FINAL
WETLANDS EVALUATION
AND
BIOLOGICAL ASSESSMENT
REPORT

SR 55 (US 19) PD&E STUDY
FROM SOUTH OF ALTERNATE US 19 IN PASCO COUNTY TO NORTH OF COUNTY LINE ROAD IN HERNANDO COUNTY

Work Program Item Segment No: 418860-1

This project's Project Development and Environment Study evaluated capacity improvement alternatives for SR 55 (US 19) from south of Alternate US 19 in Pasco County to north of County Line Road in Hernando County, Florida

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

November 2008
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INTRODUCTION

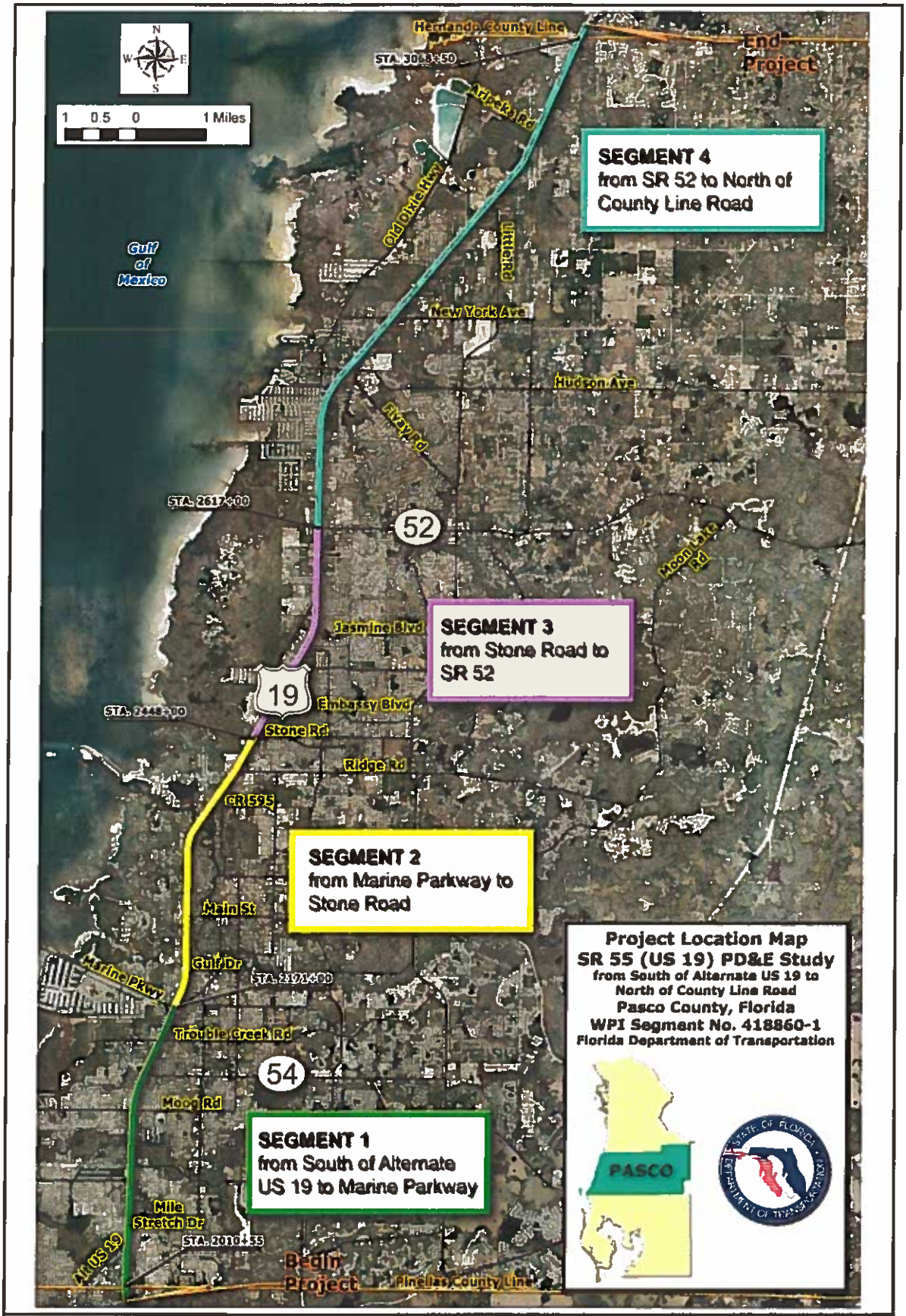
1.1 INTRODUCTION

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate capacity alternative improvements along SR 55 (US 19) in Pasco County. The project limits extend from south of Alternate US 19 in Pasco County (south project limit) to north of County Line Road in Hernando County (north project limit). The project location map, as shown on **Figure 1-1**, illustrates the location and limits of the PD&E Study.

1.2 PURPOSE AND NEED

The objective of the PD&E Study was to provide documented environmental and engineering analyses, to help the Department reach a decision on the type, conceptual design and location of the necessary improvements along the SR 55 (US 19) corridor to accommodate future transportation needs in a safe and efficient manner.

The purpose of this Wetland Evaluation and Biological Assessment Memorandum is to present existing environmental conditions located within, or in close proximity to, the SR 55 (US 19) (Pasco County) mainline. **Pond siting was not an element of the PD&E Study and therefore is not addressed in this report.** This information was used to aid in the evaluation of project alternatives and in the selection of the alternative with the least overall environmental impact. Information collected and presented in this report was used to assess existing environmental conditions with regards to habitat types and the presence of, or the potential use of the project study area by state and/or federally listed species. Potential impacts to wetlands and protected species were also assessed.



	PROJECT LOCATION MAP SR 55 (US 19) PD&E STUDY	FIGURE 1-1

1.3 PROJECT DESCRIPTION

SR 55 (US 19) is a federal highway that initially served regional travel throughout the west coast of Florida. Due to the tremendous residential and commercial growth along the corridor over the past twenty years, the role of SR 55 (US 19) in Pasco County has expanded. SR 55 (US 19) has evolved into a commuter corridor and a roadway for local traffic destined to commercial establishments along the corridor. The high speed, high volume commuter traffic competes with tourist and local traffic entering and exiting the roadway, creating mobility and safety concerns.

The project's PD&E Study evaluated various capacity improvements to the existing SR 55 (US 19) corridor. SR 55 (US 19) currently exists as a six-lane facility with significant right-of-way (ROW) constraints along the corridor. Therefore, the various capacity evaluation improvements did not include any additional through lanes. Early in the study phase, Continuous Right-Turn Lanes (CRTL) in both directions were evaluated. The results of the CRTL evaluation efforts indicated that they could be constructed within the existing ROW along SR 55 (US 19) without requiring any additional mainline ROW or for stormwater treatment facility areas. Based on this evaluation effort, the CRTLs are no longer part of the proposed project concepts and this report's conclusions (Section 5) pertain only to the recommended intersection improvements at SR 54, Ridge Road, SR 52 and County Line Road.

The project study limits are from south of Alternate US 19 in Pasco County (southern limits) to north of County Line Road in Hernando County (northern limits). SR 55 (US 19) is a controlled access facility and is part of the Florida Intrastate Highway System (FIHS) and Strategic Intermodal System (SIS). Within the study limits, there are currently 29 signalized intersections, approximately 820 driveways and unsignalized cross streets, 102 full median openings and 22 directional median openings.

The SR 55 (US 19) study area in Pasco County is part of the Tampa/St. Petersburg Urbanized Area. This urbanized area had a year 2002 estimated population of over 2.1 million. Therefore, the SR 55 (US 19) study facility is designated as an urbanized area with over 500,000 population. The importance of this designation is that the FIHS

minimum Level of Service (LOS) standards are based on facility type, area type and population.

Existing (2006) traffic volumes on SR 55 (US 19) in Pasco County range from 58,800 to 78,100 Average Annual Daily Traffic (AADT) from the Pinellas County line to SR 52 and from 33,300 to 51,100 AADT from SR 52 to the Hernando County line. Future increases in travel demand for SR 55 (US 19) in Pasco County anticipated in the latest version of the Tampa Bay Regional Planning Model (TBRPM 5.1) are expected to be moderate compared to historical trends, due to the land uses approaching buildout, particularly in the southern portion of the project limits. In addition, in recent years north-south parallel facilities like CR 1 have been improved (two to six lanes) and a new facility, the Suncoast Expressway, has come online to provide increased capacity for the north-south travel through western Pasco County. The northern portion of SR 55 (US 19) will more than likely see more aggressive growth due to potential developable vacant land. It is anticipated that the existing traffic volumes in the northern section, which are significantly lower than in the southern section will approach the magnitude of traffic volumes that currently exist in the southern portion of the project.

Safety issues for motorists and pedestrians have been a concern along SR 55 (US 19). The crash rate along this facility has been consistently higher than the statewide average for similar facility types. Ongoing projects designed to improve safety include the installation of additional street lighting, sidewalks, pedestrian push buttons and cross walks, block number sign program; and the continuation of education and enforcement activities.

Access management issues documented in this study have implications for safety and traffic operations as well. Potential solutions that address access management issues include conversion of existing full median openings to directional median openings, closure of median openings and reduction of curb cuts (driveways) through the implementation of joint and cross access for adjacent commercial developments.

1.4 PROJECT SEGMENTS

For PD&E Studies, projects are divided into segments based on the existing land use, interchange locations and projected traffic volumes for the design year. Because the portion of SR 55 (US 19) from the Pasco/Pinellas County Line to the Pasco/Hernando County Line contained similar land use characteristics and projected traffic volumes, this project was divided into four segments based on the new interchanges that were proposed in the corridor. The segments of the project are identified as follows:

- Segment 1: Alternate US 19 to Marine Parkway
- Segment 2: Marine Parkway to Stone Road
- Segment 3: Stone Road to SR 52
- Segment 4: SR 52 to north of County Line Road

1.5 ALTERNATIVES

Alternatives were established based on the interchange configurations that were recommended in the approved Traffic Report Technical Memorandum. The interchanges include SR 54, Ridge Road, SR 52 and County Line Road. The typical sections for these interchanges are provided in the separately prepared Final Preliminary Engineering Report (FPER).

1.6 TYPICAL SECTIONS

1.6.1 Segment 1 (from south of Alternate US 19 to Marine Parkway

The existing typical section is a divided six-lane roadway with 10 ft. outside shoulders. In addition, there is an open ditch on the right side of the roadway. The existing ROW width is 207 ft. The existing land use in this section is generally a mix between residential and commercial.

As indicated in the Traffic Report Technical Memorandum, an interchange is needed by the design year 2030 for the SR 54 intersection. The recommended typical section is discussed in the FPER.

1.6.2 Segment 2 (from Marine Parkway to Stone Road)

The existing typical section is a divided six-lane roadway with curb and gutter and 5-ft sidewalks on both sides of the roadway. The existing ROW width varies between 150 ft. and 207 ft. The existing land use in this section is a mix of commercial and residential uses.

As indicated in the Traffic Report Technical Memorandum, an interchange is needed by the design year 2030 for the Ridge Road intersection. The recommended typical section is discussed in the FPER.

1.6.3 Segment 3 (from Stone Road to SR 52)

The existing typical section is a divided six-lane roadway with 4-ft paved outside shoulders. In addition, there is an open ditch on the right side of the roadway. This section contains three 12-ft travel lanes in each direction and a 28-ft raised median. The existing ROW width varies between 191 ft. and 242 ft. The existing land use in this section is a mix of commercial and residential uses.

As indicated in the Traffic Report Technical Memorandum, an interchange is needed by the design year 2030 for the SR 52 intersection. The recommended typical section is discussed in the FPER.

1.6.4 Segment 4 (from SR 52 to north of County Line Road)

The existing typical section along SR 55 (US 19) from Hudson Avenue to Houston Avenue and from Jesup Lane to the Hernando County Line is a divided six-lane roadway with 10 ft. outside shoulders and open drainage ditches on both sides of the roadway. The existing ROW width varies between 200 ft. to 252 ft. The existing land use in this section is a mix of commercial and residential use. The existing typical section is slightly different from Houston Avenue to Jesup Lane, as there are drainage swales in the median. In addition, there is only an open ditch on the left side of the roadway. The existing ROW width in this section is 232 ft.

As indicated in the Traffic Report Technical Memorandum, an interchange is needed by the design year 2030 for the intersection of SR 55 (US 19)/County Line Road. The recommended typical section is discussed in the FPER.

SECTION 2
EXISTING ENVIRONMENTAL CONDITIONS

2.1 EXISTING LAND USE

Heavy commercial development occurs along both sides of the SR 55 (US 19) corridor northward from the Pinellas County Line and is slightly less developed through Hudson, giving way to more contiguous wetland areas near Aripeka Road (CR 595). From north to south, the project occupies and/or traverses the following drainage basins: Hammock Creek, Bear Creek, Double Hammock Creek, Pithlachascotee River and the Anclote River. The project area encompasses major rivers and creek systems, including the Pithlachascotee River and Double Hammock Creek which are hydrologically connected to estuarine resources of the Gulf of Mexico. The southern terminus of the project lays within 450 yards of the Anclote River and further north SR 55 (US 19) passes within 84 yards of the canal system at Gulf Harbors which drains to the Big Bayou, Cross Bayou and the Gulf of Mexico.

2.1.1 Upland Communities

Upland habitat in the project area, as a whole, is generally disturbed and/or converted to commercial or residential purposes. Residential and commercial development is denser in the segment of SR 55 (US 19) south of Denton Avenue (Segments 1 – Segment 3) in Hudson, than north of Denton Avenue (Segment 4). In addition to field reviews, upland communities were evaluated using Geographic Information Systems (GIS) to examine Southwest Florida Water Management District's (SWFWMD) 2005 land use/land cover mapping. The acreages of non-wetland communities within 200-feet of SR 55 (US 19) existing ROW are displayed in **Table 2-1**. The following communities are classified in accordance with the Florida Land Use, Cover and Forms Classification System (FLUCFCS- FDOT, 1999).

Table 2-1
Upland Communities Within 200-feet of SR 55 (US 19) Existing Right-of-Way

FLUCFCS	Description	Acres
110	Residential low density < 2 dwelling units	1.3
120	Residential medium density 2->5 dwelling unit	13.2
130	Residential high density	22.6
140	Commercial and Services	415.8
150	Industrial	32.8
170	Institutional	3.7
180	Recreational	0.5
190	Open Land	31.0
240	Nurseries and Vineyards	0.5
260	Other Open Lands (rural)	2.9
320	Shrub and Brushland	4.1
410	Upland Coniferous Forest	8.3
411	Pine Flatwoods	11.3
412	Longleaf Pine - Xeric Oak	11.4
434	Hardwood Conifer Mixed	11.3

FLUCFCS 110-130 – Residential

Residential land uses range from high-density urban housing developments to low-density rural areas characterized by a relatively small number of homes per acre. Residential Medium and High Density are more prevalent along the SR 55 (US 19) corridor, versus Residential Low Density, defined as containing less than two dwelling units per acre. Residential lots are dispersed fairly evenly throughout the project segments.

FLUCFCS 140 – Commercial and Services

The dominant land use along the project corridor is Commercial and Services, over 40% of the assessed area. These are commercial areas predominantly associated with the distribution of products and services.

FLUCFCS 150 – Industrial

The Industrial category includes land uses where manufacturing, assembly or processing of materials and products are accomplished. Industrial areas include a wide array of industry types ranging from light manufacturing and industrial parks to heavy manufacturing plants.

FLUCFCS 170 – Institutional

Educational, religious, health and military facilities are typical components of this category.

FLUCFCS 180 – Recreational

This category includes golf courses, parks, swimming beaches, fairgrounds, etc. and the one occurrence is located just south of the southern project terminus in Pinellas County.

FLUCFCS 190 – Open Land

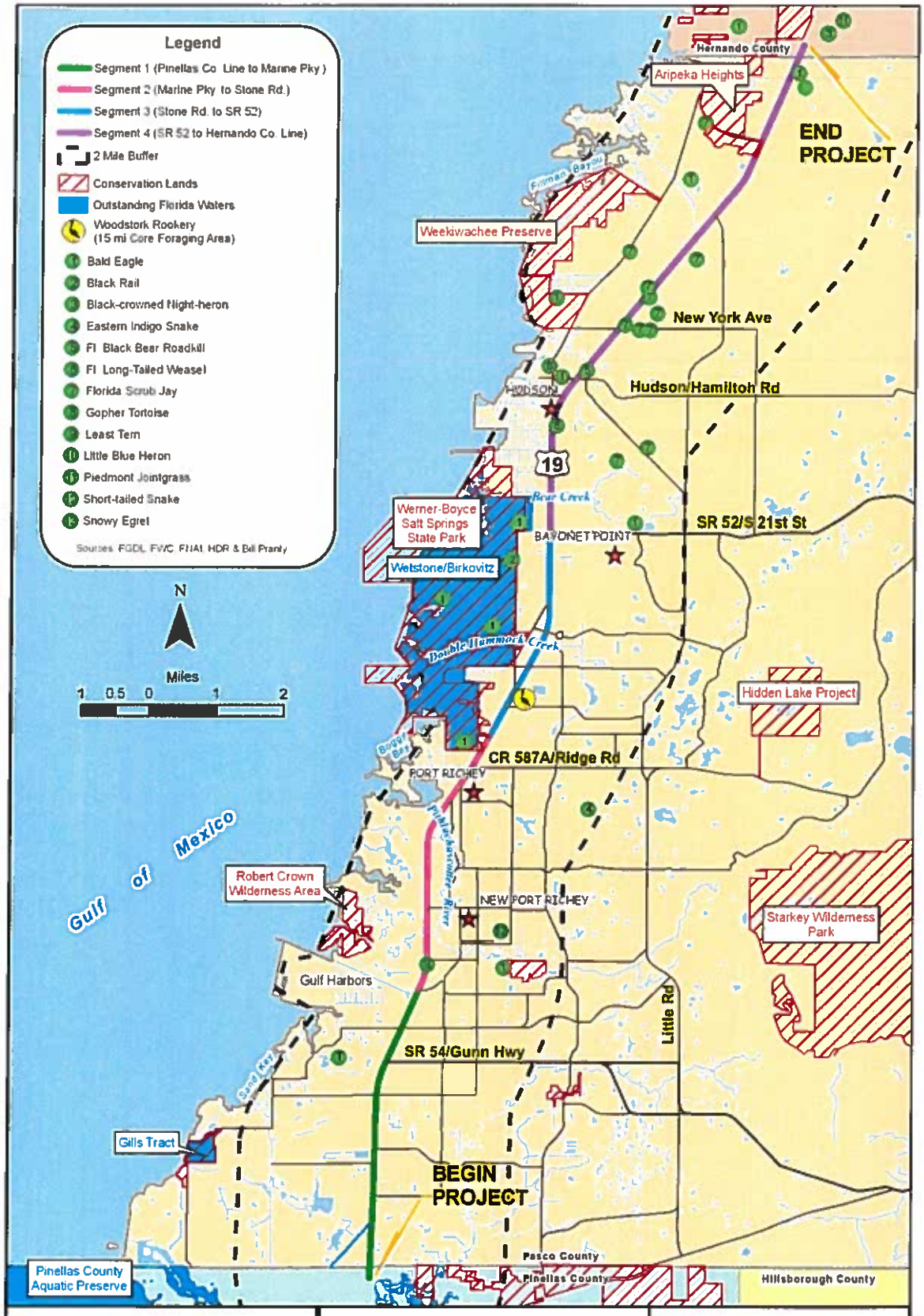
This category includes undeveloped land within urban areas and inactive land with street patterns but without structures. The majority of the open land is located within Segment 4.

FLUCFCS 320 – Shrub and Brushland

Dominant cover includes saw palmetto intermixed with a wide variety of other woody scrub plant species as well as various types of short herbs and grasses.

FLUCFCS 410 – Upland Coniferous Forests

This community, defined as any natural forest stand whose canopy is at least 66 percent dominated by Coniferous species, occurs in Segment 4, adjacent to the Weekiwachee Preserve and Aripeka Heights Conservation Lands (**Figure 2-1**).



	THREATENED AND ENDANGERED SPECIES DOCUMENTED OBSERVATIONS	FIGURE 2-1

FLUCFCS 411 – Pine Flatwoods

Canopy cover in this category is either slash pine, longleaf pine or both with the understory species including saw palmetto, wax myrtle, gallberry and a wide variety of herbs and brush. This community is found within Segment 4, adjacent to the Weekiwachee Preserve and Aripeka Heights conservation lands.

FLUCFCS 412 – Longleaf Pine - Xeric Oak

This forest type is dominated by longleaf pine trees and can be distinguished from longleaf dominated Pine Flatwoods by the presence of a mid-story canopy of blue-jack oak, turkey oak, sand post oak and other dry-site tolerant oaks and hardwoods. This forest community is characteristic of the deep, infertile sand-soils of the sandhill provinces. This community is found within Segment 4, adjacent to the Weekiwachee Preserve and Aripeka Heights conservation lands.

FLUCFCS 434 – Hardwood - Conifer Mixed

This class is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance. This community is found within both Segments three & four, but concentrated just north of the northern boundary of the Werner-Boyce Salt Springs State Park.

2.1.2 Wetland Communities

Potential wetland areas along the project were identified through a review of National Wetland Inventory (NWI) maps, USGS topographic maps, SWFWMD land cover and land use mapping, and current aerial photography. On August 30, 2007, environmental scientists conducted a field review of the project study area, with a focus on assessing wetlands within or adjacent to the existing ROW. In addition, excavated semi-permanently flooded man-made swales and wet retention areas, in non-hydric soils, were also identified. During the field review, wetlands were visually inspected to verify community boundaries, dominant vegetation, functions, and the potential occurrence of threatened and endangered species. In cases where the wetland edge went into the

existing ROW, Global Positioning System (GPS) coordinates were captured to better define the boundary for impact calculations and mapping. Photograph locations are mapped on the Conceptual Plans (**Appendix A**) and shown in **Appendix B**. For ease of reference, the photograph names contain the approximate stationing at which they where taken.

The wetland community types within or adjacent to the existing ROW include estuarine wetlands, lakes, freshwater marshes, wetland forested mixed, cypress, rivers, and intermittent ponds. The quality of the wetlands varies from good to poor, with the better quality systems located in the northern portion of the project (Segment 4). Wetland communities were classified using U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) classification system (Cowardin et al., 1979). NWI classifications containing "x" denotes that they are excavated features.

Estuarine (E1UBx)

The estuarine wetlands near the project are tidally influenced by the Gulf of Mexico. They are located primarily on the west side of the SR 55 (US 19) within residential communities that have access to the Gulf of Mexico. The Pithlachascottee River is not tidally influenced until it crosses under SR 55 (US 19), becoming an estuarine community (1999 NWI mapping).

Lakes & Reservoirs (L1UBx)

South of SR 54/Gunn Highway, there are a couple of excavated inlets providing access to the Gulf that are far enough inland that they are not tidally influenced, with little to no water flow or vegetation.

Riverine (R2UBx)

Both Bear Creek and Double Hammock Creek convey water west under SR 55 (US 19), draining into the Wetstone/Birkovitz Outstanding Florida Waterbody (OFW), located within the Werner-Boyce Salt Springs State Park, eventually emptying into the Gulf of Mexico.

Open Water (PAB, PABx, PUB, PUBx)

This category of wetland is non-vegetated, isolated, inundated year-round, and functions within the project area as sinks for storing surface water runoff.

Freshwater Marshes (PEM, PEMx)

The freshwater marshes within the existing SR 55 (US 19) ROW are functioning as wet ditches and are maintained regularly. In areas where the grade is too steep for mowing, wetland-dependent vegetation has recruited. Vegetation consists primarily of nuisance exotic species, typical of roadside ditches and swales. Herbaceous species observed include: cattail (*Typha* spp.), pickerelweed (*Pontederia cordata*), tickseed (*Coreopsis* spp.), arrowhead (*Sagittaria* spp.) and frogfruit (*Phyla nodiflora*). Shrub species that were sparsely scattered along the outermost fringes included primrosewillow (*Ludwigia* spp.), Carolina willow (*Salix caroliniana*), wax myrtle (*Myrica cerifera*), groundsel tree (*Baccharis halimifolia*) and brazilian pepper (*Schinus terebinthifolius*).

Forested Wetland (PFO)

Fewer forested wetland systems are within or adjacent to the existing ROW compared to the number of freshwater marshes. Before the construction of SR 55 (US 19) and its associated stormwater management system, many of the freshwater marshes were once wetland forests. Therefore, the assessed systems were primarily the disturbed fringes of forested wetland systems. Common tree species observed include cypress (*Taxodium* spp.), red maple (*Acer rubrum*) and laurel oak (*Quercus laurifolia*) with scattered pines (*Pinus* spp.).

2.1.3 Outstanding Florida Waters

Within the project vicinity, the following aquatic features have been designated as Outstanding Florida Waters (OFW): Pinellas County Aquatic Preserve, located 0.5 miles south and 2.75 miles west of the project corridor, and waters within the Werner-Boyce Salt Springs State Park-the Wetstone/Birkovitz OFW, 100 ft. to the west of the project.

Degradation of water quality in an OFW is prohibited except under certain circumstances.

2.1.4 Essential Fish Habitat

Estuarine habitats within the Pithlachascotee River and along the Gulf of Mexico coastline, in the vicinity of the project corridor, have been identified by NMFS as Essential Fish Habitat (EFH). Specific categories of EFH within the vicinity of the project corridor include mangrove wetlands, emergent salt marsh, seagrass, estuarine water column, mud, sand, shell and rock substrates. These habitats were designated as EFH in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. **No work is being proposed within the aquatic features in which EFH has been designated and stormwater treatment for this entire corridor of SR 55 (US 19) will meet or exceed the required level of treatment due to the special water/OFW designation in compliance with Ch. 62-25.**

2.1.5 Conservation Lands

The following conservation lands exist west of the SR 55 (US 19) corridor: The Robert Crown Wilderness Area, managed by the State of Florida, Werner-Boyce Salt Springs State Park, managed by the Florida Department of Environmental Protection (FDEP), and the Weekiwachee Preserve, managed by the Southwest Florida Water Management District. Within Segment 4, Aripeka Heights, a 200+ acre parcel, is adjacent to SR 55 (US 19) and the SWFWMD-owned Weekiwachee Preserve is located within 100 ft. of the corridor (**Figure 2-1**).

SECTION 3
WETLAND IMPACTS

3.1 POTENTIAL IMPACTS

Based on this evaluation effort, the continuous right turn lanes (CRTL) are no longer part of the proposed project concepts. "Section 5 – Conclusions" addresses potential impacts related only to the proposed interchange improvements. The following wetland impact analysis applies to the CRTLs and the proposed interchange improvements at SR 54, Ridge Road, SR 52 and County Line Road.

As indicated in **Table 3-1,** approximately 0.79 acres of wetland impacts could occur due to the construction of both the proposed CRTL and interchange improvements. A total of 11 wetlands and 26 man-made swales/wet retentions would potentially be impacted. Impact areas are mapped on the Conceptual Plans (**Appendix A**). Impacts will be primarily to the fringe of forested systems adjacent to new right-turn lanes requiring additional ROW. These fringe wetlands vary in quality from moderate to high. The higher quality wetlands are located to the west of SR 55 (US 19) and are adjacent to large tracts of undeveloped land associated with conservation lands and/or OFWs. Wetland impacts are to small slivers of disturbed wetland fringes adjacent to, or within, the existing SR 55 (US 19) maintained ROW.

Table 3-1 Wetland and Other Surface Water Potential Impacts

Description	NWI	FLUCFCS	Segment 1	Segment 2	Segment 3	Segment 4	Total Project Impacts
Man-Made Swale & Wet Retention	PEMx	641	--	--	0.01	4.59	4.60
Freshwater Pond	PUB	530	--	--	--	0.09	0.09
Freshwater Marsh	PEM	641	--	0.01	--	--	0.01
Freshwater Forested Wetland	PFO	630	0.55	--	--	0.04	0.60
Riverine (excavated)	R2UBx	510	--	--	0.01	0.09	0.10
Total Wetland Impacts By Segment (acres)			**0.55**	**.01***	**0.01**	**0.22**	**0.79**

* Impact quantities do not vary among alternatives except for Alternative 3, Segment 2; the impacts would be 0.003ac.

3.1.1 UMAMS

The functional losses resulting from wetland impacts are determined through the Uniform Mitigation Assessment Method (UMAM) analysis (**Appendix D**). This assessment was developed by the Water Management Districts and the FDEP to assist the regulatory evaluation of wetland sites. It provides accurate and consistent evaluation, by establishing a numerical ranking for location, hydrology, and community structure used to evaluate the current condition of the wetland. Scores for each variable are totaled and divided by the total of the maximum score for that variable. The idea is to score the functionality of the wetland being impacted and determine the quality and quantity of mitigation land needed to offset the project's impacts.

Table 3-2
UMAM Wetland Functional Loss

Assessed Wetland Stationing	Total Impact Acreage	Total Functional Loss
2111-E, 2115-E, 2116-E, 2118-W, 2939-E, 2956-E	0.6	0.26
2433-W (Alternative 1 & 2 conditions)	0.014	0.01
2433-W *(Alternative 3 conditions)*	*0.003*	*0.001*
2644-W, 2644-E	0.089	0.04
2704-W	0.09	0.09
	TOTAL FUNCTIONAL LOSS	**0.40**

3.2 PERMITTING AND REVIEW AGENCIES

The U.S. Army Corps of Engineers (USACE) and SWFWMD regulate wetlands within the project limits. Other agencies including USFWS, the U.S. Environmental Protection Agency (USEPA), Florida Fish and Wildlife Conservation Commission (FFWCC), and NMFS review and comment on wetland permitting. Additional coordination will be conducted during final design. Permit applications are expected to be submitted after the 60% design is completed. It is anticipated that the following permits will be required:

- SWFWMD — Environmental Resource Permit (General)
- USACE — Section 404 Dredge and Fill Permit (Nationwide)
- USEPA — National Pollutant Discharge Elimination System Permit

An Environmental Resource Permit will be required for this project. However, the actual permit type will be determined when project limits, pond siting, and limits of construction are finalized. If wetland impacts exceed threshold limits, requiring an individual ERP permit, the FDOT may want to consider applying for an Incidental Site Activities Permit (40D- 40.302(6)(a) F.A.C), particularly if the project is a design-build or fast-tracked project.

Coordination with FFWCC and USFWS will be required for wetland-dependent Listed Species.

3.3 WETLAND MITIGATION

Impacts to wetlands will be avoided to the extent feasible. However, if the final design of the proposed improvements results in unavoidable wetland impacts, impacts will be mitigated through the FDOT Mitigation Program (Chapter 373.4137 F.S.). Mitigation should be in-kind and within the same watershed basin as the proposed impact. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project is located within the Upper Coastal Basin.

SECTION 4

THREATENED AND ENDANGERED SPECIES

4.1 METHODS

Based on this evaluation effort, the continuous right turn lanes (CRTL) are no longer part of the proposed project concepts. "Section 5 – Conclusions" addresses potential impacts related only to the proposed interchange improvements. The following threatened and endangered species impact analysis applies to the CRTLs and the proposed interchange improvements at SR 54, Ridge Road, SR 52 and County Line Road.

A comprehensive literature review was conducted in order to identify potential state and federal threatened and endangered species that could potentially be affected by the project. Habitat and soil mapping was used in combination with the aerial photographs in order to define the location of key site features likely to influence species presence, such as natural or manmade attributes and habitat and vegetation community distribution and disturbance. On August 30, 2007, habitats were qualitatively by HDR environmental scientists and described using visual indicators of vegetation cover type, plant species present, hydrology, soil and/or other habitat characteristics. These indicators were then used to assess potential habitat suitability for listed species. In addition, a Florida Natural Areas Inventory (FNAI) Report was requested and is located within **Appendix E: Threatened and Endangered Species Records/Data**. The following list details the agency coordination and GIS data analysis carried out for the preparation of this report:

- Review of the following FNAI GIS layers: species element occurrences for Pasco County, conservation lands, functional wetlands, conservation priorities and natural communities.
- Correspondence with FFWCC for the most recent bald eagle nest survey results near the project area (**Appendix E**).

- Review of the following FFWCC GIS layers: Archbold Biological Station's Florida Scrub Jay Habitat (1992-1993) for the State of Florida, Species Consultation Areas, Historic Florida Scrub Jay Observations, Florida Black Bear Road Kill, and Wildlife Observations.
- Review of the following FDEP GIS layers: Special Outstanding Florida Waters, Outstanding Florida Waters, and conservation lands.
- Correspondence with Bill Pranty, Stakeholder Liaison and Management Plan Editor for the Bald Eagle Management Team for FFWCC, for the locations and status of known Florida Scrub Jays troops near the SR 55 (US 19) corridor.

ETDM Programming Screen Summary Report for the SR 55 (US 19) PD&E Study (from Pinellas County Line to Hernando County Line) – Published on 08/02/2007.

4.2 RESULTS

The following results pertain to the CRTLs, see "Section 5 – Conclusions" for potential impacts related only to the proposed interchange improvements. The project is within the West Indian Manatee, Piping Plover, and Florida Scrub Jay USFWS consultation areas, the Florida Scrub Jay service area, and Scotts Seaside Sparrow Strategic Habitat and Conservation Area (SHCA). Four federally-listed species – Florida scrub jay (*Aphelocoma coerulescens coerulescens*) (T), Eastern indigo snake (*Drymarchon corais couperi*) (T), wood stork (*Mycteria americana*) (E) and Florida manatee (*Trichechus manatus*) (E), as well as the recently delisted bald eagle (*Haliaeetus leucocephalus*) and two state-listed species – gopher tortoise (*Gopherus polyphemus*) (T) and Florida black bear (*Ursus americanus floridanus*) (T), have the potential to occur within or adjacent to portions of the project area (**Figure 2-1**). Species observations are also shown on the Conceptual Plans for the Mainline (**Appendix A**).

The protected species list shown in **Table 4-1** was compiled from information obtained from the various sources referenced above, additional project specific information, and field reviews. This table lists the federal and state threatened and endangered species and state species of special concern, their federal and/or state status, their potential for occurrence in the project limits and their habitat preferences. The probability of species

occurrence is ranked low, moderate, or high based on the presence/absence of preferred habitat and documented occurrences. A Low rating indicates that no preferred habitat for that species was found within the study area or that suitable habitat may exist, but no species have been historically documented within one mile of the project. A moderate rating indicates that suitable habitat exists and species have been historically documented within a mile of the project. A High rating indicates that suitable habitat exists and the species has been recently documented.

Table 4-1
State and Federal Listed Threatened and Endangered Species with the Potential to Occur Within the Mainline's Project Limits[1]

Common Name	Designated Status		Habitat Preference	Potential to Occur in the Project Limits[4]
	Federal Status[2]	State Status[3]		
Avian				
Bald Eagle *Haliaeetus leucocephalus*	N	N	Close to large water bodies, habitat can be variable	Moderate
Florida Scrub-jay *Aphelocoma coerulescens*	LT	LT	Oak scrub	Moderate
Florida Sandhill Crane *Grus canadensis pratensis*	N	LT	Wet prairies, marshy lake bottoms	High
Little Blue Heron *Egretta caerulea*	N	LS	Shallow brackish, freshwater and saltwater habitats	High
Scott's Seaside Sparrow *Ammodramus maritimus peninsulae*	N	LS	Salt and brackish marshes	Low
Snowy Egret *Egretta thula*	N	LS	Shallow freshwater and brackish marshes	High
Tricolored Heron *Egretta tricolor*	N	LS	Shallow freshwater and brackish marshes	High
Wood Stork *Mycteria americana*	LE	LE	Woody vegetation over standing water, or island	High
Mammals				
Florida Black Bear *Ursus americanus floridanus*	N	LT	Mixed hardwood pine, cabbage palm hammock, upland oak scrub, and forested wetlands, such as cypress and riverine	Moderate
Manatee *Trichechus manatus*	LE	LE	Freshwater, brackish and marine habitats	Low
Reptiles				
Eastern Indigo Snake *Drymarchon couperi*	LT	LT	Mesic flatwoods, upland pine forest, sandhill scrub	Moderate
Gopher Tortoise *Gopherus polyphemus*	N	T	Sandhill, scrubby, flatwoods, xeric hammock	Moderate
Flora				
Piedmont Jointgrass *Coelorachis tuberculosa*	N	LT	Depression marsh and dome swamp	Low
Natural Communities				
Sandhill	N	N		Moderate
Scrub	N	N		Moderate

Legend

[1]Based on a review of existing literature, GIS and FNAI's "Biodiversity Matrix Report for US 19, Pasco County"

Legend cont'

[2]As listed by the U.S. Fish and Wildlife Service in 50 CFR 17. NL = Not Listed.

[3]Plant species listed by the Florida Department of Agriculture pursuant to Chapter 5-40, FAC. Animal species listed by the FFWCC pursuant to Rules 39-27.003, 39-27.004, and 39-27.005 FAC.

[4]The potential for occurrence was ranked from high to low using the following guidelines:

Low - Little or no suitable habitat

Moderate - Suitable habitat present within, or adjacent to, the project limits and historical species record of occurrence (based on FNAI report and literature review) within one mile of the project limits.

High - Suitable habitat present within, or adjacent to, the project limits, species record of occurrence within one mile of the project limits and species recently observed/documented.

E = Endangered
LT = Threatened
LS = Species of Special Concern
PDL = Species currently listed Threatened but has been proposed for delisting

Note: The discussion of the potential for impact associated with the SR 55 (US 19) right-turn lane project is provided without regard for alternative alignments because there is no significant difference in alternatives with respect to potential listed species impact. Additionally, the assessment does not include pond site locations as pond siting was not an element of the PD&E study.

4.2.1 Federally - Listed

4.2.1.1 Bald Eagle

The recently delisted bald eagle is still protected by the U. S. Migratory Bird Treaty Act and the Bald Eagle and Golden Eagle Protection Act and state Wildlife Code. Specifically, construction activities are restricted within 330 ft. of an active nest during nesting season. Bald eagles will begin breeding activity in September, with egg-laying beginning in late October and peaking in December. Clutches of one or two, and sometimes three, are incubated for about 35 days to hatching. Fledging occurs in 10 to 12 weeks, and parents will continue to feed and care for young for up to six weeks after fledging. Therefore, the season for potential breeding activity is quite long. The Florida Bald Eagle Management Plan defines the nesting season from October 1 to May 15 (USFWS, 1989).

Bald eagles typically hunt in aquatic habitats where their primary food source is fish, although they can opportunistically supplement their diet with turtles, birds and mammals. Because of this, they are generally found in coastal areas, bays, estuaries or near large freshwater lakes and rivers. Preferred nest sites for bald eagle are the tops of tall trees, often pines, usually overlooking or near a large waterbody. Typically, the same pair will return to a nest year after year. Bald eagle territories can contain both active nests, and alternate constructed nests that are not being actively used. Nearly all nests are built within two miles of water (FWC, 2008).

Though several active, inactive, and abandoned nests are documented in the project corridor (four in Segment 4 and one in Segment 3), no active nests are documented within 330 ft. of the project corridor. Communication with FFWCC (Pers. Comm. Jennifer Swan, FFWCC) revealed that the nest for eagle pair PS003, within 330 ft. of the existing ROW in 2003, was gone (**Appendix E**). In addition, SWFWMD environmental scientists did not observe any eagle nests at this location during their May 6th, 2007 and May 15th, 2007 field reviews. Due to the distance of the nests from roadway limits of construction, a "no effect" finding on the bald eagle is appropriate.

Finding: "No effect"

4.2.1.2 Eastern Indigo Snake

The federal and state-threatened **eastern indigo snake** generally required large tracts of land to survive and utilizes a diverse range of habitats from xeric oak scrub to wet prairies and is often found in similar habitats of the gopher tortoise. Large uninterrupted tracts of land occur sparsely within the project vicinity. The eastern indigo snake is most active during summer and fall months (USFWS, 2008). Copulation occurs primarily in fall and winter and the eastern indigo snake lays eggs (often in gopher burrows) in May-June and hatchlings appear from late July through October (NatureServe, 2008). Habitat does potentially exist primarily in the northern portion (Segment 4) of the project, particularly west of SR 55 (US 19) within public lands. The eastern indigo snake has not been documented in the vicinity of the project. Although suitable habitat exists in the vicinity, construction will occur primarily within existing ROW. The project may have

temporary impact on the eastern indigo snake if species displacement occurs from suitable foraging, burrowing, resting or wintering habitat during construction activities. However, is not expected to result in significant long-term loss or contribute to any cumulative loss of habitat Direct mortality of adults is unlikely, but could occur due to impact with vehicles or equipment. Eastern indigo snakes are a mobile species and in most instances, they are capable of avoiding approaching vehicles and/or equipment by leaving the work area during active construction.

Finding: "May affect, not likely to adversely affect"

4.2.1.3 Florida Manatee

The federal and state-endangered (potentially down-listed to threatened) **Florida manatee**, a subspecies of the West Indian manatee *(Trichechus manatus),* is a large wide-ranging aquatic mammal in coastal waters. The manatee is also protected under the Marine Mammal Protection Act of 1972 as amended (16 U.S.C. 1461) and the Florida Manatee Sanctuary Act of 1978. The Florida manatee moves between fresh-water, brackish, and saltwater environments. They prefer large, slow-moving rivers, river mouths, and shallow coastal areas such as coves and bays (USFWS, 2008). Manatees are gentle and slow-moving. Most of their time is spent eating, resting, and in travel. Submerged, emergent, and floating vegetation are their preferred food and they can consume four to nine percent of their body weight daily in vegetation (USFWS, 2001).

There is a low potential for the occurrence of the manatee at the SR 55 (US 19) bridged Pithlachascotee River. There have been no documented occurrences or observations and there are no protected "aggregate areas" of manatee in the project vicinity. Additionally, bridge replacement/improvement construction is not associated with the recommended Build Alternative.

Finding: "May affect, not likely to adversely affect"

4.2.1.4 Florida Scrub Jay

The federal and state-threatened Florida scrub jay is the only bird whose entire range is restricted to Florida. The SR 55 (US 19) project is within the USFWS Florida Scrub Jay Consultation Area. A consultation area encompasses all areas where there are known populations of a minimum of 10 pairs of scrub jays. The largest populations occur in Brevard, Highlands, Polk and Marion Counties (Hipes *et al.*, 2001). The scrub jay generally inhabits oak scrub in well-drained sandy soils. However, populations have persisted in atypical overgrown scrubs at lower densities with tenuous survivorship. Scrub jays forage on or near the ground in small cleared patches, feeding on a variety invertebrates and acorns (USFWS, 2007). They are opportunistic and will also eat other nuts, berries, and seeds, and sometimes will take small vertebrate prey or visit feeding stations in suburban areas (USFWS, 2007). Breeding lasts only about 90 days, from early March through June. Clutches consist of two to five eggs (USFWS, 1990).

Scrub jays have been documented historically and recently (FNAI, FFWCC) in the Segment 4 corridor in remnant, overgrown scrub habitat within the Hudson area from the vicinity of Fivay Road north to Aripeka Road and the County Line (**Figure 2-1**). A twenty-five year old FNAI element occurrence record documented scrub-jays in a nearby remnant oak scrub area. Recent communications (Pers. Comm. Bill Pranty, Audubon) confirmed the presence of this species in atypical overgrown scrub habitat adjacent to SR 55 (US 19) at the 7-11 at New York Avenue and other near-by sites near the 7-11 in 2004-2005 (**Appendix E**). Pictures 17 & 18 within **Appendix B** show the overgrown scrub behind the 7-11. The right-turn lanes proposed for this project will be constructed primarily within existing ROW and no oak scrub habitat will be impacted by this project.

Finding: "May affect, not likely to adversely affect"

4.2.1.5 Wood Stork

The federal and state-endangered **wood stork** is a large wading bird nesting colonially in inundated forested wetlands and foraging in shallow water. Potential foraging areas include freshwater marshes, stock ponds, shallow roadside ditches, shallow tidal creeks and pools, managed impoundments and depressions in cypress swamps. Storks feed

primarily on fish, but can opportunistically feed on arthropods and crustaceans, as well as small amphibians, mammals, reptiles, and birds (USFWS, 1996). Breeding season varies considerably throughout the breeding range of wood storks. In central Florida the typical season is February to March (Hipes *et al.*, 2001). Storks have one brood per season, with each clutch consisting of two to five eggs. Incubation lasts about a month, and after chicks hatch they are fed nine weeks before fledging. Young fledged birds will return to the nest, where parents continue to feed them for another three or four weeks (USFWS, 1996).

Several wood stork rookeries have been identified within the project area including a rookery immediately adjacent to SR 55 (US 19) on the east side behind the Embassy Crossroads Shopping Mall (**Figure 2-1**). Pictures 9, 10 & 11 show the wood stork rookery (**Appendix B**). This inundated retention pond with "stunted cypress" was observed during summer 2007 field reviews. **Other wading birds (state species of special concern) including the white ibis, little blue heron, great egret, tri-colored heron, snowy egret, and black-crowned night heron and the state-threatened sandhill crane** have been documented along the SR 55 (US 19) project corridor and/or within the Embassy Crossroads rookery. If the project results in altered wetlands within the core foraging area (CFA) of a wood stork colony, wetland mitigation will include a temporal lag factor with type for type mitigation to compensate for adverse effects to the wood stork CFA. The CFA is identified as a 15 mile radius from identified rookeries. The entire project footprint lies within a wood stork CFA.

Finding: "**May affect, not likely to adversely affect**" for the wood stork and other wading birds.

4.2.2 State – Listed

4.2.2.1 Florida Black Bear

The state threatened **Florida black bear** is a large wide-ranging mammal utilizing large expanses of a variety of forested communities. The northern portion of the Project (Segment 4) is the location of an historical road kill (1978, FNAI). Near the Hernando

County Line, in the vicinity of Aripeka Road, a 229-acre parcel is under negotiation for purchase by Pasco County's Environmental Land Acquisition and Management Program. This parcel, known as the Aripeka Heights parcel, is being proposed for acquisition, in large part, due to the potential for black bear utilization and its linkage to a north/south wildlife corridor, west of SR 55 (US 19), to Weekiwachee and other public lands. SR 55 (US 19) in Pasco County is not identified by the FFWCC (2000) as one of the 15 chronic bear roadkill areas although SR 55 (US 19), east of Chassahowitzka National Wildlife Refuge and Weekiwachee in Hernando County is. The SR 55 (US 19) Project is not expected to have an adverse effect on black bears or their habitat.

4.2.2.2 Gopher Tortoise

The state-listed **gopher tortoise** was recently uplisted to threatened with new recovery and relocation guidelines to be implemented soon. This Florida land turtle is typically found in xeric upland habitats, excavating deep burrows for refuge which also serve as protection and refuge for 300 other species of animals. It is commonly associated with a pine overstory and an open understory with a grass and forb (non-woody) groundcover and sunny areas for nesting. Gopher tortoises can sometimes be found in more marginal habitat such as roadsides, ditch banks, utility and pipeline rights-of-way, pastures, and even marginal wetland habitat, especially if their preferred habitat has been lost (USFWS, 2007). Nesting occurs from late April to mid-July (mainly mid-May to mid-June). Its clutch size is usually 5 to 9, (USFWS, 2007). Incubation lasts between 80 and 110 days. Hatching occurs from August through September (NatureServe, 2007).

The gopher tortoise has a low to moderate potential for occurrence within the project corridor, primarily within the xeric portions of Segment 4. A 1988 FNAI documented element occurrence for an active gopher tortoise burrow is located within the xeric portions of Segment 4. Gopher tortoise burrows were not located during field reviews of this area. Because the project will be constructed primarily within maintained existing ROW, there is little potential for the occurrence of gopher tortoise burrows.

SECTION 5
CONCLUSIONS

5.1 WETLAND EVALUATION

During the early phases of this study, potential environmental impacts resulting from continuous right turn lanes (CRTL) and intersection improvements were evaluated and documented in Sections 3 and 4 of this report. The results of the CRTL evaluation efforts indicated that they could be constructed within the existing right-of-way (ROW) along SR 55 (US 19) without requiring any additional mainline ROW or ROW for stormwater treatment facility areas. **Based on this evaluation effort, the CRTLs are no longer planned to be part of the proposed project concepts. The following conclusions apply only to the proposed interchange improvements at SR 54, Ridge Road, SR 52 and County Line Road.**

A majority of the wetland impacts discussed in **Section 3** and shown in **Table 3-1** are no longer anticipated due to the implementation of the CRTL concept as a separate project. A total of 0.01 wetlands and 0.21 man-made swales/wet retentions could potentially be impacted as a result of the proposed interchange improvements (**Table 5-1**). The conceptual plans shown in **Appendix A** depict the area of potential affect for the interchange improvements.

Table 5-1
Interchange Improvements – Wetland and other Surface Water Potential Impacts

Description	NWI	FLUCFCS	SR 55 (US 19) Interchange				Total Project Impacts
			SR 54	Ridge Rd	SR 52	Co. Line Rd	
Man-Made Swale & Wet Retention	PEMx	641	--	--	--	0.21	**0.21**
Freshwater Pond	PUB	530	--	--	--	--	**0.00**
Freshwater Marsh	PEM	641	--	0.01	--	--	**0.01**
Freshwater Forested Wetland	PFO	630	--	--	--	--	**0.00**
Riverine (excavated)	R2UBx	510	--	--	--	--	**0.00**
Total Wetland Impacts by Interchange (acres)*			**0.00**	**0.01**	**0.00**	**0.00**	**0.01**

* Total functional wetland loss equals 0.004.

It is anticipated that the following permits will be required for this project:

Standard General Environmental Resource Permit (ERP) from SWFWMD

Section 404 Nationwide Dredge and Fill Permit from USACE

National Pollutant Discharge Elimination System Permit (NPDES) from USEPA

Impacts to wetlands will be avoided to the extent feasible. Unavoidable construction-related wetland impacts will be mitigated through the FDOT Mitigation Program (Chapter 373.4137 F.S.). Mitigation should be in-kind and within the same watershed basin as the proposed impact. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project is located within the Upper Coastal Basin.

5.2 BIOLOGICAL ASSESSMENT

The U.S. Fish and Wildlife Service (USFWS) gave concurrence on June 9th, 2008 (Appendix D) through informal consultation. However, since the CRTL concept is no longer part of this project's current design, the project affects on wildlife are expected to be less than what was presented to USFWS during informal consultation. **Table 5-2**

updates **Table 4-1** to reflect the potential for threatened and endangered species to occur within the interchange improvements' project limits

The **federally-threatened Florida scrub jay** historically persists in atypical overgrown scrubs at lower densities with tenuous survivorship. Historical scrub jay element occurrences were clustered around New York Avenue, within atypical habitat in Segment 4. The potential for negative impacts to the Florida scrub jay has been reduced with the elimination of CRTLs. *Pre-construction surveys are no longer recommended for this project.* A finding of "**May affect, not likely to adversely affect**" is appropriate for this species.

The **federally-threatened eastern indigo snake** also utilizes the scrub habitat as well as other large tracts of habitat from xeric oak scrub to wet prairies. The eastern indigo is also known to cohabitate in abandoned and active gopher tortoise burrows for denning and nesting sites. The highest potential for suitable habitat exists in Segment 4 (County Line Road intersection improvements) along SR 55's (US 19) road shoulders.

Table 5-2
Interchange Improvements – State and Federal Listed Threatened and Endangered Species Potential [1]

Common Name	Designated Status		Habitat Preference	Potential to Occur in the Project Limits[4]
	Federal Status[2]	State Status[3]		
Avian				
Bald Eagle *Haliaeetus leucocephalus*	N	N	Close to large water bodies, habitat can be variable	Low
Florida Scrub-jay *Aphelocoma coerulescens*	LT	LT	Oak scrub	Low
Florida Sandhill Crane *Grus canadensis pratensis*	N	LT	Wet prairies, marshy lake bottoms	Moderate
Little Blue Heron *Egretta caerulea*	N	LS	Shallow brackish, freshwater and saltwater habitats	High
Scott's Seaside Sparrow *Ammodramus maritimus peninsulae*	N	LS	Salt and brackish marshes	Low
Snowy Egret *Egretta thula*	N	LS	Shallow freshwater and brackish marshes	High

Common Name	Designated Status		Habitat Preference	Potential to Occur in the Project Limits[4]
	Federal Status[2]	State Status[3]		
Tricolored Heron *Egretta tricolor*	N	LS	Shallow freshwater and brackish marshes	High
Wood Stork *Mycteria americana*	LE	LE	Woody vegetation over standing water, or island	High
Mammals				
Florida Black Bear *Ursus americanus floridanus*	N	LT	Mixed hardwood pine, cabbage palm hammock, upland oak scrub, and forested wetlands, such as cypress and riverine	Low
Manatee *Trichechus manatus*	LE	LE	Freshwater, brackish and marine habitats	Low
Reptiles				
Eastern Indigo Snake *Drymarchon couperi*	LT	LT	Mesic flatwoods, upland pine forest, sandhill scrub	Moderate
Gopher Tortoise *Gopherus polyphemus*	N	T	Sandhill, scrubby, flatwoods, xeric hammock	Moderate
Flora				
Piedmont Jointgrass *Coelorachis tuberculosa*	N	LT	Depression marsh and dome swamp	Low

Legend

[1]Based on a review of existing literature, GIS and FNAI's "Biodiversity Matrix Report for US 19, Pasco County"

Legend cont'

[2]As listed by the U.S. Fish and Wildlife Service in 50 CFR 17. NL = Not Listed.

[3]Plant species listed by the Florida Department of Agriculture pursuant to Chapter 5-40, FAC. Animal species listed by the FFWCC pursuant to Rules 39-27.003, 39-27.004, and 39-27.005 FAC.

[4]The potential for occurrence was ranked from high to low using the following guidelines:

Low - Little or no suitable habitat

Moderate - Suitable habitat present within, or adjacent to, the project limits and historical species record of occurrence (based on FNAI report and literature review) within one mile of the project limits.

High - Suitable habitat present within, or adjacent to, the project limits, species record of occurrence within one mile of the project limits and species recently observed/documented.

E = Endangered

LT = Threatened

LS = Species of Special Concern

PDL = Species currently listed Threatened but has been proposed for delisting

There are no survey guidelines for the eastern indigo snake but the *Protection Measures for the Eastern Indigo Snake* should be employed during construction activities. A finding of "**May affect, not likely to adversely affect**" is still appropriate for this species.

The **federally-endangered wood stork** is a large wading bird nesting colonially in inundated forested wetlands and foraging in shallow water. Several wood stork rookeries have been identified within the project area including a rookery on the east side of SR 55 (US 19) behind the Embassy Crossings Shopping Mall. The entire project footprint lies within the CFA of the wood stork; however, wetland and other surface water impacts resulting from the proposed intersection improvements are minimal. A finding of "**May affect, not likely to adversely affect**" is therefore still appropriate for the wood stork and other protected wading birds.

The **federally-endangered Florida manatee** is a large wide-ranging aquatic mammal in coastal waters. There was a low potential for the occurrence of the manatee at the SR 55 (US 19) bridged Pithlachascotee River (Segment 2). However, with the elimination of the CRTLs, the project no longer encompasses the Pithlachascotee River. A finding of "**no effect**" is appropriate for this species.

The recently **delisted bald eagle** is still protected by the U. S. Migratory Bird Treaty Act and the Bald Eagle and Golden Eagle Protection Act and state Wildlife Code. Although several active, inactive, and abandoned nests are documented in the project corridor (four in Segment 4 and one in Segment 3), no active nests are documented within 330 ft. of the project corridor. Communication with FWC (Pers. Comm. Jennifer Swan) documented that the nest for eagle pair PS003, within 330 ft. of the existing ROW in 2003 no longer exists. Due to the distance of documented nests from roadway limits of construction, a "**no effect**" finding on the bald eagle is appropriate.

The **state-listed gopher tortoise** was recently uplisted to **threatened** with new recovery and relocation guidelines to be implemented soon. This Florida land turtle is typically found in xeric upland habitats, excavating deep burrows for refuge which also serve as protection and refuge for 300 other species of animals. The gopher tortoise has a low to

moderate potential for occurrence within the project corridor. The highest potential for suitable habitat exists in Segment 4 (County Line Road intersection improvements) along SR 55 (US 19) road shoulders. Because the project will be constructed primarily within maintained existing ROW, there is little potential for the occurrence of gopher tortoise burrows.

Although habitat in the vicinity of this project may support listed species, construction of this project predominantly within existing ROW unlikely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1513 et. seq.).

SECTION 6

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APPENDIX A

Conceptual Plans of the Proposed Mainline Improvements

for SR 55 (US 19)

SEGMENT 1

WESTWOOD DRIVE

BEACON SQUARE DRIVE

MOOG ROAD

UNIVERSAL PLAZA

7-11

OUTFALL PIPE
1 - 30"

2130
2135
2140
2145
2150
2155

ICE COLD AIR
(ABANDONED
GAS STATION)

HOLIDAY MALL

EASTWOOD LANE

MANOR DRIVE

0 50 200
Feet

WETLANDS LEGEND

E1UB		ESTUARINE + MARINE
L1UB		LAKE
PAB + PUB		FRESHWATER POND
PEM		FRESHWATER MARSH
PFO		FRESHWATER FORESTED
PSS		FRESHWATER SCRUB-SHRUB
R2UB		RIVERINE
x		DENOTES MANMADE FEATURE

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- 65 Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

ONE

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 423

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

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SEGMENT 1

Zone A13 (EL 12)

Zone A13 (EL 12)

Zone A13 (EL 12)

Zone A13 (EL 12)

PEMx

OLD BAILEYS BLUFF RD

CATHERINE ST

CHARLENE LN

GLISSADE DR

SENTRY MINI STORAGE

FERMAN NISSAN

PILE SUPPORTED SLAB

SUN TOYOTA

PILE SUPPORTED SLAB — OUTFALL PIPE

2160 2165 2170 2175 2180 2185

1 - 24"

NEW PORT RICHEY HYUNDAI

OUTFALL PIPE TO POND

1 - 24"

CENTER PLAZA

FLAMINGO DR

BEACON HILL DRIVE

MANOR DRIVE

S.R. 54

EXISTING FDOT SWM FACILITY

WETLANDS LEGEND

E/UB	ESTUARINE + MARINE
L/UB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
R2UB	RIVERINE
x	DENOTES MANMADE FEATURE

Pile Supported Slab

0 50 200

Feet

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- FLORA AVENUE — Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

ONE

HDR Engineering, Inc.

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 4213

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 6C

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SEGMENT 1

Zone A13 (EL 12)

Zone A13 (EL 12)

Zone A13 (EL 12)

TROUBLE CREEK ROAD

CATHERINE ST

ALPS WAY

RACE TRACK

TEXACO

NEW PORT LINCOLN

1 - 24" CP

2190 2195 2200 2205 2210 2215

SAM'S CLUB

PEMx

TROUBLE CREEK ROAD

SHAMROCK DRIVE

GULF HARBOR PLAZA

PFO

0 50 200 Feet

WETLANDS LEGEND

EUB	ESTUARINE + MARINE
LUB	LAKE
PAB + RUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
RUB	RIVERINE
*	DENOTES MANMADE FEATURE

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

ONE

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 7C

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SEGMENT 2

EIUBX

Zone A13
(EL 14)

CATCHE'S

OUTFALL PIPE

YVIEW STREET

COTEE AVE

HESS

TRAILS END CT

OLD POST ROAD

Zone
(EL

2370

2375

2380

2385

2390

2395

BAYLEA AVENUE

PITHLACHASCOTEE RIVER BRIDGE

OUTFALL PIPE

JAMES CLARK STREET

PITHLACHASCOTEE RIVER

EIUBX

Zone A13
(EL 13)

Zone A13
(EL 13)

RIVER GULF ROAD

C.R. 595
GRAND BOULEVARD

SUNOCO

PASCO WAY

FAMOUS TATE

WASHINGTON STREET

PUBx

WETLANDS LEGEND

EIUB ESTUARINE + MARINE
LUB LAKE
PAB + EAB FRESHWATER POND
PEM FRESHWATER MARSH
PFO FRESHWATER FORESTED
PSSC FRESHWATER SCRUB-SHRUB
R2UB RIVERINE
DENOTES MANMADE FEATURE

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

TWO

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 483

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO.
13C

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SEGMENT 2

BAY BOULEVARD

RICHEY DRIVE

WAL-MART

A13
12)

2 - 36" RCP

OUTFALL DITCH

PILE Zone A13 (EL 12) SLAB

OUTFALL PIPE

1 - 30" RCP

PILE SUPPORTED SLAB

WASHINGTON STREET

SIESTA LANE

KFC DRIVE

GATEWAY HONDA

LEO KIDD AVENUE

LEO KIDD AVENUE

RIDGE ROAD

0 50 200
Feet

WETLANDS LEGEND

EUB	ESTUARINE + MARINE
ZUB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
RZUB	RIVERINE
x	DENOTES MANMADE FEATURE

Pile Supported Slab

PUBx

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- 55 Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

TWO

HDR

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 483

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

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SEGMENT 2

SEGMENT 3

PEM

PEM

PFO

PEM

HAVERTY'S

Zone A13
(EL 13)

SALT SPRINGS ROAD

OUTFALL DITCH
1 - 10' X CBC

PILE SUPPORTED SLAB

GAS STATION

OUTFALL DITCH
2 - 36" RCP

2435

2440

2445

2450

2455

RIDGE CREST DRIVE

PEMx

SPRINGER DRIVE

Zone A13
(EL 12)

Zone A13
(EL 12)

STONE ROAD

PUBx

0 50 200
Feet

ONE & THREE

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

E/UB	ESTUARINE
L/UB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
R2UB	RIVERINE
x	DENOTES MANMADE FEATURE
	Pile Supported Slab

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 4213

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 15C

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SEGMENT 3

SANDRA DRIVE

Zone A13
(EL 12)

SAN MARCO DRIVE

SATURN OF PORT RICHEY

HACHEM DRIVE

PUBx

PEMx

PEMx

2580

2585

2590

2595

2600

2605

COMMONS BOULEVARD

GORDON DRIVE

JOHNSON ROAD

COLFAX DRIVE

Zone A13
(EL 12)

CRYSTAL LAKE DR

ENCORE PLAZA

PILE SUPPORTED SLAB

PUBx

PFO

0 50 200
Feet

WETLANDS LEGEND

EUB	ESTUARINE + MARINE
LUB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
RUB	RIVERINE
*	DENOTES MANMADE FEATURE

Pile Supported Slab

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- 845 Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

THREE

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 483

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

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SEGMENT 3

SEGMENT 4

Zone A13
(EL 13)

Zone A13
(EL 12)

POINT PLAZA

OUTFALL PIPE

OUTFALL PIPE
1 - 30" RCP

PEMx

PILE SUPPORTED SLAB

HARMONY PLAZA

BAYONET SQUARE

ELIZABETH AVENUE

EDNA AVENUE

S.R. 55

2810 2815 2820 2825 2830 2835

0 50 100
Feet

WETLANDS LEGEND

E/UB	ESTUARINE + MARINE
L/UB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
R2UB	RIVERINE
#	DENOTES MANMADE FEATURE

Pile Supported Slab

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

THREE & FOUR

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 4213

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 21C

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SEGMENT 4

Zone A13
(EL 12)

R2UBx

OUTFALL DITCH

3 - 10' X 5' BC

BEACH DRIVE

Zone A14
(EL 13)

PUB

2640 2645 2650 2655 2660 2665

BEACON WOODS DRIVE

BEAR CREEK

PEMx

PEM

PEMx

VACANT MALL

K-MART

Zone A13
(EL 12)

DIPAOLA DRIVE

OAKLEY AVENUE

COUNTRY CLUB DRIVE

0 100 200
Feet

WETLANDS LEGEND

E4UB	ESTUARINE + MARINE
L1UB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
R2UB	RIVERINE
x	DENOTES MANMADE FEATURE

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- 845 Centerline Alignment
- FLORIDA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

FOUR

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 483

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

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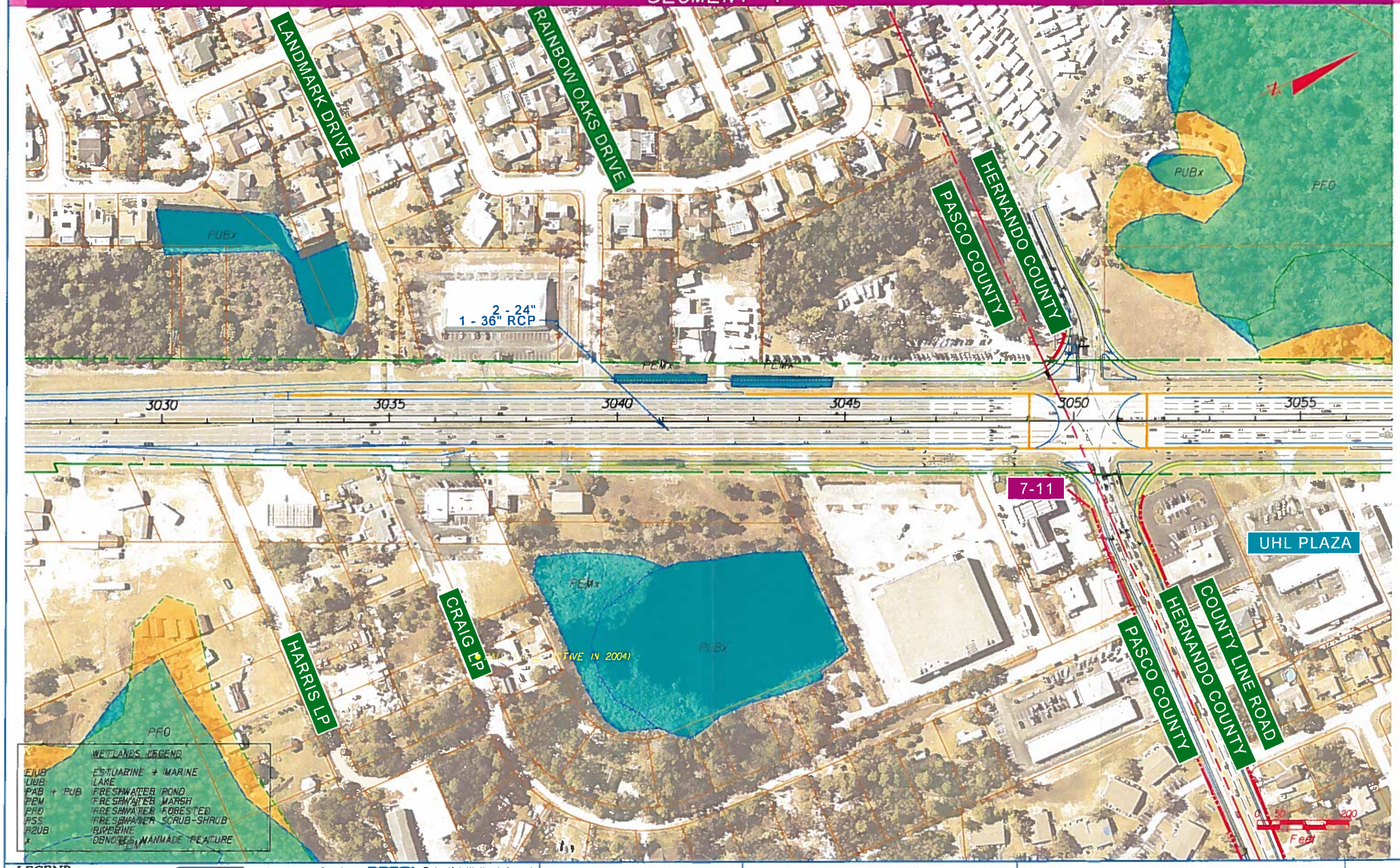
SEGMENT 4



LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- Centerline Alignment
- Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

FOUR

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 4213

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 35C

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SEGMENT 4

PEM PEM PFO

PFO

3060 3065 3070 3075 3080 3085

END PROJECT

PUBx PUBx

WETLANDS LEGEND

E1UB	ESTUARINE + MARINE
L1UB	LAKE
PAB + PUB	FRESHWATER POND
PEM	FRESHWATER MARSH
PFO	FRESHWATER FORESTED
PSS	FRESHWATER SCRUB-SHRUB
R2UB	RIVERINE
*	DENOTES MANMADE FEATURE

0 50 100 Feet

LEGEND:

- Existing ROW
- Proposed ROW
- Proposed EOP
- Property Lines
- Bridge/Structure
- Median Access Openings
- Right Turn Lane
- 875 Centerline Alignment
- FLORA AVENUE Place/Street Name
- Wetland Boundary
- Potential Wetland Impacts
- Wetlands
- Hydric Soils

FOUR

HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
CERTIFICATE OF AUTHORIZATION 4213

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 55	PASCO	418860-1-22-01

S.R. 55 (U.S. 19)
PROJECT DEVELOPMENT
ALTERNATIVE 3 - MODIFIED TUDI

SHEET NO. 36C

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APPENDIX B

Photo Documentation

US 19, Pasco County, PD & E 8-30-07 Field Review

[tampa on tpalicense] \\tpalicense\tampa\GIS\Projects\FDOT_010917\US19_CL-CL_20122005\admin\reports\Wetlands Eval and Biological Assessment Report\Appendix C_Photos\US19_Env_pics_08_30_07

Photo 01 (STA 2020E).JPG

Photo 02 (STA 2046E).JPG

Photo 03 (STA 2081E).JPG

Photo 04 (STA 2082E).JPG

Photo 05 (STA 2105E).JPG

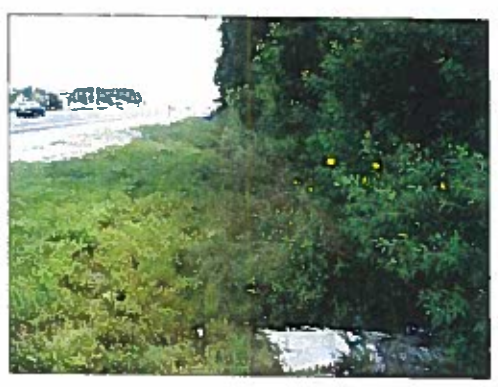


Photo 06 (STA 2106E).JPG

Photo 07 (STA 2115E).JPG

Photo 08 (STA 2367E).JPG

Photo 09 (STA 2373E Embasy Blvd.).JPG

Photo 10 (STA 2373E Embasy Blvd.).JPG

Photo 11 (STA 2373E Embasy Blvd.).JPG

Photo 12 (STA 2527E).JPG

Photo 13 (STA 2527E).JPG

Photo 14 (STA 2644E).JPG

Photo 15 (STA 2644E).JPG

US 19, Pasco County, PD & E 8-30-07 Field Review

Photo 16 (STA 2644E).JPG

Photo 17 (STA 2794E New York Ave).JPG

Photo 18 (STA 2794E New York Ave).JPG

Photo 19 (STA 2807E).JPG

Photo 20 (STA 2807E).JPG

Photo 21 (STA 2934E).JPG

Photo 22 (STA 2935E).JPG

Photo 23 (STA 2957E).JPG

Photo 24 (STA 2956E).JPG

Photo 25 (STA 2978E).JPG

Photo 26 (STA 2979E).JPG

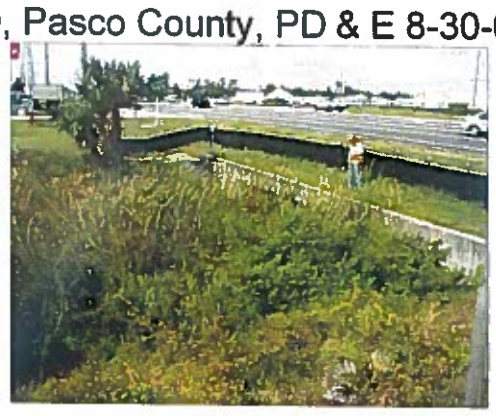
Photo 27 (STA 2970E).JPG

Photo 28 (STA 2970E).JPG

Photo 29 (STA 2970W).JPG

Photo 30 (STA 2970W).JPG

Photo 32 (STA 2705W).JPG



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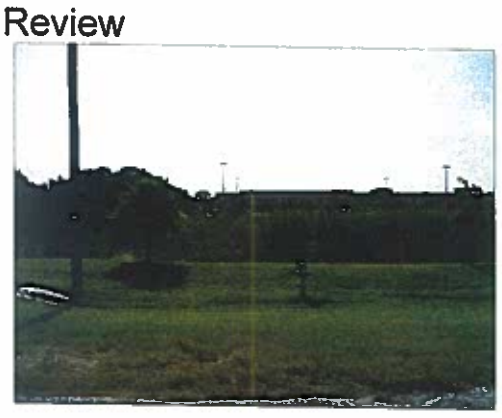


Photo 34 (STA 2620W).JPG

Photo 35 (STA 2433W).JPG

Photo 36 (STA 2433W).JPG

Photo 37 (STA 2119W).JPG

Photo XX (STA 2947W).JPG

Photo XX (STA 2965W).JPG

APPENDIX C

Agency Coordination

United States Department of the Interior

FISH AND WILDLIFE SERVICE
6620 Southpoint Drive, South
Suite 310
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:
FWS LOG NO. 41910-2008-I-0368

June 9, 2008

Manuel Santos, E.I.
Project Manager
Florida Department of Transportation
11201 N. McKinley Drive, MS 7-500
Tampa, FL 33612

Dear Mr. Santos:

Our office has reviewed your correspondence requesting informal consultation and the accompanying *Wetland Evaluation and Biological Assessment Memorandum* for the SR 55 (US 19) improvements. The applicant proposes improvements to the existing six-lane facility in Pasco County from Pinellas County Line to the Hernando County Line, an approximate distance of 19.7 miles. The action includes various improvements to: capacity; Transportation System Management; and interchanges at SR 54, Ridge Road, SR 52 and County Line Road.

The Service submits the following comments in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

ENDANGERED SPECIES ACT/MARINE MAMMAL PROTECTION ACT

The federally listed species identified in the *Wetland Evaluation and Biological Assessment Memorandum* are the threatened Florida scrub-jay (*Aphelocoma coerulescens),* the threatened eastern indigo snake (*Drymarchon corais couperi*), the endangered wood stork (*Mycteria americana*), and the endangered West Indian (Florida) manatee (*Trichechus manatus latirostris*).

The proposed improvements are anticipated to primarily occur within the existing right-of-way where no xeric scrub will be impacted; however, scrub-jays have been documented in sub-optimal habitat (overgrown scrub) in the Hudson area from the vicinity of Fivay Road north to Aripeka Road. No scrub-jay surveys were conducted during this study. The applicant recommends scrub-jay surveys to be performed prior to final design in the northern extent (Segment 4) of the project corridor. Providing scrub-jay surveys are conducted and the habitats are unoccupied, the project may affect, but is not likely to adversely affect, the Florida scrub-jay.

In regards to the eastern indigo snake, movements over large areas of fragmented habitats undoubtedly expose snakes to increased road mortality and likelihood of adverse human contact. In a recent Florida telemetry study, vehicles accounted for 40% of the in-field mortality to this species. The applicant has agreed to implement the *Standard Protection Measures for the Eastern Indigo Snake* (1999) during construction of the project. Those measures can be found at the Service's Jacksonville Ecological Service Field Office website at http://northflorida.fws.gov/IndigoSnakes/east-indigo-snake-measures-071299.htm. As a result, the project may affect, but is not likely to adversely affect, the eastern indigo snake.

The wetland impacts will occur within the Core Foraging Area (CFA) of existing wood stork colonies. The CFA in central Florida is defined as suitable foraging habitat within a distance of 15 miles (24 km) from a colony. The applicant proposes to mitigate the minor wetland impacts through Florida Statute 373.4137. The report states the mitigation should be in-kind and within the same watershed basin as the proposed impacts. The overall effects on wood storks will be insignificant and discountable. Therefore, the project may affect, but is not likely to adversely affect, the wood stork.

The project corridor crosses the Pithlachascotee River and Double Hammock Creek. The applicant has agreed to the *Standard Manatee Conditions for In-Water Work* (July 2005) during any construction activities where manatees may occur. In addition, the Service recommends the placement of mooring fenders on barges and other large vessels such that, when moored together, the fenders provide a minimum stand-off distance, at and below the water line, of 4 feet under maximum compression. With inclusion of these protective measures, impacts to manatees will be insignificant and discountable. Therefore, the proposed action may affect, but is not likely to adversely affect, the West Indian manatee.

Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. If modifications are made to the project or additional information becomes available on listed species, reinitiating consultation may be required.

FISH AND WILDLIFE COORDINATION ACT

The Service concludes after reviewing the extent of the proposed project, the proposed action will not significantly affect other fish and wildlife resources. If you have any questions regarding this response, contact Mr. Todd Mecklenborg at (727) 820-3705.

Sincerely,

David L. Hankla
Field Supervisor

Natural Areas

September 5, 2007

Stephanie Morse
HDR, Inc.
2202 North Westshore Blvd, Suite 250
Tampa, FL 33607

Dear Ms. Morse

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project: US 19

Date Received: August 29, 2007

Location: Pasco County

Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting, they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant.

*Several of the species and natural communities tracked by the Inventory are considered **data sensitive**. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on landcover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed

for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

Managed Areas

Portions of the site appear to be located within several managed areas: Robert Crown Wilderness Area—managed by the state of Florida, Weekiwachee Perserve—managed by the Southwest Florida Water Management District, and Werner-Boyce Salt Springs State Park—managed by the Florida Department of Environmental Protection.

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

The Inventory always recommends that professionals familiar with Florida's flora and fauna should conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

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

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,

Lindsay Horton

Lindsay Horton
Environmental GIS Analyst

Encl

FLORIDA Natural Areas INVENTORY

FREAC

FOR IMMEDIATE RELEASE

FNAI's Biodiversity Matrix Online

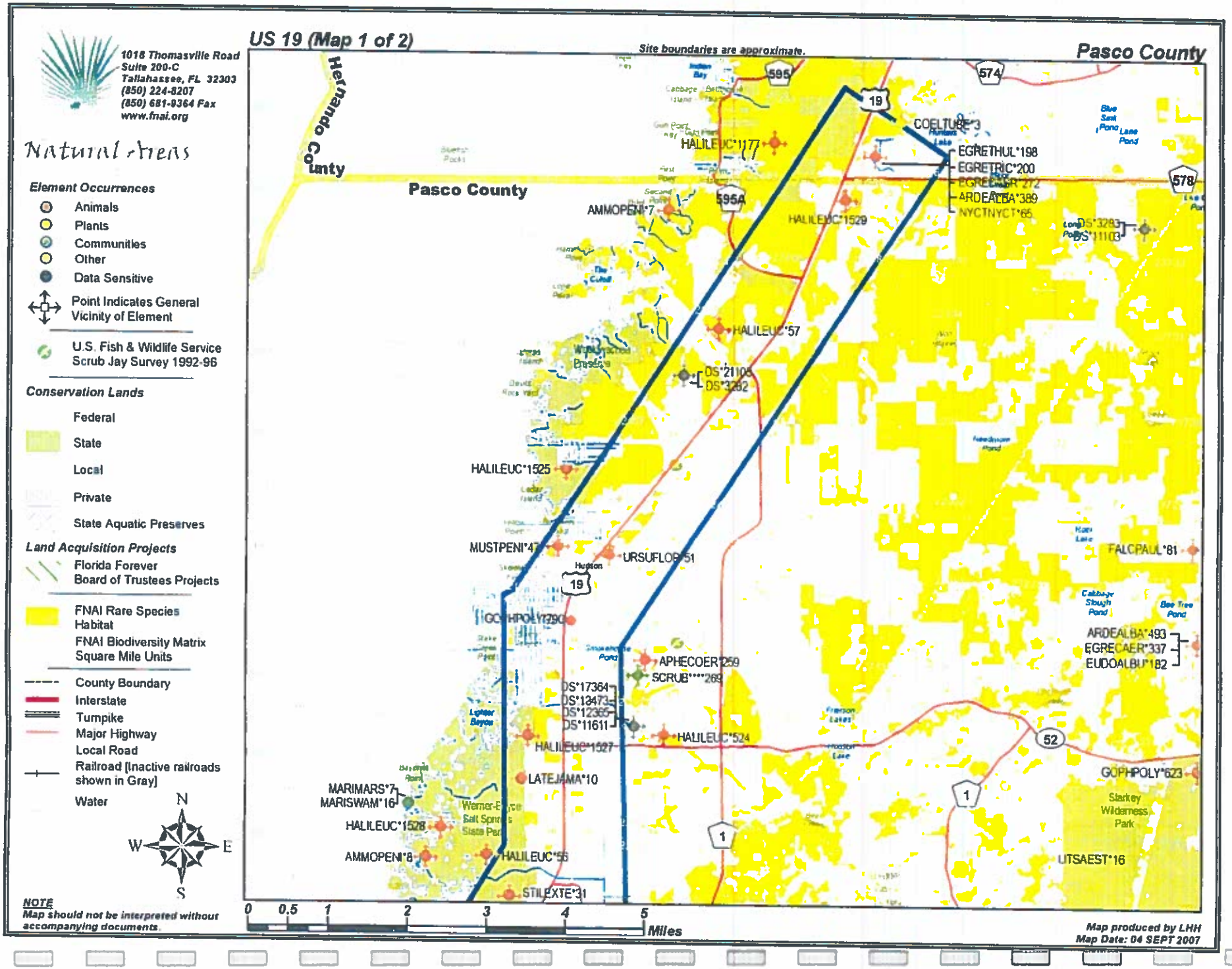
The Biodiversity Matrix Map Server is a new **screening tool** from FNAI that provides **immediate, free access** to rare species occurrence information statewide. This tool allows you to zoom to your site of interest and create a report listing documented, likely, and potential occurrences of rare species and natural communities.

The FNAI Biodiversity Matrix offers **built-in interpretation** of the likelihood of species occurrence for each 1-square-mile Matrix Unit across the state. The report includes a site map and list of species and natural communities by occurrence status: Documented, Documented-Historic, Likely, and Potential.

Try it today:

www.fnai.org/biointro.cfm

Please note: FNAI will continue to offer our Standard Data Report service as always. The Standard Data Report offers the most comprehensive information available on rare species, natural communities, conservation lands, and other natural resources.


US 19 (Map 1 of 2)
Site boundaries are approximate.
Pasco County
Hernando County
Pasco County
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org
Natural Areas
Element Occurrences
Animals
Plants
Communities
Other
Data Sensitive
Point Indicates General Vicinity of Element
U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96
Conservation Lands
Federal
State
Local
Private
State Aquatic Preserves
Land Acquisition Projects
Florida Forever Board of Trustees Projects
FNAI Rare Species Habitat
FNAI Biodiversity Matrix Square Mile Units
County Boundary
Interstate
Turnpike
Major Highway
Local Road
Railroad (Inactive railroads shown in Gray)
Water
N
W
E
S
NOTE
Map should not be interpreted without accompanying documents.
0 0.5 1 2 3 4 5 Miles
Map produced by LHH
Map Date: 04 SEPT 2007
595
595A
574
578
19
52
1
COELTUBE*3
EGRETHUL*198
EGRETRIC*200
EGRECAER*272
ARDEALBA*389
NYCTNYCT*65
HALILEUC*117
HALILEUC*1529
AMMOPENI*7
DS*3283
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HALILEUC*57
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MUSTPENI*4
URSUFLOR*51
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ARDEALBA*493
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URSUFLOR*51	Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*	1978-	*[EORANKCOMM]: AREA RAPIDLY DEVELOPING, BASED ON PNDBRA02.	ROAD KILL, 1978.
EUDOALBU*182	Eudocimus albus	White Ibis	G5	S4	N	LS	1989-04-24	Marsh lake	1989/04/24: D.E. Runde, GFC. copter flight; habitat= willow marsh on lake edge "Total" = F (includes GREG, CAEG, LBHE, WHIB, ANHI).
AMMOPENI*7	Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS	1989	Tidal Marsh; low-growing mangrove, scattered Juncus, surrounded by extremely shallow water with numerous islets and limestone shoals (Kale 1983).	Breeding Bird Atlas data: 1989 - confirmed breeding, adult with fecal sac or food for young (block 6); 1987 - possible breeding, singing male present (block 5); 1979: Kale (1983) reports sparrows as being sparse along this part of the Gulf.
APHECOER*259	Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT	1981-06-13	REMNANT OAK SCRUB, BEING DEVELOPED.	1981-06-13: 4 JUVENILE SCRUB JAYS.
FALCPAUL*81	Falco sparverius paulus	Southeastern American Kestrel	G5T4	S3	N	LT	1988-07	Utility right of way	1988-07: Noel Warner (Warner? -NeSmith) reports 3 observations of single birds along a stretch of powerline from lat 282200N, 282230N, and 282400N, ca. 2 mile. (D. E. Runde GFC record).
MUSTPENI*47	Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N	1894-02	No general description given	1894-02: W.S. Dickinson - Type specimen. Collection of S.N. Rhoads, No. 1515. See S.N. Rhoads, Proc. Acad. Nat. Sci. Philadelphia 1894:152-161, 1895 (pg. 152).
SCRUB****269	Scrub		G2	S2	N	N	1981-06-13	REMNANT OAK SCRUB, BEING DEVELOPED.	REMNANT SCRUB OAKS, BEING DEVELOPED.
EGRECAER*337	Egretta caerulea	Little Blue Heron	G5	S4	N	LS	1989-04-24	Colony in willow marsh at north edge of lake.	1989/04/24: D.E. Runde, GFC, observation. Helicopter flight; Total" = F (includes GREG, CAEG, LBHE, WHIB, ANHI).
ARDEALBA*493	Ardea alba	Great Egret	G5	S4	N	N	1989-04-24	Shrubs (willows) on marsh at north end of lake.	1989/04/24: D.E. Runde, GFC, copter flight; Total = F (includes GREG, CAEG, LBHE, WHIB; ANHI).

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MARISWAM*16	Marine tidal swamp		G5	S4	N	N	2004	BERM RIDGE FACING GULF AND ENCLOSING JUNCUS ROEMERIANUS MARSH LANDWARD. (SEE PROFILE ATTACHED TO EOR MARG #9, THIS QUAD).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1983-05-26) (U05FNA02FLUS). DOMINATED BY BLACK MANGROVE (AVICENNIA GERMINANS). SPARTINA ALTERNIFLORA FORMS A SPARSE STAND ON THE BEACH FACE GULFWARD OF TH
DS*3282	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1983-pre	Data Sensitive	Data Sensitive
DS*3283	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1983-pre	Data Sensitive	Data Sensitive
DS*11103	Data Sensitive Element	Data Sensitive	G1G2	S1S2	N	N	1983-pre	Data Sensitive	Data Sensitive
DS*11611	Data Sensitive Element	Data Sensitive	G3G4	S2	N	N	1994-PRE	Data Sensitive	Data Sensitive
DS*12365	Data Sensitive Element	Data Sensitive	G5	S2S3	N	N	1994-PRE	Data Sensitive	Data Sensitive
DS*13473	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1983-pre	Data Sensitive	Data Sensitive
DS*17364	Data Sensitive Element	Data Sensitive	G1G2	S1S2	N	N	1983-pre	Data Sensitive	Data Sensitive
GOPHPOLY*790	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1987-07-16	DENSE SAND PINE SCRUB: SAND PINE, OAKS (Q. CHAPMANII, Q. GEMINATA), OSMUNDA WITH FRUIT, LYONIA FERRUGINIA. WAX MYRTLE, SUMAC.	1 SMALL BURROW AND 1 ADULT BURROW.
MARIMARS*7	Marine tidal marsh		G5	S4	N	N	2004	BERM-RIDGE MARSH -- SLOWLY ERODING AND FRONTED BY A NARROW SANDY BEACH AND BERM RIDGE ON GULF SIDE. MUDDY MARSH SEDIMENTS 1 M THICK OVERLYING LIMESTONE.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1983-05-26) (U05FNA02FLUS). DOMINATED BY NEEDLE (ALSO KNOWN AS "BLACK") RUSH (JUNCUS ROEMERIANUS). RELATIVELY NARROW (0.6 MI) MARSH EXTENDING TO UPLAND AR
DS*21103	Data Sensitive Element	Data Sensitive	G1G2	S1S2	N	N	1983-pre	Data Sensitive	Data Sensitive
STILEXTE*31	Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT	1947-08	No general description given	UF-2815, AUGUST 1947 B.W. COOPER.

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EGRETHUL*198	Egretta thula	Snowy Egret	G5	S3	N	LS	1989-04-24	No general description given	1989/04/24: D.E. Runde, GFC. copter flight; habitat= island in lake surrounded by development; GREG w/ large young "Total" = E (includes GREG, SNEG, CAEG, LBHE, TCHE, BCNH, ANHI).
AMMOPENI*8	Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS	1986	Tidal Marsh; in 1979, mangroves were 13-20 feet high with thickets of shorter trees near open patches of Juncus (Kale 1983).	1986: Breeding Bird Atlas data - confirmed breeding, seven or more territorial males observed on at least two days, a week or more apart during the breeding season (block 3); 1979: Kale (1983) found sparrows absent around Green Key but present at Pound N
EGRETRIC*200	Egretta tricolor	Tricolored Heron	G5	S4	N	LS	1989-04-24	No general description given	1989/04/24: D.E. Runde, GFC. copter flight; habitat= island in lake surrounded by development; GREG w/ large young "Total" = E (includes GREG, SNEG, CAEG, LBHE, TCHE, BCNH, ANHI).
EGRECAER*272	Egretta caerulea	Little Blue Heron	G5	S4	N	LS	1989-04-24	Island in lake surrounded by development	1989/04/24: D.E. Runde, GFC, observation. Helicopter flight; GREG w/ large young "Total" = E (includes GREG, SNEG, CAEG, LBHE, TCHE, BCNH, ANHI).
COELTUBE*3	Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT	1979-09-17	DISTURBED SAND, IN LAKE, IN 0.3 M DEEP WATER.	IN FRUIT
ARDEALBA*389	Ardea alba	Great Egret	G5	S4	N	N	1989-04-12	Island in lake surrounded by development.	1989: 04/12 - D.E. Runde, GFC, Great egret nests with large young. Total = C (includes GREG, CAEG); 04/24 - D.E. Runde, GFC; copter flight; GREG w/ large young Total = E (includes GREG, SNEG, CAEG, LBHE, TCHE, BCNH, ANHI).
NYCTNYCT*65	Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N	1989-04-24	island in lake surrounded by development	1989-04-24: D.E. Runde, GFC, observation. Helicopter flight: GREG with large young "Total" = E (includes GREG, SNEG, CAEG, LBHE, TCHE, BCNH, ANHI).
GOPHPOLY*623	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1988-02	SAND PINE, 30-35', SANDY LOOSE SOILS ADJACENT TO EXTENSIVE WETLANDS, ALSO LIVEOAK FOREST IN SIMILAR LOCATION.	3 INDIVIDUALS, NUMEROUS BURROWS.
LITSAEST*16	Litsea aestivalis	Pondspice	G3	S2	N	LE	1990-09-22	1990: NONE GIVEN ON HERBARIUM LABEL.	1990: FRUIT PRESENT (S90WUNSFFLUS).

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LATEJAMA*10	Laterallus jamaicensis	Black Rail	G4	S2	N	N	1998-03-21	1998-03-15 through 1998-03-21 Coastal flatwoods/saltmarsh ecotone; occurring in dwarf swagrass ca. 2 ft high; soil type (according to soil survey map) is Aripeka fine sand. Hydrology: saturated - <4 inches of water with some dry ground (Robinson).	1998-03-15 through 1998-03-21: 3-5 birds; assume adults; population size unknown at this time (Robinson).
HALILEUC*1177	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2001	2005-07-12: Source does not provide a description.	Nest status: Active, 2001, 2000, 1999; Not active, 2003, 2002;(U03FWC01FLUS)
HALILEUC*1525	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2002	2005-07-12: Source does not provide a description.	Nest status: Active, 2002, 2001; Not active, 2003; Unknown status or not assessed, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1527	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001; Unknown status or not assessed, 2000, 1999,(U03FWC01FLUS)
HALILEUC*1528	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003; Unknown status or not assessed, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1529	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003; Unknown status or not assessed, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*57	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	No general description given	Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST: 1976-1991 ACTIVE. FLEDGED YOUNG 1976-1979, 1981-1984, 1986-1987, 1991; 1985 UNKNOWN.
HALILEUC*56	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	No general description given	Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST: 1975-1983, 1985-1988 ACTIVE, 1984 INACTIVE. FLEDGED YOUNG 1975, 1979, 1985-1988, 1983 UNKNOWN.

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HALILEUC*524	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	1999	No general description given	Nest status 1999-2003: Active - 1999; Inactive - 2003, 2002, 2001, 2000;Status 1995-98: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST· 1973-1974, 1984-1988 ACTIVE, 1975-1981 INACTIVE, 1982 USED BY OWL. FLEDGED YOUNG 1986

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 21521					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21760 (Segment 3)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21761 (Segment 3)					
Documented					
Laterallus jamaicensis	Black Rail	G4	S2	N	N
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21762 (Segment 4)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21763 (Segment 4)					
Documented					
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N

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Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 21764 (Segment 4)					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 21765					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 22001 (Segment 3)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22002 (Segment 3)					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22003 (Segment 4)					
Documented					
Crangonyx grandimanus	Florida Cave Amphipod	G3G4	S2	N	N
Crangonyx hobbsi	Hobbs' Cave Amphipod	G5	S2S3	N	N
Documented-Historic					
Aquatic cave		G3	S3	N	N
Procambarus leitheuseri	Coastal Lowland Cave Crayfish	G1G2	S1S2	N	N
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT

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Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N
Matrix Unit ID: 22004 (Segment 4)					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 22005 (Segment 4)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 22006 (Segment 4)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 22007					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22246					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 22247 (Segment 4)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Matrix Unit ID: 22248 (Segment 4)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22249 (Segment 4)					
Documented-Historic					
Aquatic cave		G3	S3	N	N
Procambarus leitheuseri	Coastal Lowland Cave Crayfish	G1G2	S1S2	N	N
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22250					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22251					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22491					
Likely					
Heterodon simus	Southern Hognose Snake	G2	S2	N	N

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Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22492 (Segment 4)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22493 (Segment 4)					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22494 (Segment 4)					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22495					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22736					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22737					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22738 (Segment 4)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ardea alba	Great Egret	G5	S4	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Matrix Unit ID: 22739 (Segment 4)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ardea alba	Great Egret	G5	S4	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Matrix Unit ID: 22740					
Likely					
Ardea alba	Great Egret	G5	S4	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Matrix Unit ID: 22985					

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Likely					
Ardea alba	Great Egret	G5	S4	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Matrix Unit ID: 22986					
Likely					
Ardea alba	Great Egret	G5	S4	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Potential from any/all selected units					
Acipenser oxyrinchus desotoi	Gulf Sturgeon	G3T2	S2	LT	LS
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Asplenium plenum	Ruffled spleenwort	G1Q	S1	N	N
Asplenium x curtissii	Curtiss' Spleenwort	GNA	S1	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Caretta caretta	Loggerhead	G3	S3	LT	LT
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE
Charadrius melodus	Piping Plover	G3	S2	LT	LT
Chelonia mydas	Green Turtle	G3	S2	LE	LE
Cistothorus palustris marianae	Marian's Marsh Wren	G5T3	S3	N	LS
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Dendroica discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Digitaria floridana	Florida Crabgrass	G1	S1	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Eretmochelys imbricata	Hawksbill	G3	S1	LE	LE
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS

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Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Justicia cooleyi	Cooley's Water-willow	G2	S2	LE	LE
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Litsea aestivalis	Pondspice	G3	S2	N	LE
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mesic flatwoods		G4	S4	N	N
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Neofiber alleni	Round-tailed Muskrat	G3	S3	N	N
Neovison vison halilimnetes	Gulf Salt Marsh Mink	G5T3	S3	N	N
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Platanthera integra	Yellow Fringeless Orchid	G3G4	S3	N	LE
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Pycnanthemum floridanum	Florida Mountain-mint	G3	S3	N	LT
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Sandhill		G3	S2	N	N
Schizachyrium niveum	Scrub Bluestem	G1	S1	N	LE
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Scrub		G2	S2	N	N
Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT
Trichechus manatus	Manatee	G2	S2	LE	LE
Trichomanes punctatum ssp. floridanu	Florida Filmy Fern	G4G5T1	S1	N	LE
Triphora craigheadii	Craighead's Nodding-caps	G1	S1	N	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
Warea carteri	Carter's Warea	G3	S3	LE	LE

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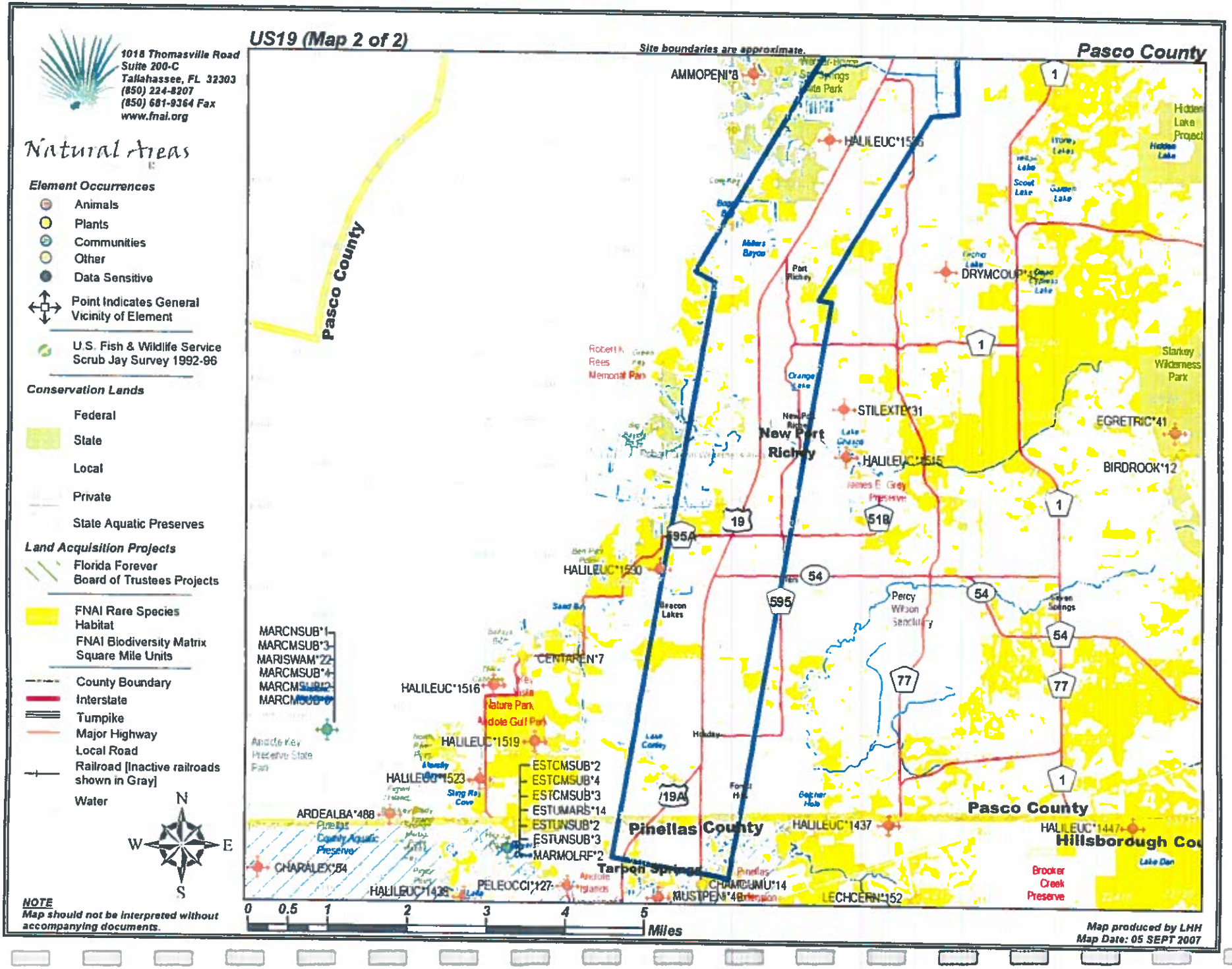
US19 (Map 2 of 2)
Site boundaries are approximate.
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Natural Areas
Element Occurrences
Animals
Plants
Communities
Other
Data Sensitive
Point Indicates General Vicinity of Element
U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96
Conservation Lands
Federal
State
Local
Private
State Aquatic Preserves
Land Acquisition Projects
Florida Forever Board of Trustees Projects
FNAI Rare Species Habitat
FNAI Biodiversity Matrix Square Mile Units
County Boundary
Interstate
Turnpike
Major Highway
Local Road
Railroad [Inactive railroads shown in Gray]
Water
N
W
E
S
NOTE
Map should not be interpreted without accompanying documents.
AMMOPENI*8
HALILEUC*1536
DRYMCOUP*4
STILEXTE*31
EGRETRIC*41
BIRDROOK*12
HALILEUC*1515
New Port Richey
HALILEUC*1530
MARCNSUB*1
MARCMSUB*3
MARISWAM*22
MARCMSUB*4
CENTAREN*7
HALILEUC*1516
HALILEUC*1519
HALILEUC*1523
ESTCMSUB*2
ESTCMSUB*4
ESTCMSUB*3
ESTUMARS*14
ESTUNSUB*2
ESTUNSUB*3
MARMOLRF*2
ARDEALBA*488
CHARALEX*54
HALILEUC*1438
PELEOCCI*127
Tarpon Springs
Pinellas County
HALILEUC*1437
HALILEUC*1447
Hillsborough Co
Pasco County
CHAMCUMU*14
MUSTPEN*4
LECHCERN*152
Brooker Creek Preserve
Percy Wilson Sanctuary
Beacon Lakes
Starkey Wilderness Park
Hidden Lake Project
Robert K. Rees Memorial Park
James E. Grey Preserve
Anclote Key Preserve State Park
Anclote Gulf Park
Pinellas County Aquatic Preserve
0 0.5 1 2 3 4 5
Miles
Map produced by LHH
Map Date: 05 SEPT 2007

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ESTUNSUB*2	Estuarine unconsolidated substrate		G5	S5	N	N	1972	WAVE ACTION LOW/MODERATE, ALGAE STABILIZE SEDIMENT BY CEMENTING OR ADHESIVE ACTION.	LITTORAL ZONE; MUDDY SAND; SED. SIZE SMALL AND OFTEN COATED WITH BENTHIC ALGAE (FILAMENTOUS BLUEGREENS FORM STABILING LAYER OVER SURFACE).
MARMOLRF*2	Marine mollusk reef		G3	S3	N	N	1972-pre	WITH ENTOPHYSALIS DEUSTA, SCHIZOTHRIX CALCICOLA, MASTIGOCOLEUS TESTARUM (LATTER FOUND ONLY WITIN LIMESTONE).	LITTORAL ZONE; OYSTER BARS, NOT EXTENSIVE; NUMEROUS SPP. OF BLUEGREEN, BROWN, RED, AND GREEN ALGAE.
CENTAREN*7	Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE	1979-10-06	No general description given	COLL. BY BARTHE (11) 6 OCT 1979 (USF).
ESTCMSUB*4	Estuarine composite substrate		G3	S3	N	N	1972	ATTACHED TO SCATTERED SHELLS THROUGHOUT SANDY BOTTOM.	SUBLITTORAL ZONE; AGLAE: GRACILARIA FOLIFERA, HYPNEA MUCIFORMIS, GELIDIUM CRINALE, DASYA PEDICELLATA, LAURENCIA POITEI, CHONDRIA INTRICATA, C. TENUISSIMA, CHAMPIA PARVULA, GRATELOUPIA FILICINA, DIGENIA SIMPLEX, GIF.
MARCMSUB*4	Marine composite substrate		G3	S3	N	N	1972-pre	40% OF BOTTOM BETWEEN ANCLOTE KEYS & MAINLAND OCCUPIED BY SEAGRASSES; GENERALLY WITHIN 1.5 M DEPTH AT MEAN LOW WATER, SP DOMINANCE RELATED TO DEPTH.	SUBLITTORAL ZONE; SEAGRASSES: S. FILIFORME AT E ANCLOTE ANCHORAGE - 0.6-0.8 M AT W OF RADAR STA. & 1.0 M & 1.9 M AT W OF BAILEY'S BLUFF; NONE AT W ANCLOTE ANCHORAGE SITES.
DRYMCOUP*425	Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT	1978-05-22	No general description given	INDIGO OBSERVED BY W. T. NEILL (NEILL, IN LITT., TO J. DIEMER, 22 MAY 1978).
ESTUNSUB*3	Estuarine unconsolidated substrate		G5	S5	N	N	1972-pre	No general description given	LITTORAL ZONE; SANDY WIT GREAT VARIETY OF SAND-DWELLING ALGAE.
ESTUMARS*14	Estuarine tidal marsh		G5	S4	N	N	1972	ASSOC. ALGAE: CALOTHRIX CRUSTACEA AND ENTOPHYSALIS CONFERTA (HIGHEST); RHIZOCLONIUM KERNERI, BOSTRICHIA RADICANS, POLYSIPHONIA SUBTILLISSIMA, ANACYSTIS AERUGINOSA (BELOW).	LITTORAL ZONE; SHALLOW MARGINAL AREAS OF BAYOU WITH SPARTINA ALTERNIFLORA AND JUNCUS ROEMERIANUS; BENTHIC ALGAE COLONIZING BASES AND SOIL SURFACE.

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MARCNSUB*1	Marine consolidated substrate		G3	S3	N	N	1972	No general description given	TAMPA LIMESTONE OUTCROPS; SUMMER & FALL SP: ACANTHOPHORA SPICIFERA, CENTROCEROS CLAVULATUM, CERAMIUM BYSSOIDES, C. CORNICULATUM, GRACILARIA FOLIFERA, HYPNEA MUSLIFORMIS, POLYSIPHONIA DENUDATA, ENTEROMORPHA FLEXUOSA.
ESTCMSUB*3	Estuarine composite substrate		G3	S3	N	N	1972	No general description given	SUBLITTORAL ZONE, ALGAL/SEAGRASS: CAULERPA ASHMEADII, C. MEXICANA, C. PROLIFERA, C. SERTULARIOIDES, PENICILLUS CAPITATUS, P. LAMOUROUXII, UDOTEA CONGLUTINATA, AND U. FLABELLUM - T. TESTUDINUM (POS OTHER SEAGRASSES).
ARDEALBA*488	Ardea alba	Great Egret	G5	S4	N	N	1988-06-14	Mangrove island, mangroves freeze-killed.	1988/06/14: B.A. Millsap, GFC; PA-R-02 Total = F (includes GREG, DCCO).
MARCMSUB*5	Marine composite substrate		G3	S3	N	N	1972-pre	40% OF BOTTOM BETWEEN ANCLOTE KEYS & MAINLAND OCCUPIED BY SEAGRASSES; GENERALLY WITHIN 1.5 M DEPTH AT MEAN LOW WATER; SP DOMINANCE RELATED TO DEPTH.	SUBLITTORAL ZONE, SEAGRASS: H. BEAUDEITII/S. FILIFORME AT E ANCLOTE ANCHORAGE 1.2 M W OF RADAR STA. & 1.2 W OF BAILEY'S BLUFF.
ESTCMSUB*2	Estuarine composite substrate		G3	S3	N	N	1972	ON UNCONSOLIDATED SANDY SEDIMENT; LOW ENERGY SHORELINE.	LITTORAL, ALGAL, BOODLEOPSIS PUSILLAX, VAUCHERIA THRUETII; NEAR OR UNDER MANGROVES.
MARCMSUB*2	Marine composite substrate		G3	S3	N	N	1972-pre	40% OF BOTTOM BETWEEN ANCLOTE KEYS & MAINLAND OCCUPIED BY SEAGRASSES; GENERALLY WITHIN 1.5 M DEPTH AT MEAN LOW WATER; SP DOMINANCE RELATED TO DEPTH.	SUBLITTORAL ZONE; SEAGRASS: H. BEAUDETTII AT E ANCLOTE ANCHORAGE - 0.3 M & 1.0 M AT W OF RADAR STA., 0.4-0.9 M & 1.9 M AT W OF BAILEY'S BLUFF; AT W ANCLOTE ANCHORAGE - 0.1 M AT DUTCHMAN KEY & 0.4 & 1.3 M AT N KEYS.

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MARCMSUB*3	Marine composite substrate		G3	S3	N	N	1972-pre	40% OF BOTTOM BETWEEN ANCLOTE KEYS & MAINLAND OCCUPIED BY SEAGRASSES; GENERALLY WITHIN 1.5 M DEPTH AT MEAN LOW WATER; SP DOMINANCE RELATED TO DEPTH.	SUBLITTORAL ZONE; SEAGRASS: T TESTUDINUM AT E ANCLOTE ANCHORAGE - 0.5 M AT W OF RADAR STATION & W ANCLOTE ANCHORAGE - 0.2-0.7 M AT DUTCHMAN KEY TO 0.8-0.9 AT N KEYS.
MARISWAM*22	Marine tidal swamp		G5	S4	N	N	1972-pre	No general description given	R. MANGLE & A. GERMINANS, PROP. & AERIAL ROOTS WITH BOSTRICIA RADICANS & B. SCORPIOIDES VAR. MONTAGNEI; CALOGLOSSA LEPRIEURRI, MURRAYELLA PERICLADOS; VARIOUS ZONES PRESENT
CHAMCUMU*14	Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE	1964-06-05	SANDY AREA (DRY BUT SUBJECT TO FLOODING) BETWEEN CANALS OFF ANCLOTE RIVER AT S END OF BRIDGE CARRYING U.S. 19	PROSTRATE, FREQ IN SANDY AREA.
STILEXTE*31	Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT	1947-08	No general description given	UF-2815, AUGUST 1947, B.W. COOPER.
AMMOPENI*8	Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS	1986	Tidal Marsh; in 1979, mangroves were 13-20 feet high with thickets of shorter trees near open patches of Juncus (Kale 1983).	1986: Breeding Bird Atlas data - confirmed breeding, seven or more territorial males observed on at least two days, a week or more apart during the breeding season (block 3); 1979: Kale (1983) found sparrows absent around Green Key but present at Pound N
CHARALEX*54	Charadrius alexandrinus	Snowy Plover	G4	S1	N	LT	1994-03	No general description given	Wintering EO. 1993-12 to 1994-03-01. mean number of wintering birds observed during multiple counts was >15-30; south end of Anclote Key was one of the two most important sites for flyway population of this species (> or = 3%) (U97SPR01). Breeding season
EGRETRIC*41	Egretta tricolor	Tricolored Heron	G5	S4	N	LS	1978-07	COLONY IS ON ISLAND IN POND; NESTING SUBSTRATE IS WILLOWS AND BUTTONBUSH OVER WATER.	NESTING ACTIVITY UNKNOWN, BUT BIRD IS PRESENT IN AREA.
BIRDROOK*12	Bird Rookery		GNR	SNR	N	N	1978-07	COLONY IS ON ISLAND IN POND; NESTING SUBSTRATE IS WILLOWS AND BUTTONBUSH OVER WATER.	CATTLE EGRET (200 PRS 7/78); TRICOLORED HERON (UNKNOWNBREEDING ACTIVITY, BUT IS PRESENT IN AREA).

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MUSTPENI*49	Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N	1895-11-11	No general description given	1895-11-11: W. S. Dickinson - Skin, skull. Mammae visible. Collection of S.N. Rhoads, No. 2379. See O. Bangs, Proc. Biol. Soc. Washington 10:1-24, 1896 (pg. 13).
LECHCERN*152	Lechea cernua	Nodding Pinweed	G3	S3	N	LT	1960-08-12	1960-08-12: White sand scrub with sand pine, Osmanthus megacarpa, Ceratiola, and scrub oak (Ray, J.D.)(S60RAYSFFLUS).	1960-08-12: Flowering plant observed. Specimen taken (Ray, J.D.) (S60RAYSFFLUS).
PELEOCCI*127	Pelecanus occidentalis	Brown Pelican	G4	S3	N	LS	1988-06-14	Mangrove island - mangroves freeze-killed.	1988/06/14: B.A. Millsap, GFC, PI-R-09 "Total" = B (includes GBHE, BRPE, DCCO).
HALILEUC*1515	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1516	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2002	2005-07-12: Source does not provide a description.	Nest status: Active, 2002, 2001, 2000, 1999; Not active, 2003;(U03FWC01FLUS)
HALILEUC*1447	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003; Unknown status or not assessed, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1519	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001; Not active, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1523	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001; Unknown status or not assessed, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1526	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001; Unknown status or not assessed, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1437	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1530	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003; Unknown status or not assessed, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1438	Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000, 1999;(U03FWC01FLUS)

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Natural Areas

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 21036					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Pelecanus occidentalis	Brown Pelican	G4	S3	N	LS
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21037					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21038					
Likely					
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21039					
Likely					
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21040					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21273					
Documented-Historic					
Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE

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Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21274 (Segment 1)					
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21275 (Segment 1)					
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21276 (Segment 1)					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21277 (Segment 1)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21278					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21279					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21280					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21281					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21512					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21513					
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21514					
Likely					
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21515 (Segment 1)					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21516 (Segment 2)					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21517 (Segment 2)					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS

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Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21518 (Segment 2)					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21519 (Segment 2)					
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Trichechus manatus	Manatee	G2	S2	LE	LE
Matrix Unit ID: 21520					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21521					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21756					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 21757					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21758					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21759 (Segment 3)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 21760 (Segment 3)					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Likely					
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22000					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Matrix Unit ID: 22001					
Likely					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	LT,PDL	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE

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Florida Natural Areas Inventory

Biodiversity Matrix Report

Natural Areas

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Potential from any/all selected units					
Acipenser oxyrinchus desotoi	Gulf Sturgeon	G3T2	S2	LT	LS
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Ammodramus maritimus peninsulae	Scott's Seaside Sparrow	G4T3Q	S3	N	LS
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Caretta caretta	Loggerhead	G3	S3	LT	LT
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Charadrius melodus	Piping Plover	G3	S2	LT	LT
Chelonia mydas	Green Turtle	G3	S2	LE	LE
Cistothorus palustris marianae	Marian's Marsh Wren	G5T3	S3	N	LS
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Dendroica discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Dermochelys coriacea	Leatherback	G2	S2	LE	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Eretmochelys imbricata	Hawksbill	G3	S1	LE	LE
Eumops floridanus	Florida bonneted bat	G1	S1	N	LE
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Justicia cooleyi	Cooley's Water-willow	G2	S2	LE	LE
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Litsea aestivalis	Pondspice	G3	S2	N	LE
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mesic flatwoods		G4	S4	N	N
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Neofiber alleni	Round-tailed Muskrat	G3	S3	N	N
Neovison vison halilimnetes	Gulf Salt Marsh Mink	G5T3	S3	N	N
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Sandhill		G3	S2	N	N
Sandhill upland lake		G3	S2	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT
Trichechus manatus	Manatee	G2	S2	LE	LE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*

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GLOBAL AND STATE RANKS

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

GLOBAL RANK DEFINITIONS

G1	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	Either very rare and local throughout its range (21-100 occurrences or less than 10,0000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4	Apparently secure globally (may be rare in parts of range).
G5	Demonstrably secure globally.
G#?	Tentative rank (e.g., G2?)
G#G#	Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	Same as above, but validity as subspecies or variety is questioned.
GH	Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GNA	Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)
GNR	Not yet ranked (temporary)
GNRTNR	Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)
GX	Believed to be extinct throughout range
GXC	Extirpated from the wild but still known from captivity cultivation
GU	Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).

STATE RANK DEFINITIONS

Definition parallels global element rank, substitute "S" for "G" in above global ranks, and "in Florida" for "globally" in above global rank definitions.

FEDERAL AND STATE LEGAL STATUSES (U.S. Fish and Wildlife Service – USFWS) PROVIDED BY FNAI FOR INFORMATION ONLY.

For official definitions and lists of protected species, consult the relevant state or federal agency

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

LE	Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.
LE,XN	A non essential experimental population of a species otherwise Listed as an Endangered Species in the List of Endangered and Threatened Wildlife and Plants. LE,XN for Grus americana (Whooping crane). Federally listed as XN (Non essential experimental population) refers to the Florida experimental population only. Federal listing elsewhere for Grus americana is LE.
PE	Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
LT	Listed as Threatened Species, defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
LT,PDL	Species currently listed Threatened but has been proposed for delisting.
PT	Proposed for listing as Threatened Species.
C	Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Category 1. Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
S/A	Threatened due to similarity of appearance to a threatened species.
SC	Species of Concern, species is not currently listed but is of management concern to USFWS.
N	Not currently listed, nor currently being considered for addition to the List of Endangered and Threatened Wildlife and Plants.

FLORIDA LEGAL STATUSES (Florida Fish and Wildlife Conservation Commission – FFWCC/ Florida Department of Agriculture and Consumer Services – FDACS)

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission - FFWCC, 1 August 1997 and subsequent updates.

LE	Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
LT	Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
*LT**	Indicates that a species has LT status only in selected portions of its range in Florida. LT* for Ursus americanus floridanus (Florida black bear) indicates that LT status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. LT* for Neovison vison pop. 1 (Southern mink, South Florida population) state listed as Threatened refers to the Everglades population only (Note: species formerly listed as Mustela vison mink pop. 1. Also, priorly listed as Mustela evergladensis).
LS	Listed as Species of Special Concern by the FFWCC, defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification.

environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

LS* Indicates that a species has LS status only in selected portions of its range in Florida. LS* for Pandion haliaetus (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.

PE Proposed for listing as Endangered.

PT Proposed for listing as Threatened.

PS Proposed for listing as a Species of Special Concern.

N Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or please visit: http://DOACS.State.FL.US/PI/Images/Rule05b.pdf

LE Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

PE Proposed by the FDACS for listing as Endangered Plants.

LT Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT* indicates that a species has LT status only in selected portions of its range in Florida.

PT Proposed by the FDACS for listing as Threatened Plants.

N Not currently listed, nor currently being considered for listing.

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FLORIDA
Natural Areas
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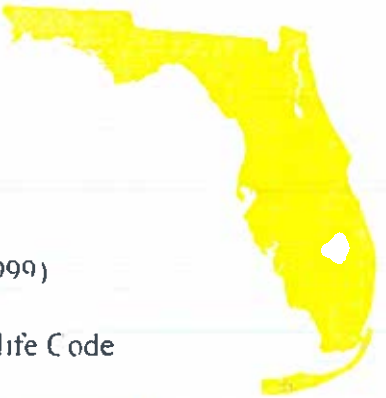
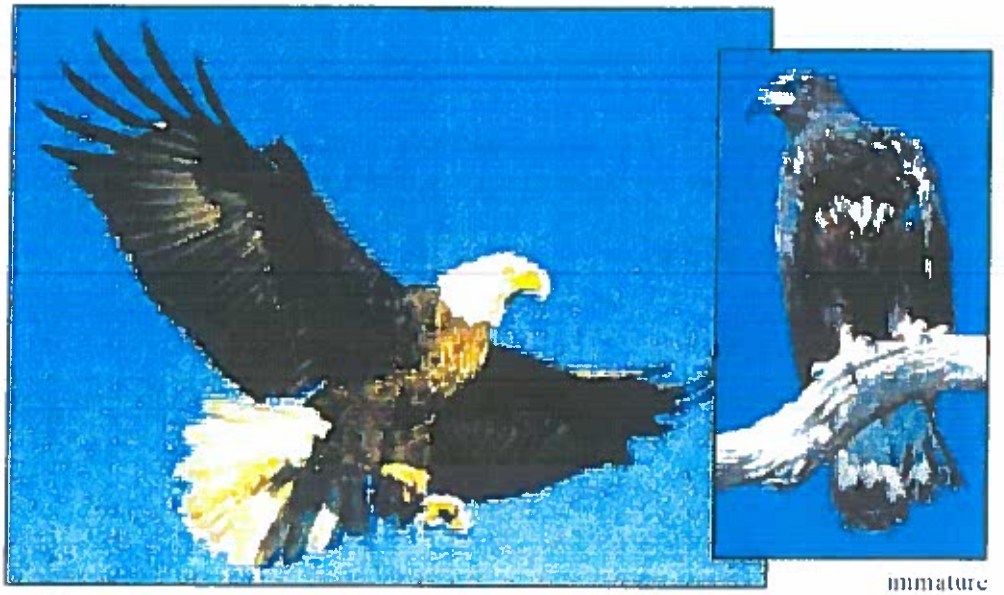
Tracking Florida's Biodiversity

BALD EAGLE
Haliaeetus leucocephalus



Order: Falconiformes
Family: Accipitridae
FNAI Ranks: G4 S3
U.S. Status: Threatened
(proposed for delisting in 1999)
FL Status: Threatened
U S Migratory Bird Treaty Act and state Wildlife Code prohibit take of birds, nests, or eggs



Tom Vezo

immature
Barry Mansell

Description: Adult has white head, white tail,and large, bright yellow bill, other plumage is dark Immatures dark with variable amounts of light splotching on body, wings, and tail. head and bill are dark In flight wings are broad and wide and held horizontally, presenting a flat profile when soaring and gliding Flies with slow, powerful wing-beats

Similar Species: At a distance, in flight, eagle's size and lack of white in wings should help differentiate it from the crested caracara (*Caracara cheriway*, see species account), which also has a white head Flattened aspect of the eagle's wings is unlike the teetering, V-shaped flight of the turkey vulture (*Cathartes aura*)

Habitat: Most commonly includes areas close to coastal areas, bays, rivers, lakes, or other bodies of water that provide concentrations of food sources, including fish, waterfowl and wading birds Usually nests in tall trees (mostly live pines) that provide clear views of surrounding area In Florida Bay, where there are few predators and few tall emergent trees, eagles nest in crowns of mangroves and even on the ground

BALD EAGLE *Haliaeetus leucocephalus*

Seasonal Occurrence: In extreme southern Florida, most adults are resident, but most birds in northern and central Florida migrate north out of state after breeding season (late May - July). Juveniles and younger birds mostly migrate north in summer and may range as far as Canada. Also, in winter, some birds from northern populations migrate to northern Florida.

Florida Distribution: Florida has largest breeding population of any state outside Alaska. Breeds throughout most of peninsular Florida and Keys, mainly along coast in eastern panhandle, and is rare in western panhandle. Greatest concentrations of nesting eagles occur around Lake Kissimmee in Polk and Osceola counties, around Lake George in Putnam, Volusia, and Lake counties, lakes Jessup, Monroe, and Harney in Seminole and Volusia counties, along Gulf coast north of Tampa, and Florida Bay and southwest peninsula area.

Range-wide Distribution: North America. Breeding range extends from Alaska, across Canada, south to Baja California, the Gulf coast and Florida Keys, although very local in the Great Basin and prairie and plains regions in interior U.S., where range has expanded to include Nebraska and Kansas. Non-breeding range is generally throughout breeding range except in far north, most commonly from southern Alaska and southern Canada southward.

Conservation Status: Original population in Florida could be found throughout state and likely numbered well over 1,000 pairs. Population declined sharply after late 1940s, reaching a low of 120 active nests in 1973, and by 1978 was considered rare as a breeder. Use of pesticide DDT and related compounds and development of coastal habitat are probably chief causes of decline. Numbers have steadily increased, especially since 1989. In 1993, 667 active territories were reported, and in 1999, 996 active nests were recorded. Major threats include habitat loss because of development and commercial timber harvest, pollutants and decreasing food supply are also of concern.

Protection and Management: Monitored annually by Fish and Wildlife Conservation Commission (FFWCC). Continue acquisition of breeding territories and protection of foraging and roosting sites. Incorporate information known about buffer zones around nesting areas into state and local development regulations to help mitigate losses as Florida's human population continues to expand. Monitor pesticides and other environmental contaminants that affect reproduction and food supply.

Selected References: FFWCC 2001, Kale (ed.) 1978, Poole and Gill (eds.) 2000, Robertson and Woolfenden 1992, Rodgers et al. (eds.) 1996, Stevenson and Anderson 1994.

ETDM Summary Report

Project #9047 - US 19 (SR 55) from the Pinellas County Line to the Hernando County Line

Programming Screen - Published on 08/02/2007

Printed on: 9/05/2007

Dispute Information:N/A

Identified Resources and Level of Importance:
Resources: Air

Level of Importance: Low, due to minimal degree of effect

Comments on Effects to Resources:
Pasco County has not been designated non-attainment or maintenance for ozone, carbon monoxide (CO) or particulate matter (PM) in accordance with the Clean Air Act. There are no violations of National Ambient Air Quality Standards (NAAQS). Nevertheless, the environmental review of this project should include an air impact analysis which documents the current pollutant concentrations recorded at the nearest air quality monitors, an evaluation of anticipated emissions, and air quality trend analyses. It is recommended that the environmental review also include a hot spot analysis at the point in time and place where congestion is expected to be greatest during the design life of the project.

Additional Comments (optional):
As population growth and vehicle volumes increase, there is the potential to have air quality conformity and non-attainment issues in the future. FDOT, MPOs, municipalities, and regional planning agencies should conduct air quality modeling as traffic forecasts increase.

Coordinator Feedback: None

- No review submitted from the FL Department of Environmental Protection
- No review submitted from the Federal Highway Administration

Coastal and Marine

Coordinator Summary

3 Summary Degree of Effect

Coastal and Marine Summary Degree of Effect: Moderate

Reviewed By:
FDOT District 7 (7/31/2007)
Comments:
The Florida Department of Transportation (FDOT) has evaluated the comments from National Marine Fisheries Service (NMFS) and recommends a Degree of Effect of Moderate. The FDOT acknowledges the comments from the Southwest Florida Water Management District (SWFWMD). A Geographic Information Systems (GIS) survey indicated that there is 674.60 linear feet of Environmentally Sensitive Shorelines within 200-ft. of the buffer area. Within the 200-ft. buffer area, there is 0.23% (2.34 acres) of discontinuous seagrass beds. The NMFS staff conducted a site inspection of the project area on May 30, 2007 to assess potential concerns to living marine resources and concluded that the project may directly or indirectly impact salt marsh and mangrove habitats. Seagrasses may be indirectly impacted by the proposed project.

The FDOT anticipates conducting an Essential Fish Habitat (EFH) Assessment during the projects PD&E Study phase and coordinating the findings with the NMFS.

The FDOT will take all measures to preserve the water quality of these waterways through the use of

Fillman Bayou, and Hammock Creek. The project has the potential to produce adverse impacts, including:
(1) The degradation of water quality in tidal creeks and bays due to stormwater runoff,
(2) Damage to shoreline habitat
(3) Increased coastal erosion
(4) Further damage to seagrass beds due to sediment carried in stormwater runoff; and
(5) Smothering of economically important oyster bars, salt marshes, and benthic habitat due to sediments carried in stormwater runoff.

Additional Comments (optional):
The District considers the degree of effect as Substantial due to the projects potential to do the following:
(1) To degrade water quality in multiple tidal creeks and bays, including those located in the Pinellas County Aquatic Preserve and the Werner-Boyce Salt Springs State Park,
(2) Cause further erosion and sedimentation in tidal creeks and bays, resulting in the smothering of seagrass beds, oyster bars, salt marshes, and benthic habitat,
(3) Cause damage/loss of habitat in sensitive coastal environments, and
(4) Degrade water quality in the OFW waters within 100 feet to 0.5 mile of the project.

This project should not restrict existing drainage flow to the Gulf of Mexico through any of the contiguous rivers, creeks, or streams crossing preferred alternative alignment. The FDOT should preserve the water quality of these waterways through use of acceptable stormwater treatment facilities to prevent pollution, remediation or avoidance of potential contaminated sites, and through use of Best Management Practices during construction to control erosion and turbidity.

Coordinator Feedback: None

3 ETAT Review by David A. Rydene, National Marine Fisheries Service (06/14/2007)
Coastal and Marine Effect: Moderate

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:
Estuarine mangrove and salt marsh habitats within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County that are utilized as fish habitat by managed fish species and their prey.

Comments on Effects to Resources:
NOAAs National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 9047. The Florida Department of Transportation proposes US 19 operational capacity improvements including the completion of a continuous right turn lane system and potential interchange improvements at SR 54, Ridge Road, SR 52, and County Line Road in Pasco County, Florida. The project study area includes the entire 19.7 mile stretch of US 19 in Pasco County.

NMFS assessment of the projects impacts are based on the limited information provided in the project description and from maps available through the Environmental Screening Tool (EST).

NMFS comments reflect concerns about areas where impacts to NMFS trust resources could potentially occur. Specific information regarding where the construction of continuous right turn lane system components will occur is needed before NMFS can provide more detailed comments on impacts to estuarine and marine resources.

NMFS staff conducted a site inspection of the project area on May 30, 2007, to assess potential concerns to living marine resources within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County. The lands adjacent to the proposed project are principally urban commercial and residential properties. The southern terminus of the project lies within 450 yards of the Anclote River which contains salt marsh and mangrove habitats, and empties to the Gulf of Mexico . Further north US 19 passes within 84 yards of the canal system at Gulf Harbors which drains to the Big Bayou, Cross Bayou, and the Gulf of Mexico. At Port Richey, the road crosses the Pithlachascotee River. Scattered mangroves occur where the US 19 bridges the Pithlachascotee River and the river empties to Miller Bayou and the Gulf of Mexico. Just north of Ridge Road, US 19 begins to parallel Werner-Boyce Salt Springs State Park. The road passes within 580 yards of extensive salt marsh habitat behind the Gulf View Square Mall (Salt Springs Road), and also crosses Hammock Creek. At the US 19/SR 52 intersection, the road lies 720 yards from salt marsh habitats. Just north of Werner-Boyce Salt Springs Park, US 19 lies as close as 32 yards from numerous man-made canals draining to the Gulf of Mexico. It appears that the project may directly or indirectly impact salt marsh and mangrove habitats. Indirect impacts to seagrasses are also possible.

Certain estuarine habitats within the project area are designated as Essential Fish Habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Estuarine habitats within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County, which exist in the project area, have been identified as EFH for postlarval/juvenile and sub-adult penaeid shrimp, juvenile, sub-adult, and adult red drum, juvenile goliath and yellowmouth grouper and scamp, juvenile dog, yellowtail, cubera, mutton and lane snapper and schoolmaster, and juvenile and adult gray snapper by the Gulf of Mexico Fishery Management Council under provisions of the Magnuson-Stevens Act. In addition, a number of other species using these areas are prey species for other federally-managed species such as gag. Mangrove wetlands, emergent salt marsh, seagrass, estuarine water column, and mud, sand, shell, and rock substrates are specific categories of EFH that may be impacted by the project.

Federal agencies which permit, fund, or undertake activities which may adversely impact EFH are required to consult with NMFS and, as a part of the consultation process, an EFH assessment must be prepared to accompany the consultation request. Regulations require that EFH assessments include:

1. A description of the proposed action;

2. an analysis of the effects (including cumulative effects) of the proposed action on EFH, the managed fish species, and major prey species;

3. the Federal agencys views regarding the effects of the action on EFH; and,

4. proposed mitigation, if applicable.

Provisions of the EFH regulations [50 CFR 600.920(c)] allow consultation responsibility to be formally delegated from federal to state agencies, such as FDOT. Whether EFH consultation is undertaken by the Federal Highway Administration or a designated state agency, it should be initiated as soon as specific project design and construction impact information are available. EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents. Upon review of the EFH Assessment, NMFS will determine if it

is necessary to provide EFH Conservation Recommendations on the project.

Coordinator Feedback: None

- No review submitted from the FL Department of Environmental Protection
- No review submitted from the Federal Highway Administration

Contaminated Sites

Coordinator Summary

3 Summary Degree of Effect

Contaminated Sites Summary Degree of Effect: Moderate

Reviewed By:
FDOT District 7 (7/31/2007)
Comments:
The Florida Department of Transportation (FDOT) has evaluated the comments from the US Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP) and recommends a Degree of Effect of Moderate. The FDOT acknowledges the comments from the Southwest Florida Water Management District (SWFWMD).

A review of the Geographic Information Systems (GIS) indicated that there are two closed and three open dry cleaners, nine gasoline stations, 46 petroleum tanks, one public school, two vocational technical schools, and two hazardous waste sites within the 100-ft. buffer area. Within the 200-ft buffer area there are 75 petroleum tanks, three hazardous waste sites, one off-site contamination notice, and one private school. Within the 500-ft. project buffer area there are 10 gasoline station, three vocational technical schools, one religious/co-educational school, four hazardous waste sites, two public schools, and 115 petroleum storage tanks. Eight sinkholes are located within the 100-ft. buffer area, nien sinkholes are located within the 200-ft. buffer area, and 22 sinkholes are reported within the 500-ft. buffer area.

Eight Solid Waste Facilities are located within one mile of the project area. There is approximately 0.65% agricultural, consisting of other open rural lands, nurseries and vineyards, tree crops, and cropland and pastureland, within the 500-ft. buffer area of the proposed project.

During the projects PD&E Study phase, the FDOT anticipates that a Contamination Screening Evaluation Report (CSER) will be prepared in order to determine whether there would be any contamination and hazardous materials.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Contaminated Sites

3 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (06/13/2007)

Contaminated Sites Effect: Moderate

3 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (06/13/2007)
Special Designations Effect: Moderate

Coordination Document: Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:
The Werner-Boyce Salt Springs State Park is located within 100 feet of the project. The park consists of approximately 3400 acres; approximately 600 acres are upland and the other 2800 acres are wetland or submerged and includes four miles of pristine coastline. Waters within the Park are designated as Outstanding Florida Waters (OFW).

The project is located 0.5 miles north and 2.75 miles east of the Pinellas County Aquatic Preserve that encompasses all of the of sovereign submerged lands in Pinellas County not included within the Boca Ciega Bay Aquatic Preserve that runs along the southwest coastline of the county. Waters within the Aquatic Preserve are designated as Outstanding Florida Waters (OFW).

One unit (bounded by Aripeka Road to the north and US 19 to the east) of the of the SWFWMD-owned Weeki Wachee Preserve is located within 100 feet of the project; another unit (located west of US 19 and adjacent to the Pasco-Hernando County Line) is located within 200 feet of the project.

The project is within 500 feet of three Pasco County Wellhead Protection Zones which are located: (1) just northeast of the US 19/Trouble Creek intersection; (2) on Darlington Road just east of the US 19/Darlington Rd intersection; and (3) west of US 19 at Mile Stretch Dr.

Comments on Effects to Resources:
The project may have adverse effects on OFW-designated waters within publicly owned lands and in the Pinellas County Aquatic Preserve. The project will cause habitat disturbance on the edge of one unit of the Districts Weeki Wachee Preserve. The project has a high likelihood of encroaching on three Pasco County Wellhead Protection Zones.

Additional Comments (optional):
The District considers the degree of effect as Moderate due to the following projects aspects:
(1) Details of design and construction are unknown to permit application level of detail,
(2) The actual locations of stormwater treatment facilities are unknown,
(3) The potential receiving waters are OFWs, and
(4) High potential to produce adverse habitat effects on public conservation lands.

For most projects to meet permit criteria, they must be not contrary to the public interest. Section 3.2.3 of the SWFWMD Basis of Review describes the items to be reviewed when determining what is and is not contrary to public interest, and Section 3.2.3 specifically details impact to the conservation of fish and wildlife habitat, including endangered or threatened species, or their habitats, as well as impacts to the public recreation. However, as this project may adversely affect an OFW, the permit criteria are more stringent. Accordingly, any project that proposes wetland impacts within an OFW must be clearly in the public interest, as described in Section 3.2.3 in the SWFWMD Basis of Review.

Section 5.2.e. of the ERP Basis of Review (B.O.R.) requires projects discharging stormwater directly into an OFW to provide treatment for a volume 50 percent more than required for the selected treatment system (wet detention, detention with effluent filtration, on-line retention or off-line retention). There are additional OFW water quality criteria in accordance with the SWFWMD Basis of Review 2.8 that will have to be met during construction that require implementation of special BMPs for erosion and sediment control as a part of the Constructions Surface Water Management

Plan (SWFWMD Basis of Review 2.8.3).

There is a possibility that Sovereign Submerged Lands (SSL) will be involved with this project at several locations. A thorough research of title records and information is necessary to determine the location and extent of any such lands.

Coordinator Feedback: None

- No review submitted from the FL Department of Environmental Protection

Water Quality and Quantity

Coordinator Summary

3 Summary Degree of Effect

Water Quality and Quantity Summary Degree of Effect: Moderate

Reviewed By:
FDOT District 7 (7/31/2007)
Comments:
The Florida Department of Transportation (FDOT) has evaluated the comments from US Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP) and recommends a Degree of Effect of Moderate. The FDOT acknowledges the comments from the Southwest Florida Water Management District (SWFWMD).

The project is located in the Springs Coast and Tampa Bay major basins, which includes seven smaller drainage basins. Within the 500-ft buffer area is the Wetstone/Birkovitz, which is designated Other Outstanding Florida Waters (OFW). Surface waters within the entire project are designated Class III. The waters within the Werner-Boyce Salt Springs State Park and the Pinellas County Aquatic Preserve are designated OFW. No impaired waters are located within the 500-ft. buffer area. Within the 100-ft. buffer area there is 514 acres (100%) of the Floridian Aquifer System, which is designated a Principal Aquifer system.

Eight sinkholes are located within the 100-ft. buffer area, nine sinkholes are located within the 200-ft. buffer area, and 22 sinkholes are located within the 500-ft. buffer area. No first magnitude springs are located in the project area, however, several springs have been reported in the past, including Hudson Springs and Salt Springs, are located in the vicinity. The SWFWMD did not identify any potable supply wells, although three Wellhead Protection Zones are located within the 500-ft. buffer area. The constructed project should reduce stormwater runoff via stormwater treatment facilities and Best Management Practices (BMP). In accordance with Chapters 3 and 5 of the Environmental Resource Permit Basis of Review, the FDOT will take measures to protect and treat in-stream water quality of stormwater discharge resulting from the project.

The FDOT anticipates taking measures to assure that project activities will not adversely affect State water quality standards as well as special standards for Outstanding Florida Waters and Outstanding National Resource Waters. To offset wetland impacts, the FDOT will acquire an Environmental Resource Permit that will be suitable to the type of project proposed and prepare a Pond Siting Report and a Location Hydraulics Report during the projects PD&E Study phase.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Water Quality and Quantity

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (06/13/2007)
Water Quality and Quantity Effect: Substantial

Coordination Document: Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:
There are numerous cross drainage facilities, including nine open channels, numerous pipe culverts, numerous storm grates in median and side swales, and a bridge over the Pithlachascotee River. Curb and gutter facilities occur on both sides of the US 19/SR 54 intersection, north from Marine Parkway to Stone Road, and on the east side of the US 19/SR 52 intersection. Grassy swales serve remaining segments. Swales are deeper and have some herbaceous wetland development south of SR 54 on the west side of US 19. Near Gulf View Square, roadside swales draining to a large canal serve US 19 and surrounding lands. The canal passes under US 19 to a stormwater facility west of US 19 whence it continues as an open, cement-lined channel to the Werner-Boyce Salt Springs State Park property. There is a large stormwater pond located adjacent to Gulf View Square that receives runoff from the mall and conveys it across a limerock road to the Werner-Boyce Salt Springs State Park property.

The proposed project traverses the following watersheds: From north to south, the project occupies and/or traverses the following drainage basins: Hammock Creek (WBID 1391), Direct Runoff to the Gulf (WBID 1400), Bear Creek (WBID 1420), Direct Runoff to the Gulf (WBID 1421), Double Hammock Creek (WBID1432), Salt Springs Run (WBID 1439), Direct Runoff to Gulf (WBID 1444), Pithlachascotee River (WBID 1409), Direct Runoff to Gulf (WBID 1450), and the Anclote River (WBID 1440).

The Hammock Creek watershed covers 54 square miles in southwestern Hernando County and northwestern Pasco County. Hammock Creek heads in wetlands located in S36T24SR16E and flows westward to its Gulf outfall at Aripeka.

The Bear Creek drainage originates roughly eight miles east of Bayonet Point in naturally depressed areas and terminates in Bear Sink, near Hudson, in an area called the Pasco High Swamp. The named portion of Bear Creek (channel) is only 3.2 miles long and develops an average fall of 6.3 feet per mile over its 20-mile length (Pasco County Comprehensive Plan, April 29, 2005 Update).

A tidal creek, Double Hammock Creek receives drainage from the east side of US 19 and from Westport, a canal-front residential community west of US 19.

Salt Springs Run heads in a group of small springs west of US 19 in SE ; S20T25SR16E and is tidally influenced along its entire length.

Draining 180 square miles, the Pithlachascotee River originates in Crews Lake in west central Pasco County and flows southeasterly to empty to the Gulf at New Port Richey.

Anclote River heads south of SR 52 and west of CR 583; it flows southwestward approximately 15 statute miles to it outfall in the Gulf at Tarpon Springs.

The Direct Runoff to Gulf WBIDs represent a relatively large portion of the project area and include several tidal creeks that receive runoff from surrounding lands, much of which has been developed

for residential and commercial purposes. The WBIDs north of Hudson are the least developed, while those in the Holiday, New Port Richey and Port Richey areas are the most developed and altered.

The proposed project is located within the Springs Coast and Tampa Bay major basins. For assessment purposes, the FDEP divided the states major basins into assessment polygons, or smaller drainage basins, designated by waterbody identification numbers (WBIDs). Florida is currently assessing water quality in these drainage basins on a rotating basis as part of a 5-year cycle. The drainage basins containing the proposed project are part of the FDEPs Group 5 basins.

Section 303(d) of the Clean Water Act (CWA) directs states to identify those waters within their jurisdictions that are unable to meet certain water quality assessment criteria and are, therefore, considered impaired. Once the FDEP verifies waters on the 303(d) List of Impaired Waters, they will begin the process of developing Total Maximum Daily Loads (TMDLs) for each pollutant of concern in each waterbody on the 303(d) List.

Each TMDL will contain the amount of pollutants that each waterbody can achieve while meeting water quality standards for the designated use and a strategy consisting of reductions to achieve this amount. The reductions associated with meeting a TMDL will affect permit holders in the watershed and will require a combination of more stringent, permitted, effluent limits and more stringent nonpoint source controls, such as specific BMPs with high removal efficiencies for pollutants of concern.

TMDLs for the water segments within the project area follow:

Anclote River (WBID 1440)
The proposed project is located within the Anclote River watershed. A TMDL for dissolved oxygen and mercury, based on a fish consumption advisory, is scheduled for development in 2011in this waterbody (Group 5).

Pithlachascotee River (WBID 1409)
The Pithlachascotee River watershed contains the proposed project. TMDLs for dissolved oxygen, coliforms, and mercury impairments are scheduled for development in 2011 in this waterbody (Group 5).

In addition to stormwater treatment or other BMPs in these specific watersheds, the District recommends using erosion and sediment controls during the construction phase.

Under its Minimum Flows and Levels Program (40D-8, F.A.C.), the District is scheduled to adopt Minimum Flows for the Anclote River in 2007 and the Pithlachascotee River, in 2010.

Surface waters within the entire project are designated Class III. The waters within the Werner-Boyce Salt Springs State Park and the Pinellas County Aquatic Preserve are designated OFW.

Water quality and hydrologic data are available for the Pithlachascotee River, Anclote River, Bear Creek, and near coastal waters near the Pithlachascotee River from SWFWMD. FDEP collects data on Double Hammock Creek and Salt Springs Run.
The aquifer system in the project area is composed of the surficial aquifer and the Floridan Aquifer. The Intermediate Aquifer is thin to absent. The surficial aquifer is the uppermost aquifer consisting of unconsolidated Pleistocene and Holocene sediments of sand, clayey sand, shell, and marl. It is predominantly unconfined and extends from the land surface to the top of the upper confining bed. Within the project area, surficial aquifer sediments range from less than one foot to over 50 feet (Wolansky, et al, 1989). Due to its relatively thin nature and localized flow system, the surficial aquifer yields relatively small quantities of water. Groundwater from the surficial aquifer is used mainly for lawn irrigation and domestic supply (SWFWMD, 2002, Tampa Bay/Anclote Comprehensive Watershed Management Plan).

The Upper Floridan Aquifer is a thick stratified sequence of limestone and dolostone units containing part or all of the Arcadia Formation (Tampa Member), Suwannee Limestone, Ocala Limestone and Avon Park Formation. It is a confined aquifer ranging in thickness from approximately 950 feet to 1,200 feet. The aquifer thickens from north to south. A low permeability evaporite zone consisting of gypsiferous dolomite and dolomitic limestone marks the base of the aquifer. This unit, the middle-confining unit, is most likely the limit of the fresh water zone. Below this evaporite zone, water is often highly mineralized and non-potable. Because of its ability to yield and transmit prodigious quantities of water, withdrawals for water supply and large-scale agriculture are predominantly from the Upper Floridan aquifer; however, in coastal areas such as the US 19 project area, withdrawals are limited due to the threat of lateral saltwater intrusion (SWFWMD, 2002, Tampa Bay/Anclote Comprehensive Watershed Management Plan).

The DRASTIC Pollution Vulnerability Index for the surficial aquifer in the project area is a consistent 183 on a relative scale out to 500 feet from the project. The DRASTIC indices for the Floridan Aquifer within the project area range from 143 to 192 on a relative scale and average 172 (weighted). Data indicate that the higher pollution vulnerability is associated with the surficial aquifer followed by the Floridan Aquifer. There are no DRASTIC indices given for the intermediate aquifer, as it is very thin to absent in the project area.

Eight sinkholes, occurring on both sides of the roadway, are reported within 100 feet of the project: 14-511, 14-535, 14-536, 14-537, 14-538, 14-539, 14-540, and 14-558. The number of reported sinkholes increases to 22 between the 100-foot buffer and the 500-foot buffer. In addition, there are numerous natural features within 200 feet of the project that have a high probability of being quiescent sinkholes. The area is a high sinkhole hazard area and has a high potential for groundwater contamination.

No first magnitude springs are reported within 500 feet of the proposed alternative. Several springs have been reported in the past, including Hudson Springs (SE1/4; S28-T24S-R16E) and Salt Springs (SE ; S20-T25S-R16E).

No potable water wells are reported within 500 feet of the project, although Pasco County Wellhead Protection Zones are located within 500 feet of the project at: (1) just northeast of the US 19/Trouble Creek intersection; (2) on Darlington Road just east of the US 19/Darlington Rd intersection; and (3) west of US 19 at Mile Stretch Dr.

There are 19 EPA water quality sampling stations within a one-mile radius of the proposed project. Data from these stations are contained within EPAs STORET database as well as FDEPs Impaired Waters Rule database. This data may be useful to assess water quality in individual waterbodies as well as to develop TMDLs for impaired waters.

Evaluation of the water quality dataset for these sampling stations could be valuable for determining the pre-development conditions of the water quality of waters of interest (especially the lakes, which are sensitive to changes in nutrient loading) within the area of potential project impact. These datasets may serve as a baseline for existing impaired parameters from which to measure reductions to meet TMDLs. Specific parameters of concern associated with stormwater runoff from this project include dissolved oxygen, phosphorus, nitrogen, total suspended solids, and coliforms.

There are numerous existing permits along the project including permits for past improvements to SR 19. Review of these permits and understanding previous permitting issues will be helpful in additional evaluation and design for this project. Some of these permits are:

017398.000 DOT- SRS595-US ALT 19-PINE Co LINT TO US-19
017398.001 DOT-SR 595/Pinellas County Line to SR 55
027483.000 DOT SR 55 US 19 Pasco Co
012357.003 DOT-SR 54/US 19-Madison St. #14570-3519
005660.000 DOT-S.R. 52-U.S. 19 to Hicks Rd.

007590.000 DOT-State Road 55(US 19)
006732.001 FDOT-CR578 FM SR55to E of East Rd.
007590.000 DOT-State Road 55(US 19)
005084.001 DOT- U.S. 19/Pasco Co. Line/Toucan Tr.
006732.000 DOT-Seven Hills Force Main

We found no recent pre-application meetings for the FDOT in the project area; however, the following pre-application meeting may be relevant to this project:

5862 Trouble Creek Road Widening (Pasco County)

Comments on Effects to Resources:
The project has the potential to produce direct adverse impacts on Hammock Creek, Bear Creek, Double Hammock Creek, Salt Springs Run, the Pithlachascotee River, the Anclote River, and the land area that drains directly to the Gulf. Impacts may include alteration of channel cross sections, disruption of flows, increased runoff volumes, decreased runoff quality, sedimentation, bank erosion, and increased flooding potential. The project will require modification of the existing bridge crossing of the Pithlachascotee River and at numerous drainage structures and open channels.

Also, the project has the potential to increase runoff volumes and flooding potential and to degrade further the water quality in (1) sensitive coastal systems including Double Hammock Creek and Salt Springs Run, (2) Bear Creek, an already-degraded, volume-sensitive stream, (3) the Pithlachascotee River, and (4) the OFW contained within the Werner-Boyce Salt Springs State Park.

The project has the potential to infringe on the Pasco County Surface Wellhead Protection Zones as adopted in amendments to the Countys Comprehensive Plan.

Additional Comments (optional):
The degree of effect is judged Substantial due to the projects potential to
(1) Increase runoff volumes and flooding potential and to degrade further the water quality in
(a) Sensitive coastal systems including Double Hammock Creek and Salt Springs Run,
(b) Bear Creek, an already-degraded, volume-sensitive stream,
(c) The Pithlachascotee River, and
(d) The OFW contained within the Werner-Boyce Salt Springs State Park;
(2) Contaminate the surficial aquifer during construction because of intercepting a contaminated site,
(3) Contaminate the Floridan Aquifer due to stormwater runoff entering the aquifer by means of sinkholes in the vicinity of the northern half of the project area,
(4) Disrupt operations of pumping, storage, and transmission facilities having WUPs, and
(5) Infringe on Pasco Countys adopted Wellhead Protection Zones.

An Environmental Resource Permit will be required for this project. However, the final determination of the type of permit will depend upon the final design configuration. If wetland impacts exceed threshold limits, the FDOT may want to consider applying for an Incidental Site Activities Permit (40D-40.302 (6)(a) F.A.C); particularly if the project is a design-build or fast-tracked project.

ERP applicants will be required to comply with the ERP Basis of Review, Chap. 3.2.2.4(d) and 373.042, F.S. in accordance with Minimum Flows established for the Anclote River and the Pithlachascotee River when established.

Pollution reductions in stormwater runoff via stormwater treatment facilities or BMPs will be required to implement future TMDLs once they are developed. The District recommends that the FDOT participate as a stakeholder in future Basin Management Action Plan (BMAP) activities to ensure that stormwater controls associated with the proposed project will address these reductions. The FDEP conducts this process, in which stakeholders take the lead.

Any existing wells within the project area should be located and identified prior to beginning construction. A licensed water well contractor, who will acquire the appropriate well abandonment/construction permits, must properly plug and abandon these wells as per Chapters 40D-3 and 62-532, F.A.C.

The FDOT must provide reasonable assurance that the project will not cause adverse water quantity impacts to receiving waters or adverse flooding to on-site or off-site property, and that the project will not adversely affect the quality of receiving waters such that the water quality standards, including any anti-degradation provisions, will be violated (F.A.C. 40D-4.301(1) (e)). Further, activities associated with construction of the permitted activities must not cause violations of State Water Quality Standards (B.O.R. 3.2.4). An approved Construction Surface Water Management Plan (BOR, Section 2.8), or Stormwater Pollution Prevention Plan (SWPPP), must be prepared during the design of this project and implemented during construction. The FDOT and their contractors shall implement best management practices to control erosion, shoaling and turbidity, both during and after construction.. Off-site discharge of water is limited to those amounts that will not cause off-site impacts (BOR 4.2). The FDOTs contractors shall operate and maintain equipment to eliminate the discharge of oils, greases, fuels and lubricants to wetlands or other surface waters (BOR 3.2.4.1).

Water quantity concerns must be addressed for the project in accordance with Chapter 4 of the SWFWMD's Environmental Resource Permit (ERP) Basis of Review (BOR). Water quantity concerns that must be addressed in accordance with the SWFWMD ERP Basis of Review include the following typical issues:

a) Pre- and post-development peak discharge rates must match for each sub-basin along the project corridor at each location runoff discharges from the right-of-way. Hydraulic routing through surface water storage areas and use of appropriate tailwater information will also be necessary.

b) Include provisions to convey runoff from up-gradient areas to down-gradient areas, without adversely affecting the stage point, manner of discharge and without degrading water quality, will be necessary (refer to Section 4.8 of the ERP BOR).

c) In addition for closed basins (internally drained or land-locked), the post-development volume of runoff from the project area must not exceed the pre-development volume of each specific, existing basin. This project appears to be located within basins that may be open, closed or semi-closed (i.e., closed for some storm events and open for others).

d) Post-development peak discharge rates must not exceed pre-development rates at each of the existing stormwater discharge points from the roadway right-of-way for the storm event(s) required in the BOR. The FDOT should base hydrologic and hydraulic computations on historic and local existing conditions, except for conditions caused by illegal activities and the effects of water withdrawals by pumping (B.O.R. Sections 1.7 and 4.6.2). Tailwater conditions should be thoroughly researched and based on current and defendable data determined by standard engineering methods.

The FDOT must include provisions to replace or otherwise mitigate the loss of historic basin storage provided by the project site.

The localized or regional effects of water withdrawals shall not be considered as the ambient condition in the design of surface water management systems permitted under Chapters 40D-4, 40D -40, or 40D-400, F.A.C., except to the extent that the long-term success of wetlands mitigation would be affected adversely (BOR, Sections 3.2.2.4 e. & 4.6.2).

Treatment of stormwater runoff will be required, as additional traffic lanes are proposed to improve the roads operational capacity. Stormwater quality treatment is required for runoff from the new pavement proposed to facilitate the additional traffic lanes for both bridges and roadways, plus the

runoff from all other directly connected impervious areas (DCIAs) contributing on-line to the treatment systems, both on and off-site.

Chapter 5.8.b of the Districts BOR establishes the contributing area(s) for on-line and off-line stormwater systems used in calculating the required treatment volume for alterations to existing public roadways. For widening activities, consider total pavement areas in treatment volume calculations; unless the system effectively maintains drainage of existing pavement areas separate from proposed pavement areas. If the FDOT designs existing and proposed stormwater runoff for conveyance, storage and treatment on-line, then treatment capacity is required for the entire roadway and other DCIAs contributing to the treatment facilities. Alternatively, if the new system is designed with off-line storage and treatment of the first-flush of runoff from new DCIAs, then the existing roadway contributing areas can be considered as isolated. The District recommends using off-line stormwater quality treatment facilities for runoff from both the new and existing contributing areas to the treatment facilities. Use of appropriate tailwater information will be necessary in all cases.

Chapters 3 and 5 of the ERP Basis of Review require in-stream water quality protection and treatment of stormwater discharge resulting from the project. In-stream construction activities and operations and maintenance associated with the project must not adversely affect water quality. The District will require stormwater quality treatment for runoff from all areas contributing to the surface water management system serving the proposed project. In-stream protection measures are in addition to stormwater quality treatment required for runoff from the bridges, roadways and related facilities, including the runoff from the project related watershed areas on- and off-site

If equivalent stormwater quality treatment is to be considered, the FDOT must reasonably demonstrate the following:
a) Alternate, contributing areas need to be hydrologically equivalent to the new and existing, watershed areas that would otherwise contribute to the treatment system and existing point of discharge;
b) Alternate pollution sources and loading characteristics need to be equivalent to those being substituted; and
c) Treatment benefits need to occur in the same receiving waters and in the same locality as the existing point of discharge from the new project area.

Existing stormwater treatment capacity displaced by any roadway project requires additional compensating treatment volume for replacement. For example, the existing treatment capacity that is displaced by project construction in neighborhood ponds/swales must be replaced in a project pond with suitable treatment volume from the existing contributing area and the road project area. Equivalent stormwater quality treatment, as described previously, should be avoided if possible. Additional treatment is required for projects that discharge directly to OFWs.

Evaluation of the available water quality dataset may be useful for determining the pre-development conditions of the water quality of waters of interest within the area of potential project impact. These datasets may be useful as a baseline for existing impaired parameters from which to measure reductions to meet future TMDLs. Specific parameters of concern associated with stormwater runoff from this project include dissolved oxygen, phosphorus, nitrogen, total suspended solids, and coliforms.

The Environmental Resource Permit Basis of Review document describes design approaches and criteria that will provide reasonable assurances that the proposed surface water management system will meet the conditions for issuance. Parameters that are frequently over- or under-estimated include: seasonal high water, seasonal high groundwater table, historic basin storage, floodplain storage, floodway hydraulic capacity, peak discharge rates and timing, total discharged volume, and off-site hydrograph timing impacts. Site-specific design data is preferable to book values. It is recommended that the FDOT consider providing a pond siting report that addresses these design approaches and criteria.

Due to the high potential for contamination of the surficial and Florida aquifers by encountering Karstic site conditions, the District recommends that the FDOT design stormwater ponds as shallow as practical. Geotechnical evaluation of specific pond sites should be conducted to determine the potential for sinkhole development. If the results of the geotechnical study indicate a potential for ground water contamination because of stormwater pond construction/operation, the District may require additional stormwater quality treatment for the project surface water management systems.

Data from several SWFWMD/Pasco County projects will be useful to FDOT in the PD&E phase and the design stage of the project. The FDOT is encouraged to contact the SWFWMD project managers as listed below for further information.
1. Hammock Creek Watershed Management Plan, L435, will develop basic hydrologic and hydraulic information and floodplain data. The District project manager is Mr. Richard Mayer of the Districts Brooksville office.
2. Implementation of BMPs in Hammock Creek Watershed, L646, includes the selection, design, permitting, and construction of facilities to reduce flooding in the northern portion of the watershed. The District project manager is Mr. Richard Mayer of the Districts Brooksville office.
3. Aripeka Watershed Management Program, L168, delineated the Hammock Creek watershed and other watersheds in the Aripeka area, developed hydrologic and hydraulic information, and defined floodplain areas The District project manager is Mr. Larry Walker of the Districts Brooksville office.
4. Project COAST, B679, generates water quality and habitat data for the nearshore waters along the coast of Pasco County. The District project manager is Mr. Philip Rhinesmith of the Districts Brooksville office.

If this projects proprietary authorizations qualify as a project of Heightened Public Concern, additional steps will be required during the review process and prior to ERP approvals.

The FDOT should submit the names and addresses of individuals or entities, whose property will be acquired for the roadway improvements, with the ERP application. Since the FDOT has powers of eminent domain, the District will need this information to facilitate noticing such individuals, pursuant to Rule 40D-1.607(7), F.A.C. If this project requires the acquisition of new right-of-way areas, any permit issued may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

The District has assigned a pre-application file (PA# 6256) for tracking its participation in the ETDM review of this project. Note also that pre-application meetings, 5550 and 5590, happened on 10 October and 26 October 2006, respectively, which may have some additional information relating to this project. The Districts Brooksville Service Office maintains the pre-application file. Please refer to the pre-application file when contacting District regulatory staff regarding this project.

Coordinator Feedback: None

3 ETAT Review by Madolyn Dominy, US Environmental Protection Agency (06/21/2007)
Water Quality and Quantity Effect: Moderate

Coordination Document: No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Although the water quality of these waters is generally good, the effects of development, stormwater runoff, recreational overuse, and industrial discharge or accidents are the greatest threats to their quality. Stormwater runoff from the road surface may alter adjacent wetlands and surface waters through increased pollutant loading. Natural resource impacts within and adjacent to the proposed roadway right-of-way will likely include alteration of the existing surface water hydrology and natural drainage patterns, and reduction in flood attenuation capacity of area creeks, ditches, and sloughs as a result of increased impervious surface within the watershed. Stormwater treatment should be designed to maintain the natural pre-development hydroperiod and water quality, as well as to protect the natural functions of adjacent wetlands, floodplains, and waterbodies.

Comments on Effects to Resources:
Every effort should be made to maximize the treatment of stormwater runoff from the proposed project, as area stormwater for portions of the project ultimately discharges to the Pithlachascotee River and Gulf of Mexico. We recommend that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities. Retro-fitting of stormwater conveyance systems would help reduce impacts to water quality.

Coordinator Feedback: None

- No review submitted from the Federal Highway Administration

Wetlands

Coordinator Summary

2 Summary Degree of Effect

Wetlands Summary Degree of Effect: Minimal

Reviewed By:
FDOT District 7 (7/31/2007)
Comments:
The Florida Department of Transportation (FDOT) has evaluated the comments from the US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), and the US Fish and Wildlife Service (USFWS) and recommends a Degree of Effect of Minimal. The FDOT acknowledges the comments from the Southwest Florida Water Management District (SWFWMD) and the National Marine Fisheries Service (NMFS).

The NMFS staff noted that it appears that the project may directly or indirectly impact salt marsh and mangrove habitats. Indirect impacts to seagrasses are also possible. The USACE noted that most of the area adjacent to the road alignment has been previously disturbed and developed, mostly in the south and central sections. The north section is less developed and at a higher elevation. The SWFWMD noted that most of the wetlands that may be adversely affected are located mostly within the canals that cross US 19 and along both sides of the road. The existing Right-of-Way (ROW) has been cleared during the construction of the road and is currently planted with Bahia grass and maintained as turf.

National Wetlands Inventory (NWI) reports 0.3 acres (0.05% of project corridor) of palustrine wetlands and 0.7 acres (0.13% of project corridor) of estuarine wetlands within the 100-ft. buffer area. Within the 200-ft buffer area, there is 8.7 acres (0.87% of project corridor) of palustrine wetlands and 2.1 acres (0.21% of project corridor) of estuarine wetlands. Within the 500-ft. buffer area there is 75.6 acres (3.1% of project corridor) of palustrine wetlands, 0.49 acres (0.02% of project corridor) of lacustrine wetlands, and 13.2 acres (0.54% of project corridor) of estuarine wetlands.

The Florida Fish and Wildlife Conservation Commission (FFWCC) reports Priority Wetlands totaling 65 acres (12.68% of project corridor) that support 1-3 focal species in upland areas, 9 acres (1.83% of project corridor) that support 1-3 focal species in wetland areas, 6 acres (1.24% of project corridor) that support 4-6 focal species in upland areas, 1 acre (0.24% of project corridor) that support 4-6 focal species in wetland areas, and 18 acres (3.57% of project corridor) that support 7-9 focal species in wetland areas within the 100-ft. buffer area. Within the 200-ft. buffer area there are 125 acres (12.54% of project corridor) that support 1-3 focal species in upland areas, 18 acres (1.84% of project corridor) that support 1-3 focal species in wetland areas, 13 acres (1.27% of project corridor) that support 4-6 focal species in upland areas, 3 acres (0.28% of project corridor) that support 4-6 focal species in wetland areas, and 37 acres (3.67% of project corridor) that support 7-9 focal species in wetland areas. Within the 500-ft. buffer area, there are 306 acres (12.41% of project corridor) that support 1-3 focal species in upland areas, 35 acres (1.42% of project corridor) that support 1-3 focal species in wetland areas, 24 acres (0.97% of project corridor) that support 4-6 focal species in upland areas, 9 acres (0.36% of project corridor) that support 4-6 focal species in wetland areas, and 81 acres (3.3% of project corridor) that support 7-9 focal species in wetland areas. These wetlands consist of stream and lake swamps, freshwater marshes, wetland forested mixed, cypress, wetland coniferous forests, emergent aquatic vegetation, intermittent ponds and saltwater marshes. There are numerous listed species in the project area that are discussed under the Wildlife and Habitat Degree of Effect.

The FDOT will consider the recommendation from the SWFWMD, the USEPA and the USFWS to delineate wetlands prior to permitting. The FDOT also acknowledges the USFWS recommendation to conduct surveys to determine the presence or absence listed species prior to design and construction phases.

The FDOT anticipates conducting a Uniform Mitigation Assessment Method (UMAM) analysis and preparing a Wetland Evaluation/Biological Assessment Report during the projects PD&E Study phase and coordinating the review of the reports with the USFWS and the FFWCC.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Wetlands

2 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (06/13/2007)
Wetlands Effect: Minimal

Coordination Document: Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:
The proposed project area encompasses major rivers and creek systems, including the Pithlachascotee River and Double Hammock Creek, together with associated floodplains and wetland areas, and is hydrologically connected to estuarine resources of the Gulf of Mexico - a marine system that provides excellent nearshore habitat and filtering of inflow waters.
The EST indicates that there are 75.55 acres of palustrine wetlands within the 500-foot buffer zone of the project (3.06%), and 13.22 acres of estuarine wetlands (0.54%).

Comments on Effects to Resources:
An Environmental Resource Permit (ERP) will be required from the Southwest Florida Water Management District - the ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of highway construction to the greatest extent practicable:
- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety

limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention is given to forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

Coordinator Feedback: None

2 ETAT Review by Todd Samuel Mecklenborg, US Fish and Wildlife Service (06/11/2007)
Wetlands Effect: Minimal

Coordination Document: Tech Memo Required

Dispute Information:N/A

Identified Resources and Level of Importance:
Federally listed plant and animal species, migratory birds, the habitats they occupy and are supported by (foraging, sheltering, and breeding), and wetlands. These trust resources have a high level of importance.

Comments on Effects to Resources:
The Service has reviewed our Geographic Information Systems (GIS) database and the GIS database on the Environmental Screening Tool for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The Services GIS database is a compilation of data received from several sources. After a literature review utilizing the 200 foot buffer of the proposed alignments, the Service has the following comments and recommendations:

Due to the urban location of the proposed action, the Service recommends that the areas impacted associated with the mainline improvements be surveyed for listed species. This would include stormwater management ponds, floodplain compensatory sites, and construction staging areas.

The Service would recommend that wetlands in the project area be delineated and evaluated using an evaluation technique such as the Wetland Rapid Assessment Procedure (WRAP) or the Uniform Mitigation Assessment Method (UMAM). If impacts to wetlands are unavoidable, the Service would recommend minimizing the impacts to the greatest extent practicable and that all impacts to wetlands are mitigated. Mitigation should be in-kind and within the same watershed basin as the proposed impact.

Additional Comments (optional):
Comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712 et seq.), and the Marine Mammal Protection Act of 1972 (MMPA), as amended (16 U.S.C. 1361 et seq.).

Coordinator Feedback: None

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (06/13/2007)
Wetlands Effect: Substantial

Coordination Document: Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:
Based upon a review of the EST GIS data and observations taken during a field review conducted on May 9, 2007, the area within the 100-foot buffer of the project contains multiple wetland areas that are contiguous to wetlands adjacent to the right-of-way. The existing right-of-way has been cleared during the construction of the road and is currently planted with Bahia grass and maintained as turf. Wetlands that may be adversely affected are located chiefly within the canals that cross US 19 and along both sides of the road north of S12-T24S-R16E. Existing wetlands within the buffer involve numerous individual jurisdictional wetland systems composed of nine wetland/open water habitat types (FLUCFCS 523, 524, 617, 618, 621, 630, 642, 641, and 643) and totaling 19 acres of wetlands and 38 acres of open water (FFWCC 2003 Land Cover). The total wetland acreage is comprised of 7.4 acres of forested wetland, 0.44 acres of shrub (Carolina willow/Elderberry) wetlands, 8.85 acres of freshwater herbaceous wetland, and 1.55 acres of saltwater marsh. The open water is comprised of an artificial pond constructed for stormwater runoff treatment located near Gulf View Square and a natural pond located north of SR 52. This total acreage figure does not include potential impact from stormwater facilities or temporary, construction-related impacts.

Within the 200-foot buffer corridor, existing wetlands involve the same plant community types described for the 100-foot buffer. Potential impact acreage is 33.7 acres of wetland and 68 acres of open water (FFWCC 2003 Land Cover). The wetland impact acreage is comprised of 15.34 acres of forested wetland, 1.56 acres of shrub wetland (Carolina willow/Elderberry), 14 acres of freshwater herbaceous wetland, and 3.11 acres of salt marsh. This total acreage figure does not include potential impact from stormwater facilities or temporary, construction-related impacts.

Within the 500-foot buffer corridor, impacts to wetlands involve the same plant community types described for the 100-foot buffer. Total impact acreage is 88.28 acres of wetland and 169.22 acres of open water (FFWCC 2003 Land Cover). The wetland impact acreage is comprised of 50.27 acres of forested wetland, 3.56 acres of shrub wetland (Carolina willow/Elderberry), 25.14 acres of freshwater herbaceous wetland, and 8.9 acres of salt marsh. This total acreage figure does not include potential impact from stormwater facilities or temporary, construction-related impacts.

Within 100 feet of the project, there are 18.4 acres of FFWCC Priority Wetlands habitat capable of supporting 7-9 focal species in wetlands. Native wetland habitat types include cypress (FLUCFCS 621), wet prairie (FLUCFCS 643), hardwood swamp (FLUCFCS 617), freshwater marsh (FLUCFCS 641), mixed wetland forest (FLUCFCS 630), and salt water marsh (FLUCFCS 642), and shrub swamp (FLUCFCS 618). Within the 200-foot and 500-foot buffers, the acreage of priority wetlands supporting 7-9 Focal Species totals 36.7 acres and 81.3 acres, respectively. Priority Wetlands supporting 7-9 Focal Species in wetlands within 100 feet of the project are located in S6-T24S-R17E, S7-T24S-R17E, S12-T24S-R16E, S10-T25S-R16E, S29-T25S-R16E, S32-T25S-R16E, and S30-T26S-R16E.

The quality of wetland systems within the 100-foot buffer that may be adversely affected by the project, varies from good to poor, with the better quality systems located in the northern portion of the project and in the Pithlachascotee River floodplain. Moving outward from the 100-foot buffer, the project directly affects better quality wetland systems in those same two areas. Other smaller wetlands are scattered along the project in other areas, but the largest concentration of better quality systems is in the two areas just mentioned.

Comments on Effects to Resources:
Impacts to wetlands may include the elimination of the wetland system and loss of all wetland function relating to wildlife habitat, the impairment of wetland water quality, and the loss of flood storage/attenuation capacity. Depending on the design of the roadway and intersection improvements, it is possible that the total wetland impact acreage, excluding stormwater treatment facilities, could be substantial. Habitat function will be lost and/or degraded.

Construction activity will degrade water quality in the wetland, cause disturbance due to noise and dust, and will result in direct damage to wetland vegetation. Depending upon the constructed depth of stormwater ponds, the construction of stormwater facilities adjacent to wetlands, particularly forested wetlands, will intercept ground water and surface water that formerly maintained wetland hydroperiods. Such wetlands will be dewatered and major alterations will occur to plant communities, habitats, and wildlife populations. Stormwater runoff has the potential to introduce pollution into wetlands, causing further degradation.

The result of wetland acreage reduction and elimination will be a loss of wetland-dependent wildlife, a decrease in wildlife diversity, potential loss of Listed Species, deterioration of water quality, damage to remaining wetland vegetation, and a loss of hydrologic benefits now provided by wetlands. Further, erosion and sediment transport to these sensitive areas may adversely affect the wetlands. Construction activity could degrade water quality in the nearby wetland systems, cause disturbance due to noise and dust, and may result in direct damage to wetland vegetation.

Additional Comments (optional):
The District considers the degree of effect as Substantial due to:
(1) The potential significant acreage of wetland impact,
(2) The potential to degrade/eliminate some of the remaining relatively undisturbed wetland systems in the area,
(3) The high potential for further wetland loss as a result of the construction of stormwater facilities immediately adjacent to wetlands and at a depth so as to dewater adjacent wetlands, and
(4) Potential impact to Priority Wetlands located within 100 feet of the project.

The project also has the potential to cause substantial sediment transport into sensitive coastal wetlands. The following actions may reduce wetland impacts:
(1) Adjustment of the alignment and cross section to avoid direct impacts to wetlands to the degree practicable,
(2) Implementation of strict controls over sediment transport off site during construction,
(3) Restriction of the activity of vehicles and equipment to only those areas that must be utilized for construction and staging,
(4) Avoiding Priority Wetlands, and
(5) Selection of treatment pond sites away from wetlands.

An Environmental Resource Permit will be required for this project. However, the final determination of the type of permit will depend upon the final design configuration. If wetland impacts exceed threshold limits, requiring an individual ERP permit, the FDOT may want to consider applying for an Incidental Site Activities Permit (40D- 40.302(6)(a) F.A.C), particularly if the project is a design-build or fast-tracked project.

The District recommends following an approved Stormwater Pollution Prevention Plan (SWPPP, or Construction Surface Water Management Plan (BOR Section 2.8), prepared during the design phase of this project in order to minimize turbidity and degradation of water quality during the construction phase of the new roadway alignment.

The District will require delineation of the landward extent of wetland and surface water features (Ch. 62-340, F.A.C). The FDOT may want to submit a Formal Wetland Determination Petition prior to the (ERP) Application submittal (Ch. 40D-4.042, F.A.C.; 3.4.2 BOR). A qualified individual should

locate and flag the wetland and surface water boundaries for field-verification by District staff. The ERP process requires the elimination and reduction of wetland impacts, including consideration of practicable design alternatives, be addressed (3.2.1 BOR).

SWFWMDs programmatic goal is to achieve no net loss of wetlands (ERP Basis of Review, 3.1.0). The FDOT must provide reasonable assurance that the projects design will not adversely affect the value of functions provided to fish, wildlife, and listed species, including aquatic and wetland-dependent species by wetlands and other surface waters. A wetland location map, formal delineation, and acreage calculations will be required together with a UMAM assessment for all wetlands affected by the project, pursuant to Ch. 62-345, F.A.C. The District will require that the wetland and surface water features located within the project area be field verified by District staff, pursuant to Ch. 62-340, F.A.C. Secondary wetland impacts (e.g., water quantity, water quality, wetland buffer setbacks, wildlife habitat and utilization, etc.) will require further evaluation pursuant to subsection 3.2.7 of the B.O.R. Wetlands within and adjacent to the corridor provide high quality habitat for both Listed Species and non-Listed Species.

Adequate and appropriate wetland mitigation activities will be required for unavoidable wetland and surface water impacts associated with the project. The FDOT Mitigation Program (Chapter 373.4137, F.S.) may address project mitigation needs, which requires the submittal of anticipated wetland and surface water impact information to the SWFWMD. The District utilizes this information to evaluate mitigation options, followed by nomination and multi-agency approval of the preferred options. These mitigation options typically include enhancement of wetland and upland habitats within existing public lands, public land acquisition followed by habitat improvements, and the purchase of private mitigation bank credits. The SWFWMD may choose to exclude a project in whole or in part if the SWFWMD is unable to identify mitigation that would offset wetland and surface water impacts of the project. Under this scenario, the SWFWMD will coordinate with the FDOT on which impacts can be appropriately mitigated through the program as opposed to separate mitigation conducted independently. Depending on the quantity and quality of the proposed wetland impacts, the SWFWMD may propose purchasing credits from a mitigation bank and/or pursue and propose alternative locations for mitigation. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project is located within the Upper Coastal Basin. The SWFWMD requests that the FDOT continue to collaborate on the potential wetland impacts as this segment proceeds into future phases, and include the associated impacts on FDOTs annual inventory.

Coordination with FFWCC and USFWS will be required for wetland-dependent Listed Species. The District recommends that the FDOT prepare a Wetland Evaluation Report (WER) and an Endangered Species Biological Assessment (ESBA) for further analysis. Listed Species known to utilize the environs of the project include Florida sandhill crane, little blue heron, roseate spoonbill, snowy egret, tricolored heron, and wood stork (40D-4.301(d); BOR, Appendix 5). Existing data should be collected and specific surveys should be conducted to detect the occurrence and abundance of other Listed Species that are very likely to utilize the wetlands and other surface waters within and adjacent to the ROW. The FDOT should assess the potential impact of the roadway project on these, and non-listed native animals.

The FDOT should submit the names and addresses of individuals or entities, whose property will be acquired for the roadway improvements, with the ERP application. Since the FDOT has powers of eminent domain, the District will need this information to facilitate noticing such individuals, pursuant to Rule 40D-1.607(7), F.A.C. If this project requires the acquisition of new right-of-way areas, any permit issued may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

The District has assigned a pre-application file (PA# 6256) for tracking its participation in the ETDM review of this project. Note also that pre-application meetings, 5550 and 5590, happened on 10 October and 26 October 2006, respectively, which may have some additional information relating to this project. The Districts Brooksville Service Office maintains the pre-application file. Please refer to

the pre-application file when contacting District regulatory staff regarding this project.

Coordinator Feedback: None

3 ETAT Review by David A. Rydene, National Marine Fisheries Service (06/14/2007)
Wetlands Effect: Moderate

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:
Estuarine mangrove and salt marsh habitats within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County that are utilized as fish habitat by managed fish species and their prey.

Comments on Effects to Resources:
NOAAs National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 9047. The Florida Department of Transportation proposes US 19 operational capacity improvements including the completion of a continuous right turn lane system and potential interchange improvements at SR 54, Ridge Road, SR 52, and County Line Road in Pasco County, Florida. The project study area includes the entire 19.7 mile stretch of US 19 in Pasco County.

NMFS assessment of the projects impacts are based on the limited information provided in the project description and from maps available through the Environmental Screening Tool (EST). NMFS comments reflect concerns about areas where impacts to NMFS trust resources could potentially occur. Specific information regarding where the construction of continuous right turn lane system components will occur is needed before NMFS can provide more detailed comments on impacts to estuarine and marine resources.

NMFS staff conducted a site inspection of the project area on May 30, 2007, to assess potential concerns to living marine resources within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County. The lands adjacent to the proposed project are principally urban commercial and residential properties. The southern terminus of the project lies within 450 yards of the Anclote River which contains salt marsh and mangrove habitats, and empties to the Gulf of Mexico . Further north US 19 passes within 84 yards of the canal system at Gulf Harbors which drains to the Big Bayou, Cross Bayou, and the Gulf of Mexico. At Port Richey, the road crosses the Pithlachascotee River. Scattered mangroves occur where the US 19 bridges the Pithlachascotee River and the river empties to Miller Bayou and the Gulf of Mexico. Just north of Ridge Road, US 19 begins to parallel Werner-Boyce Salt Springs State Park. The road passes within 580 yards of extensive salt marsh habitat behind the Gulf View Square Mall (Salt Springs Road), and also crosses Hammock Creek. At the US 19/SR 52 intersection, the road lies 720 yards from salt marsh habitats. Just north of Werner-Boyce Salt Springs Park, US 19 lies as close as 32 yards from numerous man-made canals draining to the Gulf of Mexico. It appears that the project may directly or indirectly impact salt marsh and mangrove habitats. Indirect impacts to seagrasses are also possible.

Certain estuarine habitats within the project area are designated as Essential Fish Habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico.

The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Estuarine habitats within the Pithlachascotee River and along the Gulf of Mexico coastline in Pasco County, which exist in the project area, have been identified as EFH for postlarval/juvenile and sub-adult penaeid shrimp, juvenile, sub-adult, and adult red drum, juvenile goliath and yellowmouth grouper and scamp, juvenile dog, yellowtail, cubera, mutton and lane snapper and schoolmaster, and juvenile and adult gray snapper by the Gulf of Mexico Fishery Management Council under provisions of the Magnuson-Stevens Act. In addition, a number of other species using these areas are prey species for other federally-managed species such as gag. Mangrove wetlands, emergent salt marsh, seagrass, estuarine water column, and mud, sand, shell, and rock substrates are specific categories of EFH that may be impacted by the project.

Federal agencies which permit, fund, or undertake activities which may adversely impact EFH are required to consult with NMFS and, as a part of the consultation process, an EFH assessment must be prepared to accompany the consultation request. Regulations require that EFH assessments include:

1. A description of the proposed action;

2. an analysis of the effects (including cumulative effects) of the proposed action on EFH, the managed fish species, and major prey species;

3. the Federal agencys views regarding the effects of the action on EFH; and,

4. proposed mitigation, if applicable.

Provisions of the EFH regulations [50 CFR 600.920(c)] allow consultation responsibility to be formally delegated from federal to state agencies, such as FDOT. Whether EFH consultation is undertaken by the Federal Highway Administration or a designated state agency, it should be initiated as soon as specific project design and construction impact information are available. EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents. Upon review of the EFH Assessment, NMFS will determine if it is necessary to provide EFH Conservation Recommendations on the project.

Coordinator Feedback: None

2 ETAT Review by John Fellows, US Army Corps of Engineers (06/13/2007)

Wetlands Effect: Minimal

Coordination Document: To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:
Much of the area adjacent to the road alignment has been previously disturbed and developed, especially in the south and central sections. To the north, the area is less developed, but much higher in elevation. Based on the GIS analysis results, the screening tool maps, and field visits, there are relatively minimal wetland resources present.

Comments on Effects to Resources:

be designed to protect the function of surrounding wetlands, floodplains, and surface water features.

It is recommended that the environmental phase (PD&E) of the project include delineation of wetlands; functional analysis of wetlands to determine their value and function; an evaluation of stormwater pond sites to determine their impact on wetlands; a review of surface water crossings (such as bridges) to determine their impact on wetlands and floodplains; avoidance and minimization strategies for wetlands; and mitigation plans to compensate for adverse impacts.

Coordinator Feedback: None

- No review submitted from the Federal Highway Administration

Wildlife and Habitat

Coordinator Summary

3 Summary Degree of Effect

Wildlife and Habitat Summary Degree of Effect: Moderate

Reviewed By:
FDOT District 7 (7/31/2007)
Comments:
The Florida Department of Transportation (FDOT) has evaluated the comments from the Florida Fish and Wildlife Conservation Commission (FFWCC) and recommends a Degree of Effect of Moderate. The FDOT acknowledges the comments from the Southwest Florida Water Management District (SWFWMD) and the US Fish and Wildlife Service (USFWS).

Wetland resources and avoidance, compensation, and mitigation of wetlands are described in the Wetlands Degree of Effect. The USFWS, the SWFWMD, and the FFWCC outlined in their comments the species which may occur in and adjacent to the project area based on the potential habitat and range, which includes the woodstork, sandhill crane, Southern Bald Eagle, tricolored heron, snowy egret, little blue heron, white ibis, gopher tortoise, Eastern indigo snake, Florida scrub-jay, American alligator, burrowing owl, limpkin, roseate spoonbill, brown pelican, American oystercatcher, Least tern, peregrine falcon, reddish egret, Florida pine snake, Shermans fox squirrel, southeast American kestrel, short-tailed snake, Florida mouse, piping plover, black skimmer, Marians marsh wren, swallow-tailed kite, river otter, Florida mottled duck, Florida box turtle, eastern diamondback rattlesnake, eastern kingsnake, eastern hognose snake, northern bobwhite, red-headed woodpecker, common ground dove, and eastern cottontail. Endangered sea turtles (Atlantic loggerhead, green sea turtle, and leatherback sea turtle) utilize small beach areas in the Pinellas County Aquatic preserve. The SWFWMD noted the species they observed within the 100-ft. buffer area.

A review of the Geographic Information Systems (GIS) analysis data indicates within the 100-ft. buffer area is the West Indian Manatee, Piping Plover, and Scrub Jay consultation areas, Scrub Jay service area, and Scotts Seaside Sparrow Strategic Habitat and Conservation Area (SHCA). Also, within the mile buffer area is Piedmont Jointgrass, and Sand-dune Spurge.

In accordance with Chapters 3 and 5 of the Environmental Resource Permit Basis of Review, the FDOT will obtain permits that are intended to protect and treat stormwater discharge.

The FDOT anticipates evaluation and consideration of the recommendations from the commenting

agencies, preparing a Wetland Evaluation/Biological Assessment Report during the projects PD&E Study phase, and coordinating the review of the reports with the USFWS and the FFWCC.

No comments were received from the Federal Highway Administration (FHWA), the Florida Department of Agriculture, and the US Forest Service.

ETAT Reviews for Wildlife and Habitat

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (06/13/2007)
Wildlife and Habitat Effect: Substantial

Coordination Document: Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:
The entire project area within the 500-foot buffer is part of the Springs Coast Ecosystem Management Area.

Upland habitat in the project area as a whole is generally disturbed and/or converted for commercial or residential purposes. Within the 100-foot buffer, 81.5% of the area is disturbed that is either: (1) occupied by utilities, (2) altered for residential purposes (low to medium density residential development), or (3) converted to commercial uses. Land within the 200-foot and 500-buffers that is disturbed or otherwise converted to man-made uses composes 83% and 82% of the area, respectively. Residential and commercial development is denser in the segment of US 19 south of Denton Avenue in Hudson than north of Denton Avenue.

However, some high quality uplands are present in the form of sandhills, hardwood hammocks, hardwood-pine forests, and pine flatwoods. While occupying only 7.5% of the 100-foot buffer corridor, these high quality uplands represent important areas for listed wildlife species that are aquatic or wetland-dependent and that use upland habitats for nesting or denning. Such species that can be expected to utilize these areas in view of the habitats available and geographical location of the project including: woodstork (Endangered), sandhill crane (Threatened), Southern bald eagle (T), tricolored heron (SSC), snowy egret (SSC), little blue heron (SSC), white ibis (SSC). There are reports of listed upland species observed or expected in the area including: gopher tortoise (SSC), eastern indigo snake (T), and Florida scrub jay (T). Within the 200-foot and 500-foot corridors, high quality upland habitats constitute 6.8% and 7.8%, respectively, of the area.

Within 100 feet of the project, there are 18.4 acres of FFWCC Priority Wetlands habitat capable of supporting 7-9 focal species in wetlands. Native wetland habitat types include cypress (FLUCFCS 621), wet prairie (FLUCFCS 643), hardwood swamp (FLUCFCS 617), freshwater marsh (FLUCFCS 641), mixed wetland forest (FLUCFCS 630), and salt water marsh (FLUCFCS 642), and shrub swamp (FLUCFCS 618). Within the 200-foot and 500-foot buffers, the acreage of priority wetlands supporting 7-9 Focal Species totals 36.7 acres and 81.3 acres, respectively. Priority Wetlands supporting 7-9 Focal Species in wetlands within 100 feet of the project are located in S6T24SR17E, S7T24SR17E, S12T24SR16E, S10T25SR16E, S29T25SRR6E, S32T25SR16E, and S30T26SR16E.

The quality of wetland systems within the 100-foot buffer potentially adversely affected varies from good to poor, with the better quality systems located in the northern portion of the project and in the Pithlachascotee River floodplain. Moving outward from the 100-foot buffer, the project directly affects better quality wetland systems in those same two areas. Other smaller wetlands are scattered along the project in other areas, but the largest concentration of better quality systems is

in the two areas just mentioned.

Within the 100-foot corridor, FFWCC has identified 49 acres (9.5%) as Biodiversity Hot Spots supporting 5 or more Focal Species; most of this acreage is located on both sides of the project north of SR 52 and within the floodplain and transition zone of the Pithlachascotee River. Within the 200-foot and 500-foot corridors, FWCC Biodiversity Hot Spots supporting 5 or more Focal Species occupy 93 acres and 267 acres, respectively, of the area, most of which is located in the areas above mentioned.

The entire project area out to the 500-foot buffer is located within the Florida scrub jay consultation area. Therefore, impacts to the Scrub-Jay should be assessed and a Section 7 consultation with the Fish and Wildlife Service should be initiated. A consultation area encompasses all areas where there are known populations of a minimum of 10 pairs of scrub jays.

In addition, there are 2.4 acres of Strategic Habitat Conservation area for Scotts seaside sparrow within 100 feet of the project. Within 200 feet and 500 feet of the project, the Strategic Habitat Conservation Area acreage increases to approximately 5 acres and 13 acres, respectively. A year-round resident of Florida, Scotts seaside sparrow inhabits coastal salt marshes and is a SSC.

Listed species known to be present within 500 feet of the project, according to information from the Werner-Boyce Salt Springs State Park and the Pinellas County Aquatic Preserve include: gopher tortoise (SSC), eastern indigo snake (T), American alligator (SSC/T(S/A)), little blue heron (SSC), burrowing owl (SSC), tricolored heron (SSC), snowy egret (SSC), wood stork (E), Florida Sandhill Crane (T), white ibis (SSC), Southern bald eagle (T), limpkin (SSC), roseate spoonbill (SSC), brown pelican (SSC), American oystercatcher (SSC), and Least Tern (T), Peregrine Falcon (E), Reddish Egret (SSC), Florida scrub jay (T), and White Ibis (SSC).

Listed species expected to be present within 500 feet of the project but not previously reported include: Florida pine snake (SSC), Shermans fox squirrel (SSC).

During field reviews conducted on May 06 and May 15, 2007, environmental scientists observed foraging, nesting, and denning habitat for the following protected species within 100 feet of the project: gopher tortoise, eastern indigo snake, Florida burrowing owl, wood stork, little blue heron, southeast American kestrel, snowy egret, American alligator, tricolored heron, snowy egret, wood stork, Florida Sandhill Crane, white ibis, Southern bald eagle, roseate spoonbill, American oystercatcher, Florida scrub jay, and white Ibis.

There are a total of 23 eagles nests reported within five miles of the project, with last recorded activity dates ranging from 1990 to 2003. Of the 23 nests, two (P5017, P5020) are located within 1500 feet. Of those two, one nest is located in S6T24SR17E within the 660-foot No Activity Zone; its last reported activity date was 2003. During field visits on May 06 and May 15, 2007, environmental scientists did not observe any eagles nests; however, it will be necessary to confirm the absence of nests within the project impact area. If natural events or storms destroy a nest or a nest tree, USFWS recommends that the No Activity Guidelines apply through two complete breeding seasons. A nest is considered abandoned if it is inactive (unused) but intact or partially intact through five complete breeding seasons, in which case the No Activity Guidelines no longer apply.

Endangered sea turtles (Atlantic loggerhead, green sea turtle, and leatherback sea turtle) utilize small beach areas in the Pinellas County Aquatic Preserve.

Comments on Effects to Resources:
The project will eliminate upland habitat within the footprint of the roadway improvements and associated facilities. Deviating from the alignment of the proposed improvement outside of the 100-foot buffer on US 19 will adversely affect more remaining upland habitats. The projects impact on wildlife and habitat include:

(1) The further fragmentation of remaining uplands and wetlands,
(2) The elimination of wetland and upland habitat utilized by listed species
(3) The disruption of foraging areas for listed species,
(4) The disturbance of wetland edges, reducing their habitat quality; and
(5) The degradation of water quality in wetlands and streams by construction activities and untreated or under-treated stormwater runoff. Following construction, undesirable non-native plant species may invade disturbed habitats, further degrading former high quality habitats. This may eliminate or impair The FFWCC Priority Wetlands and Biodiversity Hot Spots located immediately adjacent to US 19.

Animals crossing the widened SR 19 will be at additional risk of vehicular impact and death. This project impact is of particular concern to the conservation areas of Werner-Boyce Salt Springs State Park and the Weeki Wachee Preserve, currently protected from development and encroachment, thus more suitable to support wildlife. Further, the project may cause additional isolation of small animal populations on either side of the roadway, as the presence of the roadway will lower the ability of wildlife to move across the facility to the remaining habitats on either side of the highway.

Temporary impacts during construction include noise, dust, habitat damage, and potential turbidity in the waters near the project area. Strictly limiting construction equipment to the road right-of-way and designated staging areas may limit excessive habitat damage. Turbidity, addressed in the ERP, can be reduced by the use and maintenance of effective stormwater pollution prevention and control measures that are appropriate to the terrain involved.

Additional Comments (optional):
The District considers the degree of effect as Substantial due to the following:
(1) Acres of upland and wetland habitat that will be eliminated and/or degraded,
(2) The further fragmentation of the upland and floodplain habitats,
(3) The potential to produce major impact on public conservation lands
(4) The potential to eliminate existing remnants of high quality habitat,
(5) The high potential for the elimination of foraging and roosting habitat for Listed Species in floodplain and isolated wetland areas,
(6) The elimination or impairment of Priority Wetlands and Biodiversity Hot spots; the direct impact to Listed Species, which would be adversely affected during construction, and
(7) The expected increase in animal fatalities on the roadway due to the increased width of the pavement.

An Environmental Resource Permit will be required for this project. However, the final determination of the type of permit will depend upon the final design configuration.

The FDOT must provide reasonable assurance that the design, construction and operation of the project will not impact the values of wetlands, other surface waters and other water related resources of the District so as to cause adverse impacts to the:
(a) Abundance of fish, wildlife, and listed species and
(b) Habitat of fish, wildlife, and listed species (ERP Basis of Review 3.2.2).

Because of the documented presence of Listed Species, it is recommended that the FDOT conduct a specific wildlife survey of the habitats within and immediately adjacent to the ROW for the purposes of:
(a) Quantifying the diversity of species using the habitats,
(b) Identifying the Listed Species using the habitats,
(c) Determining the nature of the utilization by Listed Species (foraging, cover, protection, breeding), and
(d) Determining the abundance of wildlife utilizing the habitats. The survey should result in specific recommendations for eliminating and/or reducing adverse impacts including wildlife crossings and protection measures.

The new roadway will increase animal fatalities. Birds, amphibians, and reptiles moving across the roadway will be at additional risk upon completion of the project. The District recommends a survey to determine the actual amount of animal traffic across the project corridor, as it now exists. The FDOT should analyze the collected data to determine the value of wildlife crossings and other accommodations. Coordination with FFWCC, USFWS and Bureau of Imperiled Species Management will be required for wetland-dependent listed species. The District recommends that the FDOT prepare a Wetland Evaluation Report (WER) and an Endangered Species Biological Assessment (ESBA) for further analysis.

Coordination with FFWCC, USFWS and Bureau of Imperiled Species Management will be required for the following Listed Species, known to use the project corridor or have a high probability of using the project corridor for foraging, roosting, nesting, travel, and cover: wood stork, Florida sandhill crane, and eastern indigo snake. The high probability of the eastern indigo snake occurring within the project area will require consultation with the US Fish and Wildlife Service (USFWS) and implementation of the Eastern Indigo Snake Standard Protection Measures. Given the potential that there may be an active eagles nest within the 660-foot Zone, it may be necessary for the FDOT to comply with USFWS June 5, 2006 Guidance Memo, CONSTRUCTION ACTIVITIES ADJACENT TO BALD EAGLE NESTS - 2006 Revision.

Coordination with the FFWCC will be required to obtain the appropriate permits to relocate or take any tortoises impacted because of the proposed project. If tortoises are present within the construction zones of the selected Alternative, permits and a management plan including details on relocation and mitigation may be required. Several other species are known as commensals in gopher tortoise burrows, including gopher frog (SSC), Florida pine snake (SSC), and Florida mouse (SSC).

The project has the potential for both temporary and permanent impacts to wetland-dependent wildlife and habitat. Temporary impacts during construction include noise, dust, habitat damage outside of ROW, and turbidity in the ditches crossing the project area. ERP will address turbidity and may require the use and maintenance of effective control measures that are appropriate to the terrain involved.

The District recommends following an approved Stormwater Pollution Prevention Plan (SWPPP), or Construction Surface Water Management Plan (BOR Section 2.8), prepared during the design phase of this project in order to minimize turbidity and degradation of water quality during the construction phase of the new roadway alignment.

The FDOT should conduct specific surveys to detect the occurrence and abundance of wildlife, both listed and non-listed, in order to assess the impact of the project on animals and plants and to determine the need for wildlife accommodations at particularly important locations along the project. The FDOT should update and consider the latest FFWCC data on the project site to reduce wildlife impacts. The FDOT should analyze the collected data to determine the necessity and value of wildlife crossings.

For a project to meet permit criteria, it must be not contrary to the public interest. Chapter 3.2.3 of the SWFWMD Basis of Review describes the items to be reviewed when determining what is and is not contrary to public interest, and 3.2.3 specifically details impact to the conservation of fish and wildlife habitat, including endangered or threatened species, or their habitats, as well as impacts to public recreation. The District may consider such impacts as contrary to the public interest.

Coordinator Feedback: None

3 ETAT Review by Scott Sanders, FL Fish and Wildlife Conservation Commission (06/08/2007)
Wildlife and Habitat Effect: Moderate

Coordination Document: To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:
The Habitat Conservation Scientific Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #9047 in Pasco County, and provides the following comments related to potential impacts to fish and wildlife resources on this Programming Phase project.

The Project Description Summary states that the work involves operational capacity improvements to US-19 and Interchange improvements at the intersections of SR-54, Ridge Road, SR-52, and County Line Road. The 19.7-mile-long project area is located in the far western portion of Pasco County just inland from the Gulf coast. No information was provided in terms of the amount of new Right-of-way (ROW) needed for this capacity improvement project outside of the presently cleared roadway corridor.

A GIS analysis of fish, wildlife, and habitat resources was conducted within 500 feet on either side of the existing Right-of-way (ROW). This screening shows that the project area is predominately characterized by urban land uses which comprise about 79 percent (1,957 acres), while 10 percent (188 acres) is uplands and 4 percent (88 acres) herbaceous and forested wetlands. Wetland plant community types are represented by cypress swamp, freshwater marsh and wet prairie, hardwood swamp, mixed wetland forest, shrub swamp, and coastal saltmarsh, Upland types include dry prairie, hardwood hammock, mixed pine-hardwood forests, pinelands, shrub and brushland, and sandpine scrub. The habitat value of these communities is rated as good to excellent according to the following FWC GIS resource data layers created by past vegetation modeling efforts: Biodiversity Hotspots capable of supporting 5 to 6 and 7 or more focal species; and Priority Wetlands capable of supporting up to 4 to 6 species in upland areas, and 7 to 9 species in wetlands areas. Furthermore, Strategic Habitat Conservation Areas have been established adjacent to the project area for Scotts seaside sparrow.

Based on known range and preferred habitat types, the following wildlife species have the potential to occur within and be impacted by the project: gopher tortoise (SSC), short-tailed snake (T), eastern indigo snake (T), Shermans fox squirrel (SSC), Florida mouse (SSC), brown pelican (SSC), little blue heron (SSC), white ibis (SSC), piping plover (T), wood stork (E), bald eagle (T), Southeastern American kestrel (T), peregrine falcon (E), limpkin (SSC), American oystercatcher (SSC), least tern (T), black skimmer (SSC), Florida scrub jay (T), and possibly Marians marsh wren (SSC).

In addition, public lands of the Weekiwachee Preserve managed by the Southwest Florida Water Management District, and the Florida Department of Environmental Protections Werner-Boyce Salt Springs State Park, occur immediately adjacent to the project area. The project area is also within the U.S. Fish and Wildlife Consultation Area for the West Indian manatee, piping plover, and Florida scrub jay.

The following species, while not officially listed by our agency, have been determined to be sensitive; have a high agency priority for habitat conservation and protection; and may also occur within this regions remnant upland and wetlands plant community types: swallow-tailed kite, river otter, Florida mottled duck, Florida box turtle, eastern diamondback rattlesnake, eastern kingsnake, eastern hognose snake, northern bobwhite, red-headed woodpecker, common ground dove, and eastern cottontail.

Comments on Effects to Resources:
Direct impacts from the project could be minimal to moderate based on the amount of new ROW needed, the length of the project area, and the type and amount of habitat lost to new ROW expansion and Interchange improvements. Impacts to public lands should be addressed in terms of recreational access, in addition to issues concerning the ability to continue to use prescribed fire as a management tool. Memorandums of Agreement between the Florida Department of Transportation and state agency land managers for planned protocol and cooperation during controlled burn events, the use of digital warning signs for smoke and speed limit reductions, and funding of public information campaigns on the benefits and need for managing vegetation using fire are recommended. Our agency biologists can cooperate and provide technical assistance in this regard, as they have on other highway projects such as the SR-40 project in Lake and Marion Counties.

Additional Comments (optional):
The following recommendations and Best Management Practices (BMPs) are offered for consideration in performing the future PD&E Study to achieve a project design which avoids, minimizes, or mitigates project impacts to wildlife species and their habitat:

1. A vegetative cover map and accounting by acreage for each plant community type should be made for the affected project area. Compensatory mitigation for all upland and wetland habitat loss should be accomplished. If wetlands are mitigated under the provisions of Chapter 373.4137 F.S., the proposed mitigation sites should be located within the immediate or same regional area; be functionally equivalent; equal to or of higher functional value; and as or more productive as the impacted wetlands. Land acquisition and restoration of appropriate tracts adjacent to existing public lands, or tracts placed under conservation easement or located adjacent to large areas of jurisdictional wetlands that currently serve as regional core habitat areas, would be supported by our agency. An all-important focus of the selection process for mitigation lands for this project should include a strong consideration of, and habitat replacement for, the birds, mammals, amphibians, and reptiles both listed and unlisted which are discussed above as potentially occurring in the project area.

2. Surveys for listed species should be accomplished within and adjacent to the ROW and proposed sites for Drainage Retention Areas (DRAs). The methodology for these surveys should be coordinated with FWC early in the PD&E Study and follow appropriate survey techniques or guidelines to determine presence, absence, or probability of occurrence of various species, and to assess habitat quality. These study methods should be designed considering the potential listed species discussed above. Please note that some species such as the Florida scrub jay are known to use atypical habitat types and transitional habitat areas; therefore, due diligence and thorough coverage during field investigations are key to adequately determining presence or absence of these and other species. Based on the survey results, a plan should be developed to address direct, indirect, and cumulative impacts of the project on wildlife and habitat resources, including listed species. Avoidance, minimization, and mitigation measures should also be formulated and implemented.

3. We recommend that FDOT develop and implement customized BMPs especially formulated for this project as they pertain to dredging and filling, control of siltation and turbidity, and the nutrient loading associated with discharge of roadside runoff, to reduce impacts within freshwater wetlands and riparian systems. These BMPs should be implemented only after all efforts to avoid and minimize impacts are completed. For example, bridging moderate-sized wetlands and streams and their floodplains reduces both the loss and degradation of habitat, in addition to promoting both hydrological and habitat connectivity.

4. Construction equipment staging areas; storage of oils, greases, and fuel; fill and roadbed material; and equipment maintenance activities should be sited in previously disturbed areas far removed from streams, wetlands, or surface water bodies. Staging areas, along with borrow areas,

should also be surveyed for listed species.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Terry Gilbert at (850) 402-6311 or email terry_gilbert@urscorp.com to initiate the process for further coordination on this project.

Coordinator Feedback: None

2 ETAT Review by Todd Samuel Mecklenborg, US Fish and Wildlife Service (06/11/2007)
Wildlife and Habitat Effect: Minimal

Coordination Document: Tech Memo Required

Dispute Information:N/A

Identified Resources and Level of Importance:
Federally listed plant and animal species, migratory birds, the habitats they occupy and are supported by (foraging, sheltering, and breeding), and wetlands. These trust resources have a high level of importance.

Comments on Effects to Resources:
The Service has reviewed our Geographic Information Systems (GIS) database and the GIS database on the Environmental Screening Tool for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The Services GIS database is a compilation of data received from several sources. After a literature review utilizing the 200 foot buffer of the proposed alignments, the Service has the following comments and recommendations:

Due to the urban location of the proposed action, the Service recommends that the areas impacted associated with the mainline improvements be surveyed for listed species. This would include stormwater management ponds, floodplain compensatory sites, and construction staging areas.

The Service would recommend that wetlands in the project area be delineated and evaluated using an evaluation technique such as the Wetland Rapid Assessment Procedure (WRAP) or the Uniform Mitigation Assessment Method (UMAM). If impacts to wetlands are unavoidable, the Service would recommend minimizing the impacts to the greatest extent practicable and that all impacts to wetlands are mitigated. Mitigation should be in-kind and within the same watershed basin as the proposed impact.

Additional Comments (optional):
Comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712 et seq.), and the Marine Mammal Protection Act of 1972 (MMPA), as amended (16 U.S.C. 1361 et seq.).

Coordinator Feedback: None

- No review submitted from the FL Department of Agriculture and Consumer Services
- No review submitted from the Federal Highway Administration

APPENDIX D

UMAM Data Sheets

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

Site/Project Name	Application Number	Assessment Area Name or Number (group 1)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2111-E, 2115-E, 2116-E, 2118-W, 2939-E, 2956-E

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630	PFO	Impact	0.6

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Basin		

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

Maintained, linear drainage swales run adjacent to these scattered forested wetlands amongst a commercial US 19 corridor.

Assessment area description

Fringe of a forested wetland system within or adjacent to the existing maintained right-of way of US 19, east side of road.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Werner-Boyce Salt Springs State Park, Wetstone/Birkovitz Outstanding Florida Water, Pithlachascottee River, Double Hammock Creek	none

Functions	Mitigation for previous permit/other historic use
Water storage, nutrient assimilation/water quality improvement, wildlife habitat for small to medium sized urban animals.	none

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)
small to medium sized urban animals	none

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Stephanie Morse, HDR Engineering	30-Aug-07

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 (group 1)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2111-E, 2115-E, 2116-E, 2118-W, 2939-E, 2956-E
Impact or Mitigation (group 1)	Assessment conducted by:	Assessment date:
Impact	Stephanie Morse, HDR Engineering	30-Aug-07

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: 3	with: 0
There is little habitat support in these roadside fringes of forested wetlands. They are within or directly adjacent to US 19 existing right-of-way and are surrounded by high intensity urban land uses.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 4	with: 0
Functions include water storage and attenuation. They have been altered by roadway ditching and surrounding urban land use. Hydrology is generally sufficient to maintain wetland, but impacted by ROW use/management.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0
The most common tree species observed were Cypress (*Taxodium* spp.), red maple (*Acer rubrum*) and laurel oak (*Quercus laurifolia*) with scattered pines (*Pinus* spp.).		

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.43	with: 0

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

For impact assessment areas
FL = delta x acres =
0.43 x 0.60 = 0.26

Delta = [with-current]
0.43

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number (group 2)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1 or 2)		Wetland Stationing: 2433-W

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641	PEM	Impact	0.014

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Basin		Outstanding Florida Waters

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

This drainageway is hydrologically connected to a larger forested system within the Werner-Boyce Salt Springs State Park and Wetstone/Birkovitz OFW.

Assessment area description

The assessment area, near a culvert headwall, is mowed regularly and possibly chemically treated for nuisance vegetation.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Werner-Boyce Salt Springs State Park, Wetstone/Birkovitz Outstanding Florida Water, Pithlachascottee River, Double Hammock Creek	

Functions	Mitigation for previous permit/other historic use
Water storage, nutrient assimilation/water quality improvement, foraging for wading birds.	

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)
Wading birds, small urban animals	

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Stephanie Morse, HDR Engineering	30-Aug-07

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 (group 2)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1 or 2)		Wetland Stationing: 2433-W
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Stephanie Morse, HDR Engineering	30-Aug-07

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

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The assessment area is either within the Werner-Boyce Salt Springs State Park or directly adjacent to the conservation's boundary. However, the area provides little to no landscape support due to the lack of tree, shrub or vegetation coverage due to the regular mowing and/or herbicide treatment and the close proximity to US 19.	5	0
.500(6)(b)Water Environment (n/a for uplands)	Functions include water storage/attenuation; altered by roadway ditches and culverts and surrounding land use. Hydrology is generally sufficient to maintain wetland, but impacted by FDOT ditching/ROW use/management. Waters may be considered part of the Wetstone/Birkovitz OFW.	5	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The entire assessment is mowed and maintained regularly leaving the area with no shrubs or trees. The herbaceous vegetation consisted of mowed grasses.	2	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0

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

For impact assessment areas
FL = delta x acres =
0.40 x 0.01 = 0.01

Delta = [with-current]
0.40

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 3)		Wetland Stationing: 2433-W

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641	PEM	Impact	0.003

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e OFW, AP, other local/state/federal designation of importance)
Upper Coastal Basin		Outstanding Florida Waters

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

This drainageway is hydrologically connected to a larger forested system within the Werner-Boyce Salt Springs State Park and Wetstone/Birkovitz OFW.

Assessment area description

The assessment area, near a culvert headwall, is mowed regularly and possibly chemically treated for nuisance vegetation.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Werner-Boyce Salt Springs State Park, Wetstone/Birkovitz Outstanding Florida Water, Pithlachascottee River, Double Hammock Creek	

Functions	Mitigation for previous permit/other historic use
Water storage, nutrient assimilation/water quality improvement, foraging for wading birds.	

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)
Wading birds, small urban animals	

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Stephanie Morse, HDR Engineering	30-Aug-07

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
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 3)		Wetland Stationing: 2433-W
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Stephanie Morse, HDR Engineering	30-Aug-07

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

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The assessment area is either within the Werner-Boyce Salt Springs State Park or directly adjacent to the conservation's boundary. However, the area provides little to no landscape support due to the lack of tree, shrub or vegetation coverage due to the regular mowing and/or herbicide treatment and the close proximity to US 19.	5	0
.500(6)(b)Water Environment (n/a for uplands)	Functions include water storage/attenuation; altered by roadway ditches and culverts and surrounding land use. Hydrology is generally sufficient to maintain wetland, but impacted by FDOT ditching/ROW use/management. Waters may be considered part of the Wetstone/Birkovitz OFW.	5	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The entire assessment area is regularly mowed and maintained leaving the area with no shrubs or trees. The herbaceous vegetation consisted of mowed grasses.	2	0

Score = sum of above scores/30 (if uplands, divide by 20)		
	current or w/o pres	with
	0.40	0

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

For impact assessment areas
FL = delta x acres =
0.40 x 0.00 = 0.001

Delta = [with-current]
0.40

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number (group 3)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2644-W, 2644-E

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510	R2UBx	Impact	0.089

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Basin		

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

Part of the Bear Creek riverine system that drains west into the Werner-Boyce Salt Springs State Park and Wetstone/Birkovitz OFW.

Assessment area description

The assessment area at the culvert on the west side of US 19 is thick with nuisance, weedy vegetation. The culvert on the east side has minimal emergent vegetation with large pieces of concrete stabalizing the banks.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Werner-Boyce Salt Springs State Park, Wetstone/Birkovitz Outstanding Florida Water, Pithlachascottee River, Double Hammock Creek	

Functions	Mitigation for previous permit/other historic use
Water storage, nutrient assimilation/water quality improvement, foraging for wading birds.	

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)
Wading birds, small urban animals	

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Stephanie Morse, HDR Engineering	30-Aug-07

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 (group 3)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2644-W, 2644-E
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Stephanie Morse, HDR Engineering	30-Aug-07

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	0	The assessment area is either within the Werner-Boyce Salt Springs State Park or directly adjacent to the conservation area's boundary. However, the area provides little to no landscape due to the regular maintenance and the close proximity to US 19.
.500(6)(b)Water Environment (n/a for uplands)	5	0	Functions include water storage/attenuation; altered by roadway ditches and culverts and surrounding land use. Hydrology is generally sufficient to maintain wetland, but impacted by FDOT ditching/ROW use/management. Waters drain to the Wetstone/Birkovitz OFW.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	3	0	Culvert on the west side of US 19 is choked with nuisance vegetation; the east side has little to no vegetation and the banks are lined with large pieces of concrete.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.43	0

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

For impact assessment areas
FL = delta x acres =
0.43 x 0.09 = 0.04

Delta = [with-current]
0.43

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number (group 4)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2704-W

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
530	PUB	Impact	0.09

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Basin		

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

Water collected from the east side of US 19 flows underneath US 19 into this isolated wetland for storage and attenuation.

Assessment area description

An isolated open water wetland on the west side of US 19 surrounded by an open, maintained lot-surrounded by residential housing.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Werner-Boyce Salt Springs State Park, Wetstone/Birkovitz Outstanding Florida Water, Pithlachascottee River, Double Hammock Creek	

Functions	Mitigation for previous permit/other historic use
Water storage, nutrient assimilation/water quality improvement, wildlife habitat for small to urban animals.	

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)
Small urban animals	

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Stephanie Morse, HDR Engineering	30-Aug-07

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 (group 4)
US 19 (SR 55) from Pinellas County Line to Hernando County Line (Alternative 1, 2 or 3)		Wetland Stationing: 2704-W
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Stephanie Morse, HDR Engineering	30-Aug-07

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	4	0	Little to no habitat support due to close proximity to US 19 existing right-of-way. Surrounded by high intensity urban land uses.
.500(6)(b)Water Environment (n/a for uplands)	4	0	Inflow is received via an outfall carrying surface water runoff from US 19.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	3	0	The open water area is covered (90+%) by Salvinia sp., blocking sunlight needed for the growth of desirable wetland emergents. There is scattered *Typha* spp. (cattails) throughout. The fringe is shrubby containing *Ludwigia* spp. (Primrosewillow), *Schinus terebinthifolius* (Brazilian pepper), *Myrica cerifera* (wax myrtle).

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.37	0

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

For impact assessment areas
FL = delta x acres =
0.37 x 0.09 = 0.03

Delta = [with-current]
0.37

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

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

APPENDIX E

Threatened and Endangered Species Records/Data

PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

The eastern indigo snake (*Drymarchon Corais Couperi*) could be present in the project area. To minimize harm to this species, FDOT – District One has committed to implement the following protection measures:

A. Provide eastern indigo snake educational information to employees prior to the initiation of any clearing or construction. An educational exhibit that has been approved by USFWS shall be posted conspicuously at a site accessible to all employees and a handout will be distributed to employees.

B. The Contractor shall post and distribute educational information to all its workers. The exhibit and brochure shall include photographs of the eastern indigo snake, information on life history and legal protection of the species in Florida, and how to avoid impacts to the species. This material shall be supplied to the contractor by the Construction Environmental Liaison at the pre-construction conference.

C. All construction activities shall cease if live indigo snakes are found within the project area. Work may resume after the snake or snakes are allowed to leave the area on their own.

D. Location of live sightings shall be reported to the Construction Environmental Liaison.

E. If a dead indigo snake is found on the project site, the snake shall be frozen as soon as possible and the Construction Environmental Liaison shall be notified immediately for further instructions.

EASTERN INDIGO SNAKE EDUCATION PLAN

It has been determined through coordination with USFWS that the eastern indigo snake (*Drymarchon Corais Couperil*) may be present in the project area of FDOT - District One roadway improvement projects. In an effort to reduce any potential harm to this species, FDOT has developed the following plan to educate the Contractor and its employees of the possible presence of the protected eastern indigo snake in the project area prior to and during construction.

1. FDOT will inform the Contractor of the possible presence of the eastern indigo snake at the pre-construction meeting.
2. FDOT will provide a description of the eastern indigo snake to the contractor along with information on the ecology of the species at the pre-construction meeting.
3. FDOT will have color photographs of the eastern indigo snake at the pre-construction meeting.
4. FDOT will inform the contractor on the protection status of the eastern indigo snake and penalties that may be imposed if regulations are violated at the pre-construction meeting.
5. FDOT will at the pre-construction meeting provide to the contractor a sufficient number of exhibits to be conspicuously posted at the construction site so that the information is

available to all construction employees. In addition, FDOT shall provide sufficient number of copies of the brochure to be distributed to construction personnel.

6. FDOT or its representative will verify that the contractor has conspicuously posted the exhibit(s) prior to the construction.

7. FDOT or its representative will periodically, during the construction of the project, inspect the eastern indigo snake exhibit(s) posted at the project. FDOT or its representative will, after the inspection, immediately inform the contractor of any exhibit(s) which is (are) damaged/illegible or need(s) to be replaced.

Morse, Stephanie

From: Swan, Jennifer [Jennifer.Swan@MyFWC.com]
Sent: Thursday, August 18, 2005 2:00 PM
To: Morse, Stephanie
Subject: RE: 2004 Eagle data update-US19

Stefanie,
Here's the 2004 and 2005 information on those nests:

	2004	2005
HN14	not active	gone
PS03	active	active and relocated to 14.24/42.54
PS06	occupied by owls	not active
PS07	active	active and coord. corrected to 24.43/39.96
PS16	remnant nest	remnant
PS17	gone	gone
PS18	active	active
PS20	active	gone
PS21	active	active and coord. corrected to 13.07/44.92

Please let me know if I can be of further assistance
Jennifer

From: Morse, Stephanie [mailto:Stephanie.Morse@hdrinc.com]
Sent: Wednesday, August 10, 2005 9:40 AM
To: Swan, Jennifer
Subject: 2004 Eagle data update-US19

Jennifer,

I have attached a study area boundary and clipped Eagle 2003 data. Could you please tell me if any new nests have been found and the 2004 status of the nest IDs within the clipped shapefile? The attachment extension has to be changed to .zip so you can unzipped it (wouldn't go through as a zip).

I greatly appreciate your help!

FYI-are you aware of any data for bird rookeries other than the 1999 FWC data?

Thanks,

Stephanie Morse
GIS Coordinator

HDR ONE COMPANY | *Many Solutions*
2202 N Westshore Blvd.| Tampa, FL | 33607-5755
Phone: 813-282-2452 | Fax: 813-262-2797 |Email: smorse@hdrinc.com

Morse, Stephanie

From: Bill Pranty [billpranty@hotmail.com]
Sent: Friday, September 14, 2007 11:23 AM
To: Morse, Stephanie
Subject: RE: US 19: Pasco County: scrub jays

Attachments: FSJs near US-19 in Hudson.jpg

FSJs near US-19 in Hudson.jpg ...

Hi Stephanie,

My apologies for not getting this to you sooner, especially if you have already submitted your report. The attached map shows the locations within 0.5 miles of US-19. All date to 2003--2005; none of these locations is known to be occupied currently.

There are two 2007 sightings reported by others beyond 0.5 miles of US-19; these are not shown on the attached map.

My best,

Bill