCS Soils Descriptions

## Appendix A: Project Area NRCS Soils Descriptions

**Bradenton Fine Sand, Limestone Substratum (NRCS Code 5, Hydric)**
This soil type comprises approximately 5.6 percent of the soils within the project study area. This soil is poorly drained with smooth slopes of 0 to 2 percent. It is on hammocks and low-lying ridges. The natural vegetation consists of slash pine, laurel and live oak, cabbage palm, wax myrtle, magnolia, bluestem, saw palmetto, and varied vines.

**Canaveral Sand, Filled (NRCS Code 9, Non-Hydric)**
This soil type comprises approximately 36.8 percent of the soils within the project study area. The soil is nearly level, moderately well drained to somewhat poorly drained with a less than 2 percent slope. The filled material is sand and shells from dredging and excavation of water areas for urban use. It ranges from 20 to over 80 inches in thickness. Water drainage is typically artificial, and during the wet season the water table is at a depth of 40 to 60 inches. Vegetation consists of bushes and weeds, but the soil is mostly barren.

**Cassia Fine Sand, Moderately Well Drained (NRCS Code 12, Non-Hydric)**
This soil type comprises approximately 12.3 percent of the soils within the project study area. This soil is nearly level and somewhat poorly drained. It is on knolls and low ridges that are higher than the bordering flatwoods. The slope is 0 to 2 percent. In most years, a water table fluctuates from below 40 inches during dry periods to 15 to 40 inches for about 6 months out of the year. The natural vegetation slash and longleaf pine, dwarf oak, sand live oak, saw palmetto, pineland threeawn, running oak, and broomsedge bluestem.

**Estero Muck, Tidal, 0 to 1 Percent Slopes (NRCS Code 21, Hydric)**
This soil type comprises approximately 11.5 percent of the soils within the project study area. This soil type is described as nearly level, very poorly drained. The slope is 0 to 1 percent. The natural vegetation consists of predominant black mangrove. In lesser occurrences natural vegetation includes seashore salt grass, batis, and oxeye daisy.

**Waters of the Gulf of Mexico (NRCS Code 100, Unranked)**
This water classification is comprised of the Manatee River and makes up approximately 33.8 percent of the project study area. Seagrass beds comprised of shoal grass (*Halodule wrightii*) and star grass (*Halophila sp.*) with algae, were present.

# Appendix B Land Use Descriptions

## Appendix B: Project Study Area Land Use Descriptions

**Residential, High Density (FLUCFCS 1300)**

This land use classification includes high-density residential areas. The density is variable and may include multi-family apartment complexes generally located in larger urban centers. This land use code occurs in the north and south portions of the project study area. Protected species which could potentially inhabit this type of land use include the gopher tortoise, Florida sandhill crane, bald eagle, and bats. No protected wildlife was observed in FLUCFCS 1300 areas.

**Commercial and Services (FLUCFCS 1400)**

Commercial areas are predominantly associated with the distribution of products and services. This category is composed of a large number of commercial land uses that often occur in complex mixtures. This land use code occurs in the north and south portions of the project study area. Protected species which could potentially inhabit this type of land use include the gopher tortoise, Florida sandhill crane, bald eagle, and bats. No protected wildlife was observed in FLUCFCS 1400 areas.

**Institutional (FLUCFCS 1700)**

Educational, religious, health and military facilities are typical components of this category. Included within a particular institutional unit are all buildings, grounds and parking lots that compose the facility. This land use code occurs throughout the project study area. Protected species which could potentially inhabit this type of land use include the gopher tortoise, Florida sandhill crane, bald eagle, and bats. No protected wildlife was observed in FLUCFCS 1700 areas.

**Community Recreational Areas (FLUCFCS 1860)**

This land use code describes the Palmetto Estuary Preservation Project property within the project study area. This recreational area is located on the northwest area of the DeSoto Bridge. Protected species that may utilize this area include gopher tortoise, wading birds, coastal birds, Florida sandhill crane, bald eagle, and the West Indian manatee. No protected wildlife was observed in FLUCFCS 1860 areas.

**Open Land (FLUCFCS 1900)**

This classification includes undeveloped land within urban areas and inactive land with street patterns, but without structures. Open Land typically does not exhibit any structures or any indication of intended use. Land in this category may be in a transitional state and ultimately will be developed into one of the typical urban land uses; however, at the time of observation the intended use may be hard to determine. This land use code occurs along the project corridor between Haben Boulevard and the northern seawall. Protected species which could potentially inhabit this type of land use include the eastern indigo snake, gopher tortoise, Florida sandhill crane, Florida burrowing owl, bald eagle, and bats. No protected wildlife was observed in FLUCFCS 1900 areas.

**Australian Pine (FLUCFCS 4370)**

Australian pine was introduced to South Florida from Australia and is colonizing northward to the Tampa Bay area. It is common on disturbed sites, forming dense thickets, and is frequently planted as wind breaks and soil stabilizers and can be found in some wetland areas. No protected wildlife was observed in FLUCFCS 4370 areas.

**Reservoirs (FLUCFCS: 5300; USFWS: PUBHx - Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated)**

This land classification includes artificial water impoundments. They provide irrigation, flood control, hydro-electric power generation, municipal and rural water supplies, and recreation. This land use code occurs where Haben Boulevard and US 41 North intersect. Protected species which could potentially inhabit this land use code include the American alligator, eastern indigo snake, and wading birds. No protected wildlife was observed in FLUCFCS 5300 areas.

**Bays and Estuaries (FLUCFCS: 5400; USFWS: E1UB2 - Estuarine, Subtidal, Unconsolidated Bottom, Sand)**

This land classification includes inlets of the sea that are included in the landmass of Florida because they extend into the land. These embayments must be more than a nautical mile in width to be classed as bays and estuaries. This land use code occurs along the entire length of the Desoto Bridge. Protected species which could potentially inhabit this type of land use include the Gulf sturgeon, sea turtles, wading birds, coastal birds, and the West Indian manatee. No protected wildlife was observed in FLUCFCS 5400 areas.

**Mangrove Swamps (FLUCFCS: 6120; USFWS: E2FO3N - Estuarine, Intertidal, Forested, Broad-Leaved Deciduous, Regularly Flooded)**

This coastal hardwood community is composed of red and/or black mangrove which is pure or predominant. The major associates include white mangrove, buttonwood, cabbage palm, and sea grape. This land use is located along the north and south coastal areas of the project study area. Protected species that may utilize this area include wading birds, coastal birds, sea turtles, Gulf sturgeon. and the West Indian manatee. No protected wildlife was observed in FLUCFCS 6210 areas.

**Transportation (FLUCFCS 8100)**

This land use classification consists of roads, sidewalks, ditches/swales, right-of-way buffers, and associated facilities. This land use code occurs along the entire length of the project corridor, and it consists of US Highway 41. Protected species which could potentially inhabit this type of land use, especially in maintained right-of-way (ROW), include the gopher tortoise, Florida sandhill crane, bald eagle, and bats. Protected wildlife observed in FLUCFCS 8100 areas consisted of bats roosting in bat boxes.

**Seagrass, Sparse – Medium (FLUCFCS: 9111, USFWS: E1AB3L - Estuarine, Intertidal, Aquatic Bed, Rooted Vascular, Subtidal)**

This land cover represents seagrass beds present within the Manatee River, within the northwest and northeast quadrants of the DeSoto Bridge. These sparse to medium covered seagrass beds consisted of shoal grass (*Halodule wrightii*) and star grass (*Halophila sp.*). Algae was present within the systems.

# Appendix C National Marine Fisheries Service (NMFS) Protected Species Construction Conditions

# PROTECTED SPECIES CONSTRUCTION CONDITIONS, NOAA FISHERIES SOUTHEAST REGIONAL OFFICE

The action agency and any permittee shall comply with the following construction conditions for protected species under the jurisdiction of NOAA Fisheries Southeast Regional Office (SERO) Protected Resources Division (PRD):[1]

**Protected Species Sightings**–The action agency and any permittee shall ensure that all personnel associated with the project are instructed about the potential presence of species protected under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing listed species and all marine mammals. To determine which protected species and critical habitat may be found in the transit area, please review the relevant marine mammal and ESA-listed species at Find A Species (https://www.fisheries.noaa.gov/find-species) and the consultation documents that have been completed for the project.

1. **Equipment**–Turbidity curtains, if used, shall be made of material in which protected species cannot become entangled and be regularly monitored to avoid protected species entrapment. All turbidity curtains and other in-water equipment shall be properly secured with materials that reduce the risk of protected species entanglement and entrapment.

    a. In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) shall be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, shall be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line shall be allowed in the water. All anchoring shall be in areas free from hardbottom and seagrass.

    b. Turbidity curtains and other in-water equipment shall be placed in a manner that does not entrap protected species within the project area and minimizes the extent and duration of their exclusion from the project area.

    c. Turbidity barriers shall be positioned in a way that minimizes the extent and duration of protected species exclusion from important habitat (e.g. critical habitat, hardbottom, seagrass) in the project area.

2. **Operations**–For construction work that is generally stationary (e.g., barge-mounted equipment dredging a berth or section of river, or shore-based equipment extending into the water):

    a. Operations of moving equipment shall cease if a protected species is observed within 150 feet of operations.

[1] Manatees are managed under the jurisdiction of the U.S. Fish and Wildlife Service.

b. Activities shall not resume until the protected species has departed the project area of its own volition (e.g., species was observed departing or 20 minutes have passed since the animal was last seen in the area).

3. **Vessels**–For projects requiring vessels, the action agency, and any permittee shall ensure conditions in the Vessel Strike Avoidance Measures are implemented as part of the project/permit issuance (https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance).

4. **Consultation Reporting Requirements–**Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization.

   To report to NOAA Fisheries SERO PRD, send an email to takereport.nmfsser@noaa.gov. Please include the species involved, the circumstances of the interaction, the fate and disposition of the species involved, photos (if available), and contact information for the person who can provide additional details if requested. Please include the project's Environmental Consultation Organizer (ECO) number and project title in the subject line of email reports.

   To report the interaction to the local stranding/rescue organization, please see the following website for the most up to date information for reporting sick, injured, or dead protected species:

   **Reporting Violations–**To report an ESA or MMPA violation, call the NOAA Fisheries Enforcement Hotline. This hotline is available 24 hours a day, 7 days week for anyone in the United States.

   NOAA Fisheries Enforcement Hotline (800) 853-1964

5. **Additional Conditions–**Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the project consultation and must also be complied with.

**For additional information, please contact NOAA Fisheries SERO PRD at:**
NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
Tel: (727) 824-5312
Visit us on the web at Protected Marine Life in the Southeast
(https://www.fisheries.noaa.gov/region/southeast#protected-marine-life)

Revised: May 2021

# Appendix D Standard Protection Measures for the Eastern Indigo Snake

# STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

## U.S. Fish and Wildlife Service

December 2023

The Standard Protection Measures for the Eastern Indigo Snake (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida and Georgia for use by project proponents and their construction personnel help minimize adverse impacts to eastern indigo snakes. However, implementation of this Plan does not replace any state of federal consultation or regulatory requirements. At least 30 days prior to any land disturbance activities, the project proponent shall notify the appropriate USFWS Field Office (see Field Office contact information) via e-mail that the Plan will be implemented as described below.

As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the approved poster and pamphlet (USFWS Eastern Indigo Snake Conservation webpage), no further written confirmation or approval from the USFWS is needed regarding use of this Plan as a component of the project.

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

## STANDARD PROTECTION MEASURES

### BEFORE AND DURING CONSTRUCTION ACTIVITIES:

- All Project personnel shall be notified about the potential presence and appearance of the federally protected eastern indigo snake (*Drymarchon couperi*).
- All personnel shall be advised that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting the species, in knowing violation of the Endangered Species Act of 1973.
- The project proponent or designated agent will post educational posters in the construction office and throughout the construction site. The posters must be clearly visible to all construction staff and shall be posted in a conspicuous location in the

Project field office until such time that Project construction has been completed and time charges have stopped.

- Prior to the onset of construction activities, the project proponent or designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational pamphlet including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office. Photos of eastern indigo snakes may be accessed on USFWS, Florida Fish and Wildlife Conservation Commission and/or Georgia Department of Natural Resources websites.
- Each day, prior to the commencement of maintenance or construction activities, the Contractor shall perform a thorough inspection for the species of all worksite equipment.
- If an eastern indigo snake (alive, dead or skin shed) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Office. The contact information for the USFWS is provided below and on the referenced posters and pamphlets.
- During initial site clearing activities, an onsite observer is recommended to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).
- Periodically during construction activities, the project area should be visited to observe the condition of the posters and Plan materials and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.
- For erosion control use biodegradable, 100% natural fiber, net-free rolled erosion control blankets to avoid wildlife entanglement.

### POST CONSTRUCTION ACTIVITIES:

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion (See USFWS Field Office Contact Information).

## USFWS FIELD OFFICE CONTACT INFORMATION

Georgia Field Office: Phone: (706) 613-9493, email: gaes_assistance@fws.gov
Florida Field Office: Phone: (352) 448-9151, email: fw4flesregs@fws.gov

# POSTER & PAMPHLET INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (final posters for Plan compliance are available on our website in English and Spanish and should be printed on 11 x 17in or larger paper and laminated (USFWS Eastern Indigo Snake Conservation webpage). Pamphlets are also available on our webpage and should be printed on 8.5 x 11in paper and folded, and available and distributed to staff working on the site.

## POSTER CONTENT (ENGLISH):

ATTENTION

Federally-Threatened Eastern Indigo Snakes may be present on this site!

Killing, harming, or harassing eastern indigo snakes is strictly prohibited and punishable under State and Federal Law.

IF YOU SEE A LIVE EASTERN INDIGO SNAKE OR ANY BLACK SNAKE ON THE SITE:

• Stop land disturbing activities and allow the snake time to move away from the site without interference. Do NOT attempt to touch or handle the snake.

• Take photographs of the snake, if possible, for identification and documentation purposes.

• Immediately notify supervisor/agent, and a U.S. Fish and Wildlife Service (USFWS) Ecological Services Field Office, with the location information and condition of the snake.

• If the snake is located near clearing or construction activities that will cause harm to the snake, the activities must pause until a representative of the USFWS returns the call (within one day) with further guidance.

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

• Stop land disturbing activities and immediately notify supervisor/applicant, and a USFWS Ecological Services Field Office, with the location information and condition of the snake.

• Take photographs of the snake, if possible, for identification and documentation purposes.

• Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, reaching up to 8 ft long. Named for the glossy, blue-black scales above and slate blue below, they often have orange to reddish color (cream color in some cases)

in the throat area. They are not typically aggressive.

SIMILAR SPECIES: The black racer resembles the eastern indigo snake. However, black racers have a white or cream chin, and thinner bodies.

LIFE HISTORY: Eastern indigo snakes live in a variety of terrestrial habitat types. Although they prefer uplands, they also use wetlands and agricultural areas. They will shelter inside gopher tortoise burrows, other animal burrows, stumps, roots, and debris piles. Females may lay from 4 to 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTED STATUS: The eastern indigo snake is protected by the USFWS, Florida Fish and Wildlife Conservation Commission, and Georgia Department of Natural Resources. Any attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage eastern indigo snakes is prohibited by the U.S. Endangered Species Act. Penalties include a maximum fine of $25,000 for civil violations and up to $50,000 and/or imprisonment for criminal offenses. Only authorized individuals with a permit (or an Incidental Take Statement associated with a USFWS Biological Opinion) may handle an eastern indigo snake.

Please contact your nearest USFWS Ecological Services Field Office if a live or dead eastern indigo snake is encountered:

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

## POSTER CONTENT (SPANISH):

ATENCIÓN

¡Especie amenazada, la culebra Índigo del Este, puede ocupar el área!

Matar, herir o hostigar culebras Índigo del Este es estrictamente prohibido bajo la Ley Federal.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE O UNA CULEBRA NEGRA VIVA EN EL ÁREA:

• Pare excavación y permite el movimiento de la culebra fuera del área sin interferir. NO atentes tocar o recoger la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Notifique supervisor/agente, y la Oficina de Campo de Servicios Ecológicos del Servicio Federal de Pesca y Vida Silvestre (USFWS) apropiada con información acerca del sitio y condición de la culebra.

• Si la culebra está cerca de un área de construcción que le pueda causar daño, las actividades deben parar hasta un representante del USFWS regrese la llamada (dentro de un día) con más orientación.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE MUERTA EN EL ÁREA:

• Pare excavación. Notifique supervisor/aplicante, y la Oficina de Campo de Servicios Ecológicos apropiada con información acerca del sitio y condición de la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Emerge completamente la culebra en agua y congele la especie hasta que personal apropiado de la agencia de vida silvestre la recoja.

DESCRIPCIÓN. La culebra Índigo del Este es una de las serpientes sin veneno más grande en Norte América, alcanzando hasta 8 pies de largo. Su nombre proviene del color azul-negro brilloso de sus escamas, pero pueden tener un color anaranjado-rojizo (color crema en algunos casos) en su mandíbula inferior. No tienden a ser agresivas.

SERPIENTES PARECIDAS. La corredora negra, que es de color negro sólido, es la única otra serpiente que se asemeja a la Índigo del Este. La corredora negra se diferencia por una mandíbula inferior color blanca o crema y un cuerpo más delgado.

HÁBITATS Y ECOLOGÍA. La culebra Índigo del Este vive en una variedad de hábitats, incluyendo tierras secas, humedales, y áreas de agricultura. Ellas buscan refugio en agujeros o huecos de tierra, en especial madrigueras de tortugas de tierra. Las hembras ponen 4 hasta 12 huevos blancos entre abril y junio, y la cría emergen entre julio y octubre.

PROTECCIÓN LEGAL. La culebra Índigo del Este es clasificada como especie amenazada por el USFWS, la Comisión de Conservación de Pesca y Vida Silvestre de Florida y el Departamento de Recursos Naturales de Georgia. Intento de matar, hostigar, herir, lastimar, perseguir, cazar, disparar, capturar, colectar o conducta parecida hacia las culebras Índigo del Este es prohibido por la Ley Federal de Especies en Peligro de Extinción. Penalidades incluyen un máximo de $25,000 por violaciones civiles y $50,000 y/o encarcelamiento por actos criminales. Solos individuales autorizados con un permiso o Determinación de toma incidental (Incidental Take Statement) asociado con una Opinión Biológico del USFWS pueden recoger una Índigo del Este.

Por favor de contactar tu Oficina de Campo de Servicios Ecológicos más cercana si encuentras una culebra Índigo del Este viva o muerta:

Oficina de Florida: (352) 448-9151

Oficina de Georgia: (706) 613-9493

# Appendix E USFWS Programmatic Effect Determination Key for the Eastern Indigo Snake

United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

**7915 BAYMEADOWS WAY, SUITE 200**
**JACKSONVILLE, FLORIDA 32256-7517**

IN REPLY REFER TO

August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Anny
Jacksonville District Corps of Engineers
P.O Box4970
Jacksonville, Florida 32232-0019
(Attn: *Mr*. David S. Hobbie)

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

Dear Colonel Dodd:

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

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

**On Pagel**

The following replaces the last paragraph above the signatures:

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

**On Page3**

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

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

**On Page4**

The following replaces the first paragraph under Conservation Measures:

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

our *Standard Protection Measures for the Eastern Indigo Snake* (Sexvice 2013) located at: http://www.fws.gov/northf1orida/1ndigoSnakes/indigo-snakes.htm will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake."

**On Page 4 and Page 5 (Couplet D)**

The following replaces D. under Conservation Measures:

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

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested 2..... *"may d'1 ect*

**On Page5**

The following replaces footnote #3:

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

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

Sincerely,

Dawn Jennings
Acting Field Supervisor

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

# United States Department of the Interior

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

January 25, 2010

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

Service Federal Activity Code: 41420-2009-FA-0642
Service Consultation Code: 41420-2009-I-0467
41910-201 0-I-0045
Subject: North and South Florida Ecological Services Field Offices Programmatic Concurrence for Use of Original Eastern Indigo Snake Key(s) Until Further Notice

Dear Mr. Hobbie:

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

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

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

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

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

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

Sincerely,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

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

**Eastern Indigo Snake Programmatic Effect Determination Key**

## Scope of the key

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

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

## Habitat

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

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

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

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

**Conservation Measures**

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

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

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

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

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

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

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

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

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

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

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity ofthe burrow3. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... *"NLAA"*

Permit will not be conditioned as outlined above and consultation with the S.erv1ce 1s requeste d2 ..... *"may affect"*

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

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

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

# Appendix F USFWS Effect Determination Key for the Wood Stork in Central and North Peninsular Florida

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

## Purpose and Background

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

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

## Scope of the key

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

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

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

## Summary of General Wood Stork Nesting and Foraging Habitat Information

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

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

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

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

## WOOD STORK KEY

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

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

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

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

Project impacts SFH[2]……go to C

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

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

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

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

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

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

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

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

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

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

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

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

## Monitoring and Reporting Effects

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

## Literature Cited

Kahl, M.P., Jr. 1964. Food ecology of the wood stork (*Mycteria americana*) in Florida. Ecological Monographs 34:97-117.

Ogden, J.C. 1991. Nesting by wood storks in natural, altered, and artificial wetlands in central and northern Florida. Colonial Waterbirds 14:39-45.

Rodgers, J.A. Jr., A.S. Wenner, and S.T. Schwikert. 1987. Population dynamics of wood storks in northern and central Florida, USA. Colonial Waterbirds 10:151-156.

Rodgers, J.A., Jr., S.T. Schwikert, and A. Shapiro-Wenner. 1996. Nesting habitat of wood storks in north and central Florida, USA. Colonial Waterbirds 19:1-21.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from: http://verobeach.fws.gov/Programs/Recovery/vbms5.html.

# Appendix G Standard Manatee Conditions for In-Water Work

# STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com

f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

# CAUTION: MANATEE HABITAT

**All project vessels**

## IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

## SHUT DOWN

Report any collision with or injury to a manatee:

**Wildlife Alert:**

**1-888-404-FWCC(3922)**

cell *FWC or #FWC

# Appendix H Effect Determination Key for the Manatee in Florida

**THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, AND THE STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE MANATEE IN FLORIDA**
**April 2013**

## Purpose and background of the key

The purpose of this document is to provide guidance to improve the review of permit applications by U.S. Army Corps of Engineers' (Corps) Project Managers in the Regulatory Division regarding the potential effects of proposed projects on the endangered West Indian manatee (*Trichechus manatus*) in Florida, and by the Florida Department of Environmental Protection or its authorized designee or Water Management District, for evaluating projects under the State Programmatic General Permit (SPGP) or any other Programmatic General Permits that the Corps may issue for administration by the above agencies. Such guidance is contained in the following dichotomous key. The key applies to permit applications for in-water activities such as, but not limited to: (1) dredging [new or maintenance dredging of not more than 50,000 cubic yards], placement of fill material for shoreline stabilization, and construction/placement of other in-water structures as well as (2) construction of docks, marinas, boat ramps and associated trailer parking spaces, boat slips, dry storage or any other watercraft access structures or facilities.

At a certain step in the key, the user is referred to graphics depicting important manatee areas or areas with inadequate protection. The maps can be downloaded from the Corps' web page at http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx. We intend to utilize the most recent depiction of these areas, so should these areas be modified by statute, rule, ordinance and/or other legal mandate or authorization, we will modify the graphical depictions accordingly. These areas may be shaded or otherwise differentiated for identification on the maps.

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

## Scope of the key

This key should only be used in the review of permit applications for effect determinations on manatees and should not be used for other listed species or for other aquatic resources such as Essential Fish Habitat (EFH). Corps Project Managers should ensure that consideration of the project's effects on any other listed species and/or on EFH is performed independently. This key may be used to evaluate applications for all types of State of Florida (State Programmatic General Permits, noticed general permits, standard general permits, submerged lands leases, conceptual and individual permits) and Department of the Army (standard permits, letters of permission, nationwide permits, and regional general permits) permits and authorizations. The final effect determination will be based on the project location and description; the potential effects to manatees, manatee habitat, and/or manatee critical habitat; and any measures (such as project components, standard construction precautions, or special conditions included in the authorization) to avoid or minimize effects to manatees or manatee critical habitat. 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 shall refer to the Manatee Programmatic Biological Opinion, dated March 21, 2011, for guidance on eliminating or minimizing potential adverse effects resulting from the proposed project. If unable to resolve the adverse effects, the Corps may refer the applicant to the U.S. Fish and Wildlife Service (Service) for further assistance in attempting to revise the proposed project to a “may affect, not likely to adversely affect” level. The Service will coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) and the counties, as appropriate. Projects that provide new access for watercraft and key to “may affect, not likely to adversely affect” may or may not need to be reviewed individually by the Service.

**MANATEE KEY**
**Florida[1]**
**April 2013**

**The key is not designed to be used by the Corps' Regulatory Division for making their effect determinations for dredging projects greater than 50,000 cubic yards, the Corps' Planning Division in making their effect determinations for civil works projects or by the Corps' Regulatory Division for making their effect determinations for projects of the same relative scope as civil works projects. These types of activities must be evaluated by the Corps independently of the key.**

A. Project is not located in waters accessible to manatees and does not directly or indirectly affect manatees (see Glossary).....*No effect*

Project is located in waters accessible to manatees **or** directly or indirectly affects manatees ..... B

B. Project consists of one or more of the following activities, all of which are *May affect*:

1. blasting or other detonation activity for channel deepening and/or widening, geotechnical surveys or exploration, bridge removal, movies, military shows, special events, etc.;

2. installation of structures which could restrict or act as a barrier to manatees;

3. new or changes to existing warm or fresh water discharges from industrial sites, power plants, or natural springs or artesian wells (but only if the new or proposed change in discharge requires a Corps permit to accomplish the work);

4. installation of new culverts and/or maintenance or modification of existing culverts (where the culverts are 8 inches to 8 feet in diameter, ungrated and in waters accessible, or potentially accessible, to manatees)[2];

5. mechanical dredging from a floating platform, barge or structure[3] that restricts manatee access to less than half the width of the waterway;

6. creation of new slips or change in use of existing slips, even those located in a county with a State-approved Manatee Protection Plan (MPP) in place and the number of slips is less than the MPP threshold, to accommodate docking for repeat use vessels, (*e.g.*, water taxis, tour boats, gambling boats, etc; or slips or structures that are not civil works projects, but are frequently used to moor large vessels (>100') for shipping and/or freight purposes; does not include slips used for docking at boat sales or repair facilities or loading/unloading at dry stack storage facilities and boat ramps); [Note: For projects within Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the reviewer should proceed to Couplet C.]

7. any type of in-water activity in a Warm Water Aggregation Area (WWAA) or No Entry Area (see Glossary and accompanying Maps[4]); [Note: For residential docking facilities in a Warm Water Aggregation Area that is not a Federal manatee sanctuary or No Entry Area, the reviewer should proceed to couplet C.]

8. creation or expansion of canals, basins or other artificial shoreline and/or the connection of such features to navigable waters of the U.S.; [Note: For projects proposing a single residential dock, the reviewer should proceed to couplet C; otherwise, project is a *May Affect*.]

9. installation of temporary structures (docks, buoys, etc.) utilized for special events such as boat races, boat shows, military shows, etc., but only when consultation with the U.S. Coast Guard and FWS has not occurred; [Note: See programmatic consultation with the U.S. Coast Guard on manatees dated May 10, 2010.].

Project is other than the activities listed above ..... C

C. Project is located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... D

Project is not located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... G

D. Project includes dredging of less than 50,000 cubic yards ..... E

Project does not include dredging ..... G

E. Project is for dredging a residential dock facility or is a land-based dredging operation ..... N

Project not as above ..... F

F. Project proponent **does not elect** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... *May affect*

Project proponent **elects** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... G

G. Project provides new[5] access for watercraft, *e.g.*, docks or piers, marinas, boat ramps and associated trailer parking spaces, new dredging, boat lifts, pilings, floats, floating docks, floating vessel platforms, boat slips, dry storage, mooring buoys, or other watercraft access (residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access) or improvements allowing increased watercraft usage ..... H

Project does not provide new[5] access for watercraft, *e.g.*, bulkheads, seawalls, riprap, maintenance dredging, boardwalks and/or the maintenance (repair or rehabilitation) of currently serviceable watercraft access structures provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements do not allow increased watercraft usage ..... N

H. Project is located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4])
..... *May affect*

Project is not located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4]) ..... I

I. Project is for a multi-slip facility (see Glossary) ..... J

Project is for a residential dock facility or is for dredging (see Glossary) ..... N

J. Project is located in a county that currently has a State-approved MPP in place (BREVARD, BROWARD, CITRUS, CLAY, COLLIER, DUVAL, INDIAN RIVER, LEE, MARTIN, MIAMI-DADE, PALM BEACH, ST. LUCIE, SARASOTA, VOLUSIA) or shares contiguous waters with a county having a State-approved MPP in place (LAKE, MARION, SEMINOLE)[6] ..... K

Project is located in a county not required to have a State-approved MPP ..... L

K. Project has been developed or modified to be consistent with the county's State-approved MPP **and** has been verified by a FWC review (or FWS review if project is exempt from State permitting) **or** the number of slips is below the MPP threshold ..... N

Project has not been reviewed by the FWC or FWS **or** has been reviewed by the FWC or FWS **and** determined that the project is not consistent with the county's State-approved MPP ..... *May affect*

L. Project is located in one of the following counties: CHARLOTTE, DESOTO[7], FLAGLER, GLADES, HENDRY, HILLSBOROUGH, LEVY, MANATEE, MONROE[7], PASCO[7], PINELLAS ..... M

Project is located in one of the following counties: BAY, DIXIE, ESCAMBIA, FRANKLIN, GILCHRIST, GULF, HERNANDO, JEFFERSON, LAFAYETTE, MONROE (south of Craig Key), NASSAU, OKALOOSA, OKEECHOBEE, PUTNAM, SANTA ROSA, ST. JOHNS, SUWANNEE, TAYLOR, WAKULLA, WALTON ..... N

M. The number of slips does not exceed the residential dock density threshold (see Glossary) ..... N

The number of slips exceeds the residential dock density threshold (see Glossary) ..... *May affect*

N. Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove will have beneficial, insignificant, discountable[9] or no effects on the manatee[10] ..... O

Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove may adversely affect the manatee[10] ..... *May affect*

O. Project proponent **elects** to follow standard manatee conditions for in-water work[11] and requirements, as appropriate for the proposed activity, prescribed on the maps[4] ..... P

Project proponent **does not elect** to follow standard manatee conditions for in-water work[11] and appropriate requirements prescribed on the maps[4] ..... *May affect*

P. If project is for a new or expanding[5] multi-slip facility and is located in a county with a State-approved MPP in place **or** in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Putnam, St. Johns, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is for a new or expanding[5] multi-slip facility and is located in Charlotte, Desoto, Flagler, Glades, Hendry, Hillsborough, Levy, Manatee, Monroe (north of Craig Key), Pasco, or Pinellas County, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations.

If project is for repair or rehabilitation of a multi-slip facility and is located in an Important Manatee Area, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. If project is for repair or rehabilitation of a multi-slip facility and: (1) is not located in an Important Manatee Area; (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is a residential dock facility, shoreline stabilization, or dredging, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary. Note: For residential dock facilities located in a Warm Water Aggregation Area or in a No Entry area, seasonal restrictions may apply. See footnote 4 below for maps showing restrictions.

If project is other than repair or rehabilitation of a multi-slip facility, a new[5] multi-slip facility, residential dock facility, shoreline stabilization, or dredging, and does not provide new[5] access for watercraft or

improve an existing access to allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

[1] On the St. Mary's River, this key is only applicable to those areas that are within the geographical limits of the State of Florida.

[2] All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally or vertically. For new culverts, grates must be attached prior to installation of the culverts. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement. If new culverts and/or the maintenance or modification of existing culverts are grated as described above, the determination of "*May affect, not likely to adversely affect*" is appropriate[11] and no further consultation with the Service is necessary.

[3] If the project proponent agrees to follow the standard manatee conditions for in-water work as well as any special conditions appropriate for the proposed activity, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. These special conditions may include, but are not limited to, the use of dedicated observers (see Glossary for definition of dedicated observers), dredging during specific months (warm weather months vs cold weather months), dredging during daylight hours only, adjusting the number of dredging days, does not preclude or discourage manatee egress/ingress with turbidity curtains or other barriers that span the width of the waterway, etc.

[4] Areas of Inadequate Protection (AIPs), Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas are identified on these maps and defined in the Glossary for the purposes of this key. These maps can be viewed on the Corps' web page. If projects are located in a No Entry Area, special permits may be required from FWC in order to access these areas (please refer to Chapter 68C-22 F.A.C. for boundaries; maps are also available at FWC's web page).

[5] New access for watercraft is the addition or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (maintenance dredging, residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, new dredging, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees. The repair or rehabilitation of any type of currently serviceable watercraft access structure is not considered new access provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements to the existing watercraft access structures do not result in increased watercraft usage.

[6] Projects proposed within the St. Johns River portion of Lake, Marion, and Seminole counties and contiguous with Volusia County shall be evaluated using the Volusia County MPP.

[7] For projects proposed within the following areas: the Peace River in DeSoto County; all areas north of Craig Key in Monroe County, and the Anclote and Pithlachascotee Rivers in Pasco County, proceed to Couplet M. For all other locations in DeSoto, Monroe (south of Craig Key) and Pasco Counties, proceed to couplet N.

[8] Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat, proceed to couplet O.

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, the applicant can elect to avoid/minimize impacts to that vegetation. In that instance, where impacts are unavoidable and the applicant elects to abide by or employ construction techniques that exceed the criteria in the following documents, the reviewer should conclude that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat and proceed to couplet O.

- "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat," prepared jointly by the U.S. Army Corps of Engineers and the National Marine Fisheries Service (August 2001) [refer to the Corps' web page], and

- "Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's seagrass (*Halophila johnsonii*)," prepared jointly by the National Marine Fisheries Service and U.S. Army Corps of Engineers (October 2002), for those projects within the known range of Johnson's seagrass occurrence (Sebastian Inlet to central Biscayne Bay in the lagoon systems on the east coast of Florida) [refer to the Corps' web page],

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, and the applicant does not elect to follow the above Guidelines, the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

For activities other than docks and other piling-supported minor structures proposed in SAV, marsh, or mangroves (*e.g.*, new dredging, placement of riprap, bulkheads, etc.), if the reviewer determines the impacts to the SAV, marsh or mangroves will not adversely affect the manatee or its critical habitat, proceed to couplet O, otherwise the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

[9] See Glossary, under "is not likely to adversely affect."

[10] Federal reviewers, when making your effects determination, consider effects to manatee designated critical habitat pursuant to section 7(a)(2) of the Endangered Species Act. State reviewers, when making your effects determination, consider effects to manatee habitat within the entire State of Florida, pursuant to Chapter 370.12(2)(b) Florida Statutes.

[11] See the Corps' web page for manatee construction conditions. At this time, manatee construction precautions c and f are not required in the following Florida counties: Bay, Escambia, Franklin, Gilchrist, Gulf, Jefferson, Lafayette, Okaloosa, Santa Rosa, Suwannee, and Walton.

[12] By letter dated April 25, 2013, the Corps received the Service's concurrence with "*May affect, not likely to adversely affect*" determinations made pursuant to this key for the following activities: (1) selected non-watercraft access projects; (2) watercraft-access projects that are residential dock facilities, excluding those located in the Braden River AIP; (3) launching facilities solely for kayaks and canoes, and (4) new or expanding multi-slip facilities located in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County.

Additionally, in the same letter dated April 25, 2013, the Corps received the Service's concurrence for "*May affect, not likely to adversely affect*" determinations specifically made pursuant to Couplet G of the key for the repair or rehabilitation of currently serviceable multi-slip watercraft access structures provided all of the following are met: (1) the project is not located in an IMA, (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage. Upon receipt of such a programmatic concurrence, no further consultation with the Service for these projects is required.

## GLOSSARY

**Areas of inadequate protection (AIP)** – Areas within counties as shown on the maps where the Service has determined that measures intended to protect manatees from the reasonable certainty of watercraft-related take are inadequate. Inadequate protection may be the result of the absence of manatee or other watercraft speed zones, insufficiency of existing speed zones, deficient speed zone signage, or the absence or insufficiency of speed zone enforcement.

**Boat slip** – A space on land or in or over the water, other than on residential land, that is intended and/or actively used to hold a stationary watercraft or its trailer, and for which intention and/or use is confirmed by legal authorization or other documentary evidence. Examples of boat slips include, but are not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

**Critical habitat** – For listed species, this consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act (ESA), on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species. Designated critical habitats are described in 50 CFR 17 and 50 CFR 226.

**Currently serviceable** – Currently, serviceable means usable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

**Direct effects** – The direct or immediate effects of the project on the species or its habitat.

**Dredging** – For the purposes of this key, the term dredging refers to all in-water work associated with dredging operations, including mobilization and demobilization activities that occur in water or require vessels.

**Emergent vegetation** – Rooted emergent vascular macrophytes such as, but not limited to, cordgrass (*Spartina alterniflora and S. patens*), needle rush (J*uncus roemerianus*), swamp sawgrass (*Cladium mariscoides*), saltwort (*Batis maritima*), saltgrass (*Distichlis spicata*), and glasswort (*Salicornia virginica*) found in coastal salt marsh-related habitats (tidal marsh, salt marsh, brackish marsh, coastal marsh, coastal wetlands, tidal wetlands).

**Formal consultation** – A process between the Services and a Federal agency or applicant that: (1) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (2) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed

action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.14]

**Important manatee areas (IMA)** – Areas within certain counties where increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees. These areas are heavily utilized for feeding, transiting, mating, calving, nursing or resting as indicated by aerial survey data, mortality data and telemetry data. Some of these areas may be federally-designated sanctuaries or state-designated “seasonal no entry” zones. Maps depicting important manatee areas and any accompanying text may contain a reference to these areas and their special requirements. Projects proposed within these areas must address their special requirements.

**Indirect effects** – Those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. Examples of indirect effects include, but are not limited to, changes in water flow, water temperature, water quality (*e.g.*, salinity, pH, turbidity, nutrients, chemistry), prop dredging of seagrasses, and manatee watercraft injury and mortality. Indirect effects also include watercraft access developments in waters not currently accessible to manatees, but watercraft access can, is, or may be planned to waters accessible to manatees by the addition of a boat lift or the removal of a dike or plug.

**Informal consultation** – A process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services’ expertise to evaluate the agency’s assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.13]

**In-water activity** – Any type of activity used to construct/repair/replace any type of in-water structure or fill; the act of dredging.

**In-water structures – watercraft access structures** – Docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, floating docks, pilings (depending on use), boat davits, etc.

**In-water structures – other than watercraft access structures** – Bulkheads, seawalls, riprap, groins, boardwalks, pilings (depending on use), etc.

**Is likely to adversely affect** – The appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not: discountable, insignificant, or beneficial (see definition of “is not likely to adversely affect”). An “is likely to adversely affect” determination requires the initiation of formal consultation under section 7 of the ESA.

**Is not likely to adversely affect** – The appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Discountable effects** are those extremely unlikely to occur. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. Based on best judgment, a person would not (1) be able to meaningfully measure, detect, or evaluate insignificant effects or (2) expect discountable effects to occur.

**Manatee Protection Plan (MPP)** – A manatee protection plan (MPP) is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives. Although MPPs are primarily developed by the counties, the plans are the product of extensive coordination and cooperation between the local governments, the FWC, the Service, and other interested parties.

**Manatee Protection Plan thresholds** – The smallest size of a multi-slip facility addressed under the purview of a Manatee Protection Plan (MPP). For most MPPs, this threshold is five slips or more. For Brevard, Clay, Citrus, and Volusia County MPPs, this threshold is three slips or more.

**Mangroves** – Rooted emergent trees along a shoreline that, for the purposes of this key, include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*).

**May affect** – The appropriate conclusion when a proposed action may pose <u>any</u> effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a "may affect" situation exists, then they must either request the Services to initiate formal consultation or seek written concurrence from the Services that the action "is not likely to adversely affect" listed species. For the purpose of this key, all "may affect" determinations equate to "likely to adversely affect" and Corps Project Managers should request the Service to initiate formal consultation on the manatee or designated critical habitat. **No effect** – the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

**Multi-slip facility** – Multi-slip facilities include commercial marinas, private multi-family docks, boat ramps and associated trailer parking spaces, dry storage facilities and any other similar structures or activities that provide access to the water for multiple (five slips or more, except in Brevard, Clay, Citrus, and Volusia counties where it is three slips or more) watercraft. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

**New access for watercraft** – New dredging and the addition, expansion or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (residential boat lifts, pilings, floats, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees.

**Observers** – During dredging and other in-water operations within manatee accessible waters, the standard manatee construction conditions require all on-site project personnel to watch for manatees to ensure that those standard manatee construction conditions are met. Within important manatee areas (IMA) and under special circumstances, heightened observation is needed. **Dedicated Observers** are those having some prior experience in manatee observation, are dedicated only for this task, and must be someone other than the dredge and equipment operators/mechanics. **Approved Observers** are dedicated observers who also must be approved by the Service (if Federal permits are involved) and the FWC (if state permits are involved), prior to work commencement. Approved observers typically have significant and often project-specific observational experience. Documentation on prior experience must be submitted to these agencies for approval and must be submitted a minimum of 30 days prior to work commencement. When dedicated or approved observers are required, observers must be on site during all in-water activities, and be equipped with polarized sunglasses to aid in manatee observation. For prolonged in-water operations, multiple observers may be needed to perform observation in shifts to reduce fatigue (recommended shift length is no longer than six hours). Additional information concerning observer approval can be found at FWC's web page.

**Residential boat lift** – A boat lift installed on a residential dock facility.

**Residential dock density ratio threshold** – The residential dock density ratio threshold is used in the evaluation of multi-slip projects in some counties without a State-approved Manatee Protection Plan and is consistent with 1 boat slip per 100 linear feet of shoreline (1:100) owned by the applicant.

**Residential dock facility** – A residential dock facility means a private residential dock which is used for private, recreational or leisure purposes for single-family or multi-family residences designed to moor no more than four vessels (except in Brevard, Clay, Citrus, and Volusia counties which allow only two vessels). This also includes normal appurtenances such as residential boat lifts, boat shelters with open sides, stairways, walkways, mooring pilings, dolphins, etc. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

**Submerged aquatic vegetation (SAV)** – Rooted, submerged, aquatic plants such as, but not limited to, shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), Johnson's seagrass (*Halophila johnsonii*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), tapegrass (*Vallisneria americana*), and horned pondweed (*Zannichellia palustris*).

**Warm Water Aggregation Areas (WWAAs)** and **No Entry Areas** – Areas within certain counties where increased densities of manatees occur due to the proximity of artificial or natural warm water discharges or springs and are considered necessary for survival. Some of these areas may be federally-designated manatee sanctuaries or state-designated seasonal "no entry" manatee protection zones. Projects proposed within these areas may require consultation in order to offset expected adverse impacts. In addition, special permits may be required from the FWC in order to access these areas.

**Watercraft access structures** – Docks or piers, marinas, boat ramps and associated trailer parking spaces, boat slips, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

**Waters accessible to manatees** – Although most waters of the State of Florida are accessible to the manatee, there are some areas such as landlocked lakes that are not. There are also some weirs, salinity control structures and locks that may preclude manatees from accessing water bodies. If there is any question about accessibility, contact the Service or the FWC.

# Appendix I SWFWMD Pre-application Meeting Minutes

**Meeting Description**: SWFWMD Pre-application Meeting **Date:** September 20, 2023

**Project Number:** 442630-1-22-01 (related to 442630-1-32-01)

**Project Name:** US 41 Desoto Bridge Replacement PD&E

The following is a summary of the project drainage agenda items and the corresponding discussions during our Pre-Application Meeting with the Southwest Florida Water Management District (SWFWMD) and the Florida Department of Transportation (FDOT) on September 7, 2023. This meeting was conducted virtually. Discussion items from the meeting are provided below in bold italics.

Those in attendance include the following.

- SWFWMD: Chris Kuzlo, PE; Al Gagne
- FDOT: Brent Setchell, PE
- Transystems: Gail Woods, PE; Will Sloup, PE
- ESA: Sandy Scheda; Tori Kuba
- B&N: Mike Mills, PE

**I. Introduction of PD&E Project**

a. US 41 Desoto Bridge over Manatee River – Bridge replacement, connects Bradenton (south) to Palmetto (north)
b. Existing facility
    i. Bridge – 4-lane w/scuppers
    ii. South of the bridge – urban
        1. Southbound – 2 lanes + turn lanes
        2. Northbound – 2 lanes + turn lanes
    iii. North of the bridge – rural
        1. Southbound – 2 lanes + turn lanes
        2. Northbound – 2 lanes + turn lanes
c. Proposed facility
    ***The typical sections for the roadway north & south of the bridge, and for the bridge was shared and discussed. The typical sections shown are attached.***

    i. Bridge
        1. 4 lanes
        2. 2 outside shoulders
        3. 2 inside shoulders
        4. 2 shared use paths
    ii. South of bridge - urban
        1. Southbound – 2 lanes + turn lanes
        2. Northbound – 2 lanes + turn lanes

3. 2 inside shoulders
4. 2 sidewalk/shared use path

iii. North of bridge - urban
1. Southbound – 2 lanes + turn lanes
2. Northbound – 2 lanes + turn lanes
3. 2 shared use paths

d. Project length
i. Total length – 1.3 miles (6864'); N. of Manatee Ave to Haben Blvd
ii. Bridge reconstruction length– 0.422 miles (2230')
iii. Roadway approach length– 0.878 miles (4634')
e. Public kickoff meeting was held on May 23rd with favorable responses from attendees.

**II. Drainage**

a. Existing Conditions
i. WBID 1848A – Manatee River Below Braden River: Not a Verified List Waterbody
ii. Manatee River is not an OFW
iii. Hydrologic Soil Group A/D & A
iv. Floodplain – Zone VE (Elevation 11.0)
b. Proposed Conditions
***Chris Kuzlo agreed with the following conclusions regarding the primary elements of stormwater management, based on the discussion of the Existing Conditions items listed above.***
i. Water quality treatment – presumptive criteria
ii. Water quantity attenuation – not applicable (tidal receiving waters)
iii. Floodplain compensation – not applicable (tidal floodplain)
c. Project Status
i. PD&E
ii. Pond siting
iii. Concept plans to be developed.
iv. Proposed design-build in 2026
d. Pond Siting Considerations
i. Limited existing R/W
ii. Lack of undeveloped lands
iii. 4-lane bridge reconstruction, not widening
***Mike Mills made the claim that water quality treatment should not be required for the project. Justification for not requiring water quality treatment was summarized as follows.***
***1. No additional travel lanes are proposed.***
***2. Improvements proposed (shoulders, sidewalks and/or shared use paths) are all exempt activities.***
***3. Receiving waters are not OFW's or designated as impaired.***

***It was agreed the Desoto Bridge Replacement project would require an Individual Permit because of the extent of work proposed over wetlands and surface waters exceeds the 0.5 acre threshold of the .443 bridge replacement General Permit. However, it is still unclear why this bridge replacement project would be required to provided water quality treatment since the same number of travel lanes is proposed along with the other (exempt) safety improvements.***

***Chris Kuzlo seemed to agree but stated he would have to research the rule further before making a final decision.***

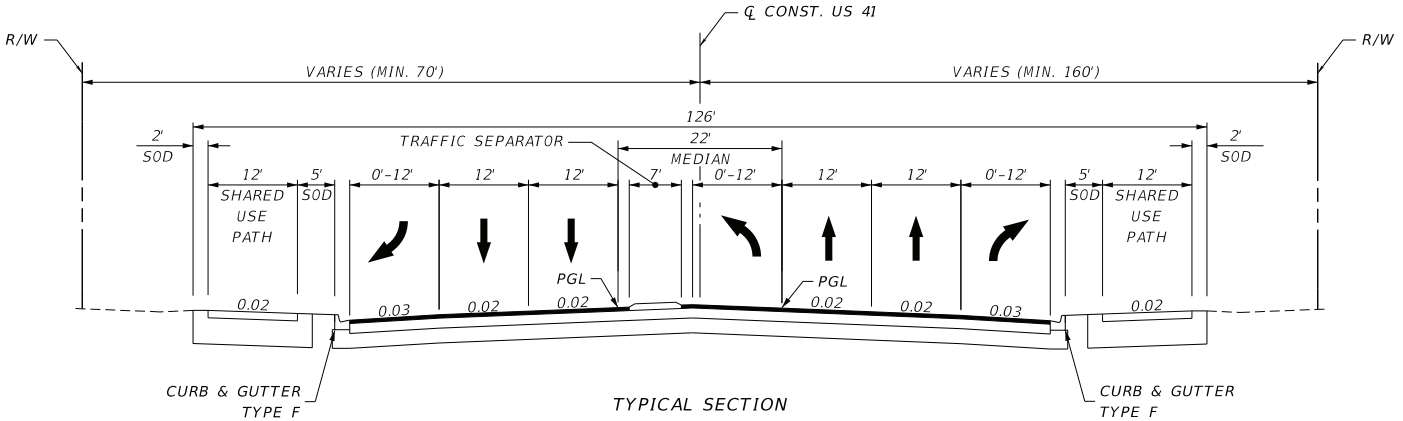
***Subsequent to the meeting, Chris replied by email, dated 9/11/23, stating, "I was able to confirm the District would not require a formal water quality treatment for the project."***

iv. Water quality treatment requirements for bridge reconstruction
***In the event SWFWMD requires water quality treatment for the Desoto Bridge Replacement, the following alternatives for managing the stormwater from the bridge was discussed to confirm their permitability.***

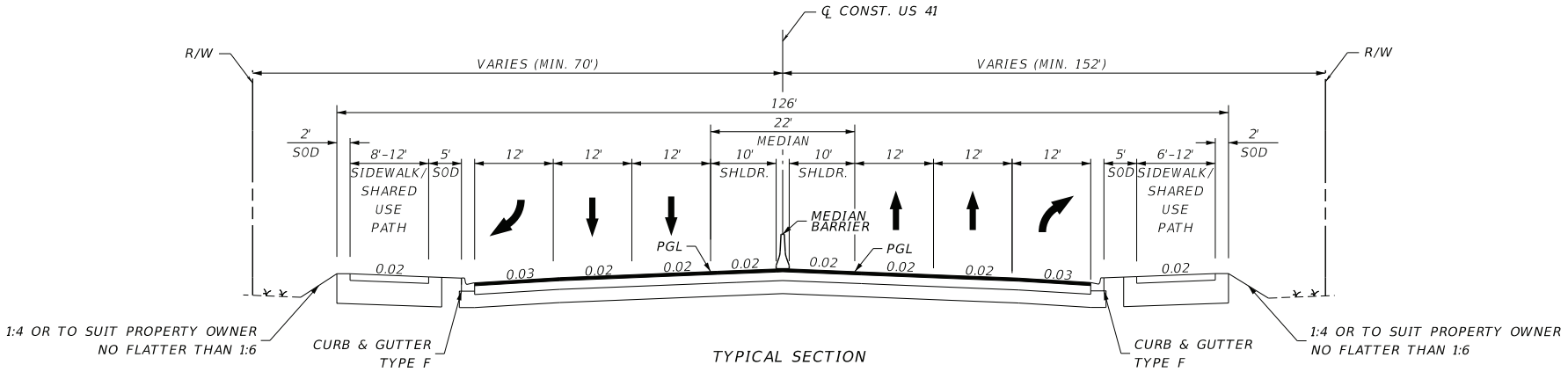
1. Treat runoff from bridge travel lanes at both bridge ends; use two SMFs. ***This approach is the most conventional means for stormwater management and is acceptable.***
2. Treat equivalent runoff from roadway travel lanes at both approaches; use two SMFs and scupper proposed bridge. ***Providing compensatory treatment by treating the runoff from the roadway north and south of the bridge, rather than the bridge runoff, is acceptable.***
3. Treat equivalent runoff from half of bridge travel lanes and the roadway travel lanes from one of the bridge approaches; use one SMF, and scupper other half of bridge. ***Providing compensatory treatment by treating the runoff from half the bridge and half the roadway in a single SMF is acceptable.***
4. Request use of surplus treatment (3.44 acft) from Manatee County (Bradenton Area Convention Center Expansion, #43044753.001, 6/2/23). ***For this alternative, the FDOT would have to obtain an easement over the stormwater management facility(s) from Manatee County. The application would have to show that the surplus treatment being provided is for similar land uses with similar pollutant loadings. Confirmation will be required showing that the surplus treatment is not proposed as credit for future improvements by Manatee County.***
5. ELA opportunities? ***SWFWMD was not aware of any ELA opportunities within the vicinity of the Desoto Bridge. Chris Kuzlo recommended researching surplus FDOT-owned properties. He also stated that any ELA considerations should be located upstream of the project.***

III. **Environmental**

a. Preliminary draft wetland and seagrass limits
    i. Too early in PD&E process to quantify impacts to wetlands (if any). Impacts will be avoided/minimized.
    ii. Impacts to seagrass beds will be avoided
b. Project expected to be entirely within existing SSL easement. If project is outside additional coordination will be needed for SSL easement modification.




TYPICAL SECTION
US 41 (DESOTO BRIDGE)
NORTH OF BRIDGE




TYPICAL SECTION
US 41 (DESOTO BRIDGE)
SOUTH OF BRIDGE

| REVISIONS | | | |
|---|---|---|---|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

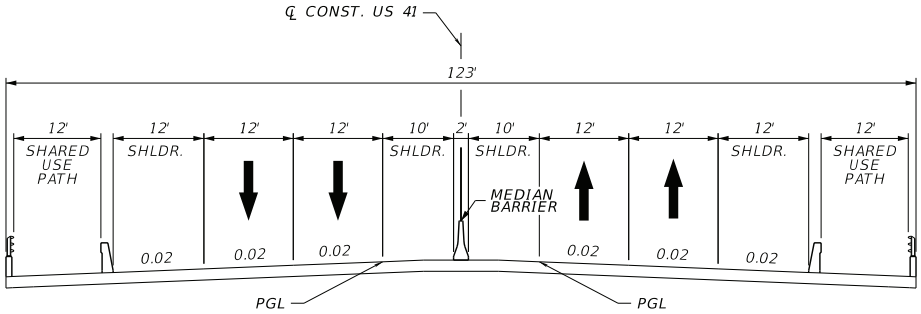
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| | | |

# TYPICAL SECTIONS

SHEET NO. 01

6/23/2023 10:50:14 AM gfecheverria
c:\transystems\pw_local\transystems-pw1\a-e_gfecheverria\d1218b4f\TYPSDD01.dgn

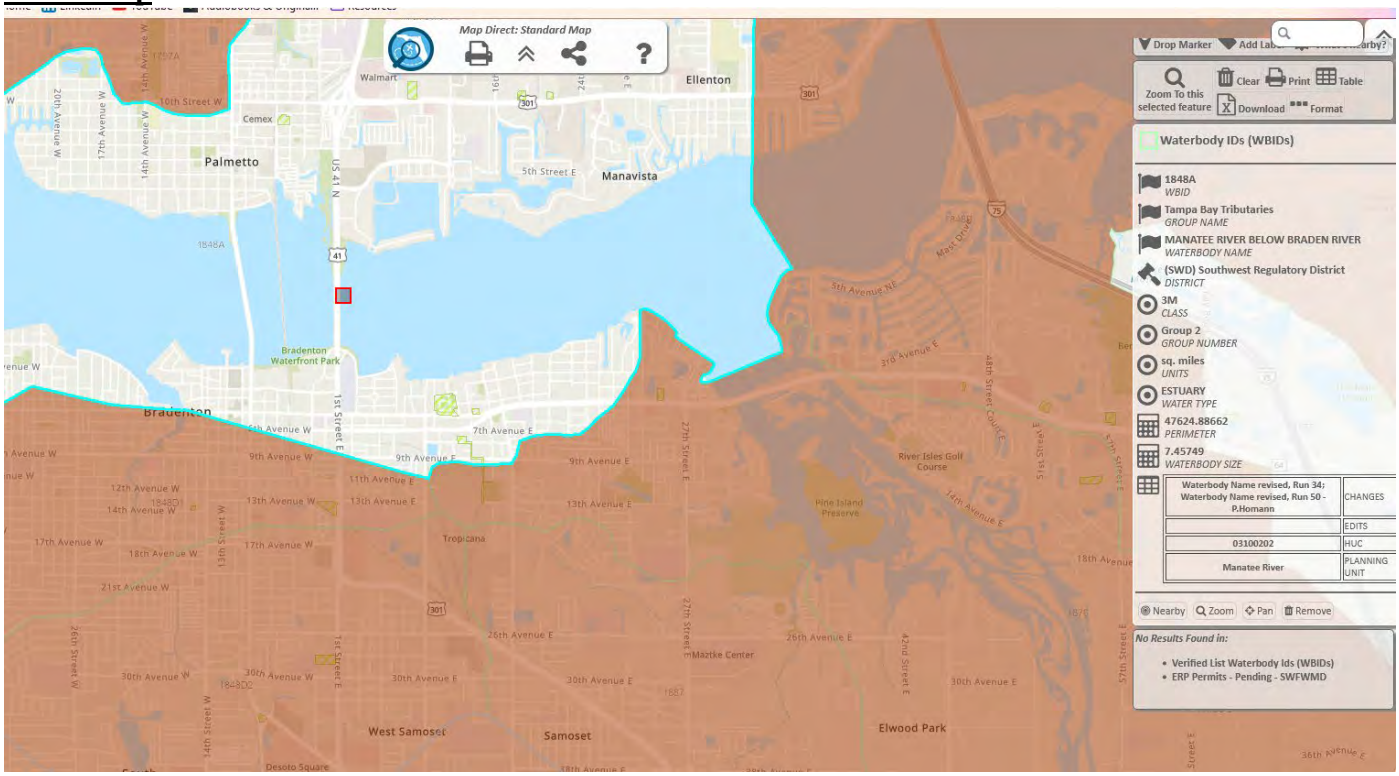



*TYPICAL SECTION*
*US 41 (DESOTO BRIDGE)*

| REVISIONS | | | | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | TYPICAL SECTIONS | SHEET NO. |
|---|---|---|---|---|---|---|---|---|
| DATE | DESCRIPTION | DATE | DESCRIPTION | ROAD NO. | COUNTY | FINANCIAL PROJECT ID | | 02 |
| | | | | | | | | |

6/23/2023 10:50:40 AM gfecheverria
c:\transystems\pw_local\transystcorp-pw1\a-e_gfecheverria\d12180a7\TYPSRD01.dgn

**WBID Map**


Map Direct: Standard Map
Drop Marker
Zoom To this selected feature
Clear
Print
Table
Download
Format
Waterbody IDs (WBIDs)
1848A
WBID
Tampa Bay Tributaries
GROUP NAME
MANATEE RIVER BELOW BRADEN RIVER
WATERBODY NAME
(SWD) Southwest Regulatory District
DISTRICT
3M
CLASS
Group 2
GROUP NUMBER
sq. miles
UNITS
ESTUARY
WATER TYPE
47624.88662
PERIMETER
7.45749
WATERBODY SIZE
Waterbody Name revised, Run 34; Waterbody Name revised, Run 50 - P.Homann
CHANGES
EDITS
03100202
HUC
Manatee River
PLANNING UNIT
Nearby
Zoom
Pan
Remove
No Results Found in:
Verified List Waterbody Ids (WBIDs)
ERP Permits - Pending - SWFWMD
Palmetto
Ellenton
Manavista
Bradenton
Tropicana
West Samoset
Samoset
Elwood Park
Walmart
Cemex
Bradenton Waterfront Park
River Isles Golf Course
Pine Island Preserve
Maztke Center

## Soils Map

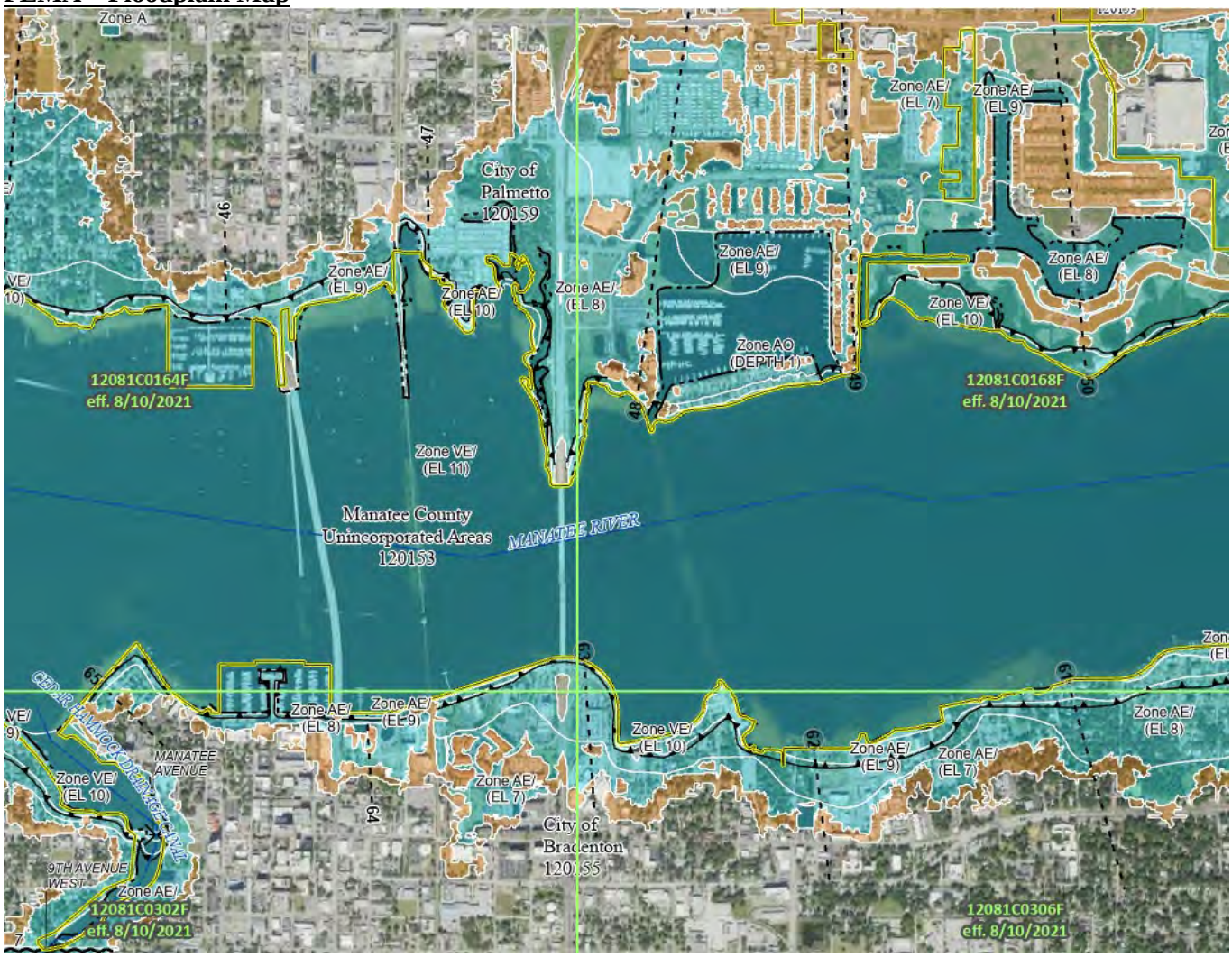

**Tables — Depth to Water Table — Summary By Map Unit**

**Summary by Map Unit — Manatee County, Florida (FL081)**

Summary by Map Unit — Manatee County, Florida (FL081)

| Map unit symbol | Map unit name | Rating (centimeters) | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| 5 | Bradenton fine sand, limestone substratum | 15 | 6.2 | 5.6% |
| 9 | Canaveral sand, filled | 56 | 43.9 | 40.1% |
| 12 | Cassia fine sand, moderately well drained | 130 | 11.5 | 10.4% |
| 21 | Estero muck, tidal, 0 to 1 percent slopes | 0 | 12.5 | 11.4% |
| 100 | Waters of the Gulf of Mexico | >200 | 35.6 | 32.4% |
| **Totals for Area of Interest** | | | **109.6** | **100.0%** |

**FEMA – Floodplain Map**



# Appendix J UMAM Datasheets

**Uniform Mitigation Assessment Method (UMAM)**
**Chapter 62-345, F.A.C.**

**DeSoto Bridge Replacement Project Development and Environmental Study**
**from SR 64 (Manatee Avenue East) to Haben Boulevard Bridge #130053**
**Manatee County**
**FPID# 442630-1**

**Summary Table - Wetland Impacts** **Last Updated:** 1/31/2024

| | | | | Preferred Alternative | | |
|---|---|---|---|---|---|---|
| ID | Wetland Type | USFWS Classification | Impact Type | Impact Acreage | UMAM Delta | Functional Loss |
| Wetland Impact #1 | 612 - Mangrove Swamps | E2FO3N | Fill | 0.31 | 0.73 | 0.23 |
| | | | Secondary | 0.71 | 0.06 | 0.04 |
| **TOTAL (Permanent)** | | | | **0.31** | | **0.23** |
| **TOTAL (Secondary)** | | | | **0.71** | | **0.04** |
| **TOTAL** | | | | **1.02** | | **0.27** |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| DeSoto Bridge Replacement | | Wetland Impact #1 (Preferred Alternative) |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6120 | E2FO3N / Mangrove Swamps | Impact | 0.31 acres |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| | Wetlands (Class III) | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Mangrove swamps along the northern portions of the existing bridge and mainland. Surface waters inlands drain into the mangroves prior to entering the Manatee River. Mangroves filter nutrients and potential pollutants from surrounding impervious surfaces.

Assessment area description

Forested mangrove wetland systems comprised of red and black mangrove species (*Rhizophora mangle, Avicennia germinans* ), buttonwood (*Conocarpus erectus* ), groundsel tree *(Baccharis halimifolia)* , and Brazilian pepper *(Schinus terebinthifolia).* Groundcover includes salt wort (*Batis maritima* ), sawgrass (*Cladium jamaicense* ), and flatsedges (*Cyperus sp.* ).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| US 41, Manatee River | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| May provide cover, substrate, or refuge for wildlife; breeding, nesting, denning, and nursery areas; food chain support; natural water storage; natural flow attenuation; water quality improvement. | Unknown |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| A variety of wildlife utilization including birds, amphibians, fish, sea turtles, and aquatic and small terrestrial mammals. | Gulf sturgeon (*Acipenser oxyrinchus (=oxyrhynchus) desotoi* ) (FT), sea turtles (Loggerhead sea turtle (*Caretta caretta* ) (FT), Green sea turtle (*Chelonia mydas* ) (FT), and Kemp's Ridley sea turtle (*Lepidochelys kempii* ) (FE)), wood stork (*Mycteria americana* ) (FT), little blue heron (Egretta caerulea) (ST), tricolored heron (*E. tricolor* ) (ST), reddish egret (*E. rufescens* ) (ST), American oystercatcher (*Haematopus palliates* ) (ST), roseatte spoonbill (*Platalea ajaja* ) (ST), and the West Indian manatee (*Trichechus manatus latirostris* ) (FT). |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None observed

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Alexandra Hipolito | 7/13/2023 |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| DeSoto Bridge Replacement | | Wetland Impact #1 (Preferred Alternative - Fill) |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Alexandra Hipolito | 7/13/2023 |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 6 | with: 0 | Mangrove swamps along the coastal edges of the northern portions of the DeSoto Bridge. Birds and other aquatic wildlife may access these wetland systems and use for foraging. Mangroves may be utilized in various life cycle stages (spawning, breeding, nursery, etc.) by different species of aquatic wildlife. |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 8 | with: 0 | The water environment is brackish, with marine influences from Tampa Bay and the Gulf of Mexico and freshwater influences from upstream systems of the Manatee River. The surface water is tidally influenced. Surrounding surface water and wetland systems drain into the Manatee River. Stormwater runoff from roadways, parking lots, and other impervious surface have the potential to bring pollutants into the wetland system. Water levels and conditions appear normal. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 8 | with: 0 | Forested mangrove wetland systems comprised of red, black, and white mangrove species (Rhizophora mangle, Avicennia germinans, Laguncularia racemosa), buttonwood (Conocarpus erectus), groundsel tree (Baccharis halimifolia), and Brazilian pepper (Schinus terebinthifolia). Groundcover includes salt wort (Batis maritima), sawgrass (Cladium jamaicense), and flatsedges (Cyperus sp.). Minimal invasive species present, canopy appears healthy. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.73 | 0 |

| Delta = [with-current] |
|---|
| 0.73 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For impact assessment areas |
|---|
| FL = delta x acres = 0.31 x 0.73 = 0.23 |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| DeSoto Bridge Replacement | | Wetland Impact #1 (Preferred Alternative - Secondary) |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Alexandra Hipolito | 7/13/2023 |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 6 | with: 5 |
| Mangrove swamps along the coastal edges of the northern portions of the DeSoto Bridge. Birds and other aquatic wildlife may access these wetland systems and use for foraging. Mangroves may be utilized in various life cycle stages (spawning, breeding, nursery, etc.) by different species of aquatic wildlife.<br><br>With Condition: Secondary impacts to 25 ft buffer around direct wetland impact. This area of secondary impact may become less suitable foraging and sheltering habitat for wildlife. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 8 | with: 8 |
| The water environment is brackish, with marine influences from Tampa Bay and the Gulf of Mexico and freshwater influences from upstream systems of the Manatee River. The surface water is tidally influenced. Surrounding surface water and wetland systems drain into the Manatee River. Stormwater runoff from roadways, parking lots, and other impervious surface have the potential to bring pollutants into the wetland system. Water levels and conditions appear normal.<br><br>With Condition: Minimal impacts to water environment anticipated. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 8 | with: 7 |
| Forested mangrove wetland systems comprised of red, black, and white mangrove species (Rhizophora mangle, Avicennia germinans, Laguncularia racemosa), buttonwood (Conocarpus erectus), groundsel tree (Baccharis halimifolia), and Brazilian pepper (Schinus terebinthifolia). Groundcover includes salt wort (Batis maritima), sawgrass (Cladium jamaicense), and flatsedges (Cyperus sp.). Minimal invasive species present, canopy appears healthy.<br><br>With Condition: Edge effect on remaining mangrove system that abuts construction. Construction will make the ground conditions disturbed increasing the changes of invasive species establishment and spread. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.73 | with: 0.67 |
|---|---|---|

| Delta = [with-current] |
|---|
| 0.06 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For impact assessment areas |
|---|
| FL = delta x acres = 0.71 x 0.06 = 0.04 |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |