# NATURAL RESOURCES EVALUATION REPORT

Florida Department of Transportation

District One

S.R. 70 PD&E Study

Limits of Project: From C.R. 721 S to C.R. 599/128th Avenue

Highlands and Okeechobee Counties, Florida

Financial Management Number: 450334-1-22-01

ETDM Number: 14491

Date: November 2025

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

## TABLE OF CONTENTS

## TABLES



## FIGURES

## APPENDICES

# EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study for State Road (SR) 70 in Highlands and Okeechobee Counties from County Road (CR) 721 South to CR 599/128th Avenue. The project limits span approximately 8.6 miles. The purpose of the PD&E Study is to evaluate and document the benefits, costs, and impacts of widening SR 70 from the existing two-lane undivided roadway to a four-lane divided roadway. Also evaluated was the addition of multi-modal improvements. The PD&E study will aid FDOT District One in reaching a decision on the type, preliminary design, and location of the proposed improvements. The study was conducted to meet the requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules, and regulations.

The Natural Resources Evaluation (NRE) evaluates the possible impacts to wetland and surface water systems and federal and state protected species related to construction of the Preferred Alternative. The identification of measures to avoid, minimize, and mitigate for any potential impacts is also discussed. A summary of the analysis of potential project impacts for the proposed improvements to SR 70 is presented below.

The Preferred Alternative has a rural typical section with an open drainage system (ditches) for the four-lane construction. The 260-foot typical section includes two 12-foot travel lanes in each direction, a 40-foot median, 12-foot shoulders, and one 12-foot shared use path on the east side of the roadway. Design and posted speeds of 65 miles per hour (mph) are proposed. The Kissimmee River bridge will be replaced with two new bridges and a second bridge will be added to the Slough Ditch (C-41A Canal) roadway crossing. A new stormwater management system will be constructed.

## PROTECTED SPECIES AND HABITATS

The project study area was evaluated for potential occurrences of federal and state protected plant and animal species in accordance with the Protected Species and Habitat chapter of the PD&E manual, Section 7 of the Endangered Species Act of 1973, as amended, and Chapters 5B-40 and 68A-27 of the Florida Administrative Code (F.A.C.). The evaluation included literature and database reviews, as well as field assessments of the project study area to identify the potential occurrence of protected species and/or presence of federal-designated Critical Habitat.

Based on evaluation of collected data and field reviews, the federal and state listed species discussed in **Table ES1** and **Table ES2** were observed or were determined to have the potential to occur within or adjacent to the project area. An effect determination was made for each of these federal and state listed species based on an analysis of the potential impacts of the proposed project on each species. The project is not within Critical Habitat for any species; therefore, no destruction or adverse modification of Critical Habitat will occur.

**Table ES1: Federal Listed Species Effect Determinations**

| Project Effect | Federal Listed Species |
|---|---|
| **No Effect** | **BIRDS** |
| | Red-cockaded woodpecker (*Picoides borealis*) |
| | Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) |
| | Florida scrub-jay (*Aphelocoma coerulescens*) |
| | Snail kite (*Rostrhamus sociabilis plumbeus*) |
| | Eastern black rail (*Laterallus jamaicensis*) |
| | **MAMMALS** |
| | Florida bonneted bat (*Eumops floridanus*) |
| | **PLANTS** |
| | Britton's beargrass (*Nolina brittoniana*) |
| **May affect, not likely to adversely affect** | **REPTILES** |
| | Eastern indigo snake (*Drymarchon corais couperi*) |
| | **BIRDS** |
| | Wood stork (*Mycteria americana*) |
| | **MAMMALS** |
| | West Indian manatee (*Trichechus manatus*) |
| | Florida panther (*Puma concolor coryi*) |
| **May affect, likely to adversely affect** | **BIRDS** |
| | Crested caracara (*Caracara plancus audubonii*) |
| **N/A*** | Tricolored bat (*Perimyotis subflavus*) |
| | Monarch butterfly (*Danaus Plexippus*) |

*The tricolored bat and monarch butterfly are proposed for federal listing and do not have project effect determinations at this time.

**Table ES2: State Listed Species Effect Determinations**

| Project Effect | State Listed Species |
|---|---|
| **No adverse effect anticipated** | **REPTILES** |
| | Gopher tortoise (*Gopherus polyphemus*) |
| | Florida pine snake (*Pituophis melanoleucus mugitus*) |
| | **BIRDS** |
| | Florida sandhill crane (*Antigone canadensis pratensis*) |
| | Florida burrowing owl (*Athene cunicularia floridana*) |
| | Little blue heron (*Egretta caerulea*) |
| | Tricolored heron (*Egretta tricolor*) |
| | Southeastern American kestrel (*Falco sparverius paulus*) |
| | **PLANTS** |
| | Giant wild-pine (*Tillandsia utriculata*) |
| | Cardinal wild-pine (*Tillandsia fasciculata*) |
| | Pine lily (*Lilium catesbaei*) |
| | Yellow fringeless orchid (*Platanthera integra*) |
| | Celestial lily (*Nemastylis floridana*) |

| Project Effect | State Listed Species |
|---|---|
| | Cutthroatgrass (*Coleataenia abscissa*) |
| | Piedmont jointgrass (*Coelorachis tuberculosa*) |
| **No effect anticipated** | **BIRDS** |
| | Least tern (*Sternula antillarum*) |
| | **PLANTS** |
| | Many-flowered grass-pink (*Calopogon multiflorus*) |
| | Florida beargrass (*Nolina atopocarpa*) |
| | Small's flax (*Linum carteri var. smallii*) |
| | Sand butterfly pea (*Centrosema arenicola*) |
| | Ashe's savory (*Calamintha ashei*) |
| | Giant orchid (*Pteroglossaspis ecristata*) |
| | Nodding pinweed (*Lechea cernua*) |

**WETLANDS AND OTHER SURFACE WATERS**

The project study area was evaluated for wetlands and waters in accordance with the Wetlands and Other Surface Waters chapter of the PD&E manual. The Preferred Alternative will directly impact 13.88 acres of jurisdictional wetlands, 2.60 acres of surface waters (C-41A Canal and Kissimmee River), and 25.22 acres of other surface waters associated with fill for new roadway and embankment and construction of stormwater management facilities. This results in a total of 41.70 acres of direct impact overall. Approximately 4.47 acres of secondary impacts are anticipated to wetlands. A Uniform Mitigation Assessment Method (UMAM) analysis was performed and the estimated UMAM functional loss related to the Preferred Alternative impacts results 16.98 functional units for direct impacts and 0.31 functional units for secondary impacts.

FDOT will address all state and federal permitting requirements and provide appropriate compensatory wetland mitigation for final determination of jurisdictional wetland boundaries in future phases of this project. Wetland impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, Florida Statutes (F.S.), to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. § 1344. Mitigation for 14.87 emergent/herbaceous functional loss units and 2.42 forested functional loss units is anticipated to be completed through the purchase of credits from Lake Istokpoga Mitigation Bank or other permitted wetland mitigation banks that offer appropriate credits at the time of permitting.

The results of the PD&E study indicate there are no practicable alternatives to the proposed impacts due to the need to increase roadway capacity and enhance roadway safety. In accordance with Presidential Executive Order (EO) 11990, the FDOT has undertaken all actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Nonetheless, the FDOT has determined that there is no practicable alternative to construction impacts occurring in wetlands.

The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Furthermore, all wetland impacts will be avoided and minimized to the greatest extent possible and have been limited to those areas of previous disturbance and those which are required to meet minimum safety requirements.

## ESSENTIAL FISH HABITAT

This project study area was evaluated for Essential Fish Habitat (EFH) in accordance with the Essential Fish Habitat chapter of the FDOT PD&E Manual and the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). The proposed project is not within EFH. This was confirmed through desktop analysis, field surveys, and National Marine Fisheries Service (NMFS) Efficient Transportation Decision Making (ETDM) comments. Therefore, there is no involvement with EFH.

## WILDLIFE FEATURES

Wildlife features were considered along the project to provide passage for wildlife, particularly the Florida panther and Florida black bear. Documentation of these species in the area is very limited and there are no conservation lands flanking the roadway. However, the project crosses documented landscape-level habitat linkage, ecological greenway, or similar mapped areas where that location is known to be used by wildlife species. Additionally, the Environmental Technical Advisory Team (ETAT) suggested consideration of a wildlife crossing or wildlife feature to reduce and minimize potential increase in motor vehicle accidents. Wildlife walkways or shelves can be constructed and the elevation set above the seasonal high water elevation at the C-41A Canal and the Kissimmee River bridges due to size and regional habitat connectivity to provide passage for protected and unprotected wildlife. FDOT commits to design and construction of wildlife shelves at Slough Ditch (C-41A) Canal and Kissimmee River bridges per current wildlife crossing guidelines. The design details of the wildlife shelves, including evaluation of fencing/funneling and landscape features, will be further evaluated during the design phase.

# 1.0 INTRODUCTION

## 1.1.1 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study to evaluate the proposed widening of State Road (SR) 70 from County Road (CR) 721 South to CR 599/128th Avenue in Highlands and Okeechobee Counties. The project extends approximately 8.6 miles, as shown in **Figure 1-1**.

SR 70 is part of Florida's Strategic Intermodal System (SIS) highway network and designated state hurricane evacuation route network. As part of the National Highway System, SR 70 is critical in the transportation network as it facilitates local and regional traffic and the movement of goods/freight. The existing typical section consists of a two-lane undivided facility with 10-foot wide travel lanes. There are eight-foot wide shoulders, four feet of which are paved. There are no designated bicycle lanes or sidewalks on either side. The posted speed limit along the project corridor is 60 miles per hour (mph).

The project proposes the widening of the two-lane facility to a four-lane, divided facility and the inclusion of multimodal improvements. The Preferred Alternative is a four-lane divided road with 12-foot wide travel lanes, paved shoulders and turn lanes, and multi-modal improvements (i.e. shared use path) along the corridor. Additional right-of-way (ROW) is needed to accommodate the proposed improvements. Design and posted speeds of 65 mph are proposed.

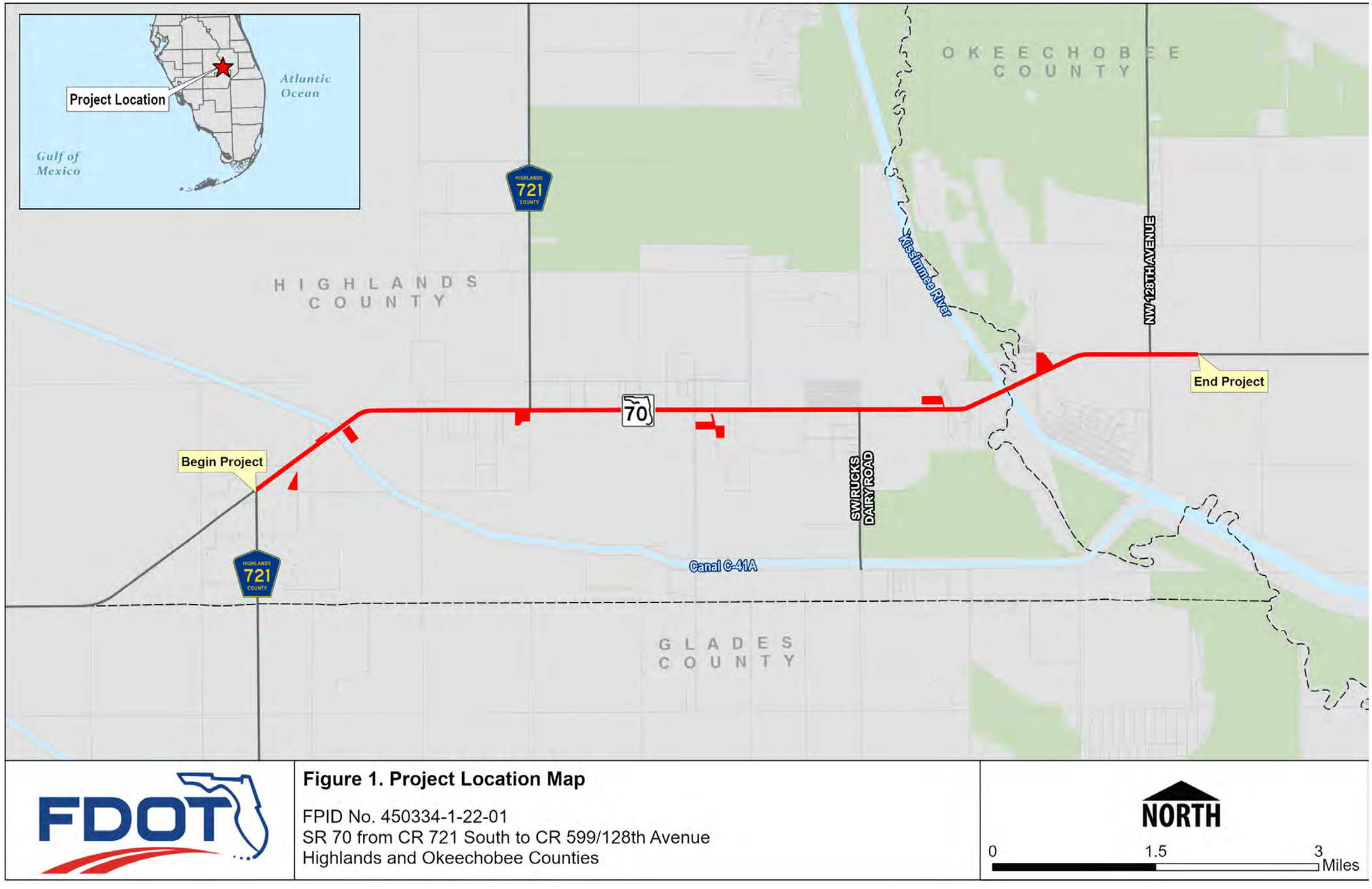
The Natural Resources Evaluation (NRE) evaluates the possible impacts to wetlands and surface waters, federal and state protected species and designated Critical Habitat, and Essential Fish Habitat (EFH) relative to the proposed roadway improvements. The identification of measures to avoid, minimize and mitigate for potential impacts is also discussed.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #14491. The ETAT evaluated the project's effects on various natural, physical and social resources. Comments were received from the U. S. Environmental Protection Agency (EPA), U. S. Army Corps of Engineers (USACE), U. S. National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), Florida Department of Environmental Protection (FDEP), Florida Department of Agriculture and Consumer Services (FDACS), Florida Fish and Wildlife Conservation Commission (FWC), U. S. Coast Guard (USCG), and South Florida Water Management District (SFWMD). All ETAT comments are addressed within this document.

## 1.1.2 PURPOSE AND NEED

The purpose of the project is to address traffic safety conditions on SR 70 from CR 721 S to CR 599/128th Avenue in Highlands and Okeechobee Counties. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area. The need for the project is based on safety, area wide network/system linkage, and transportation demand. By addressing safety, emergency evacuation, traffic safety conditions, and incident response times will improve. Area wide network/system linkage will aid in maintaining important east-west connectivity within the regional transportation network and transportation demand will accommodate freight activity.

**Figure 1-1: Project Location Map**



## 1.2 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

Within the project limits, SR 70 is classified as a “rural principal arterial - other” from CR 721 South to CR 599/128th Avenue. The existing typical section consists of a two-lane, undivided facility with 10-foot travel lanes (one in each direction). There are eight-foot shoulders, four feet of which are paved. There are no turn lanes, and no intersection controls with the exception of a flashing light at CR 721 South. There are two bridges along the corridor, one over the Slough Ditch (C-41A Canal) (bridge #090053) and one over the Kissimmee River (bridge #910001). The Slough Ditch bridge is two-lane with 12-foot wide lanes and ten-foot wide shoulders while the Kissimmee River bridge is a two-lane bridge with 12-foot lanes and two-foot wide shoulders. There are no designated bicycle lanes or sidewalks present on either side. The posted speed limit along the project corridor is 60 miles per hour. Existing ROW is generally 70-100 feet in Highlands County and 100 feet in Okeechobee County. There is currently no stormwater treatment for the roadway; stormwater is collected in roadside ditches and swales and drains to offsite surface waters and wetlands.

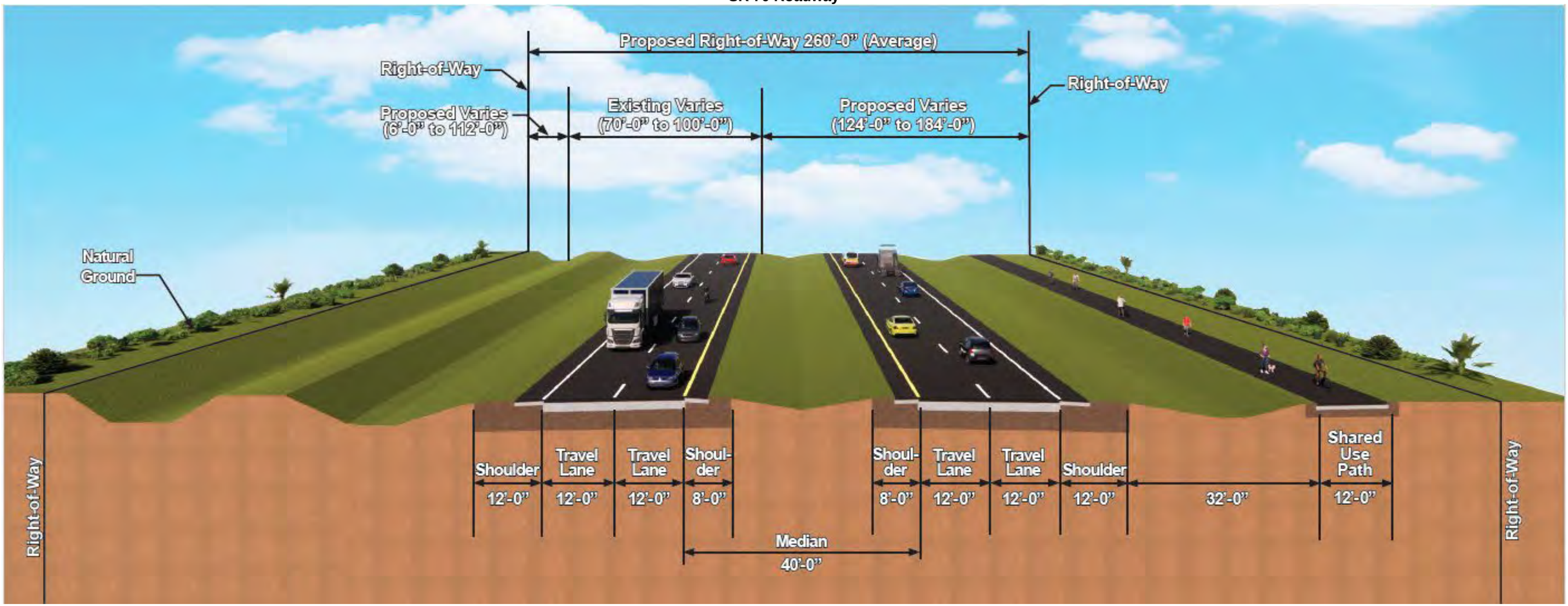
### 1.2.1 PREFERRED ALTERNATIVE DETAILS

The Preferred Alternative has a rural typical section with an open roadway drainage system (ditches) for the four-lane construction. The typical section includes: two 12-foot travel lanes in each direction; a 40-foot median with 8-foot inside shoulders of which 4-feet are paved; 12-foot outside shoulders of which 5-feet are paved; and a 12-foot shared use path on the south side of SR 70 adjacent to the eastbound travel lanes. The total ROW needed is 260 feet. The proposed ROW need is mainly on the south side of SR 70; however, in a couple locations ROW is needed on the north side of SR 70 as portrayed in **Figure 1-2,** the Preferred Alternative typical section. The target, design and posted speed are 65 mph. The Kissimmee River bridge will be replaced with two new bridges, and a second bridge will be added to the Slough Ditch (C-41A Canal) roadway crossing. A new stormwater management system will be constructed.

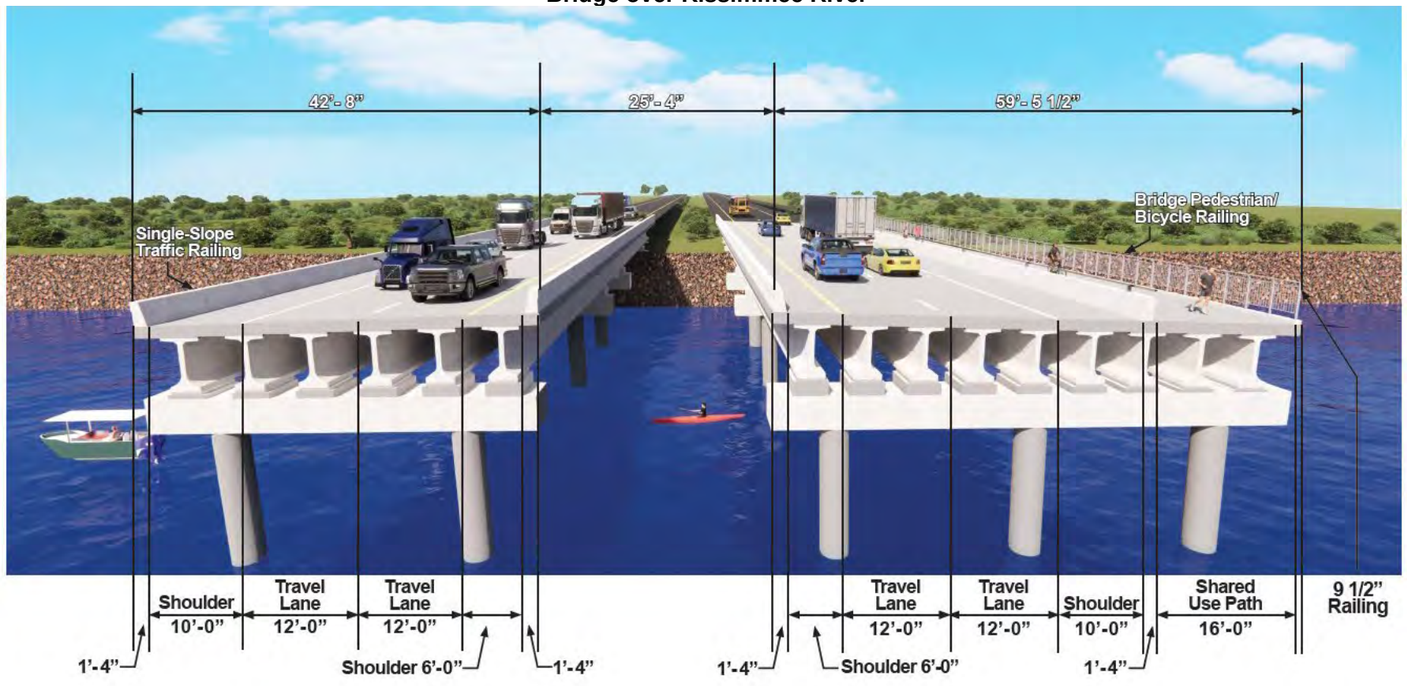
### 1.2.2 STORMWATER MANAGEMENT FACILITIES

New stormwater management facilities (ponds) will be needed for the project. A wetland and protected species technical memorandum was prepared to support the Pond Siting Report (PSR) and is included as an appendix to the PSR. The PSR and other related project documents are included in the project file. The project study area evaluated in this report includes a 500-foot buffer of all the pond alternatives; however the preferred sites, which are the sites currently determined to best meet the stormwater needs of the project, are depicted in **Figure 1-1** as well as several of the following figures.

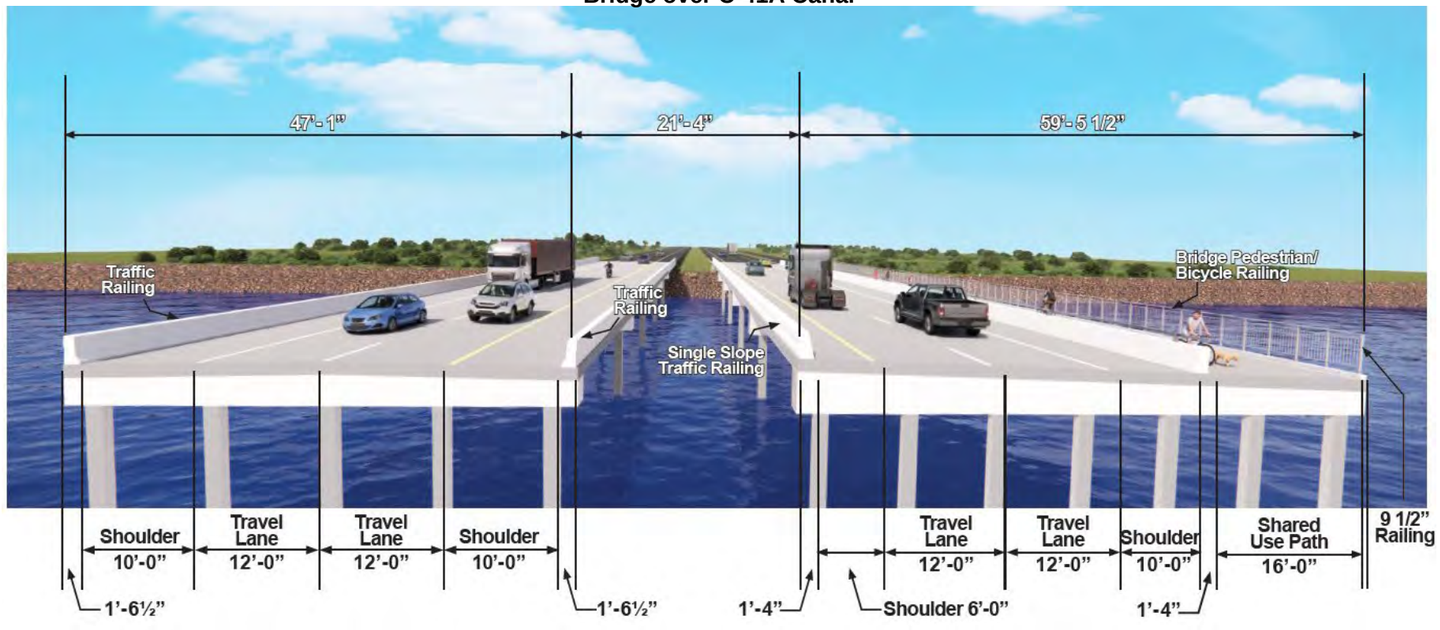
**Figure 1-2: Proposed Typical Section**



**Bridge over Kissimmee River**




**Bridge over C-41A Canal**



# 2.0 EXISTING ENVIRONMENTAL CONDITIONS

This section presents a description of existing conditions within the project study area, including soils and land use/land cover types within both upland and wetland communities. It also includes information on existing conservation lands and easements. For this report, the study area is defined as a footprint extending 500 feet in all directions from the proposed ROW of the Preferred Alternative (including preferred pond sites).

## 2.1 METHODOLOGY

In order to assess the approximate locations and boundaries of existing soils, land use and cover, wetlands and surface waters, and conservation areas within the project area, the following site-specific data was collected and reviewed:

- Aerial photographs: ESRI (2020), Highlands County (2020), Okeechobee County (2020), and FDOT (2021);
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th ed., (Hurt et al. 2007);
- FDOT Environmental Screening Tool. Available online on the Efficient Transportation Decision Making website: fla-etat.org
- FDOT, Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed., January 1999;
- Florida Natural Areas Inventory (FNAI), Natural Communities, 2010
- South Florida Water Management District (SFWMD) FLUCFCS GIS Database (SFWMD 2023);
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Charlotte County, Florida, 1984;
- USDA, NRCS, Soil Survey of Highlands County, Florida, 1989;
- USDA, NRCS, Soil Survey of Okeechobee County, Florida, 1971 and 2003;
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper;
- FDEP, GIS Data
- FNAI, Florida Managed Areas, 2023
- U.S. Geological Survey (USGS) topographical maps;
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

In addition to the desktop data analysis, project biologist familiar with Florida's natural communities conducted site reviews on April 27, 2023, August 15, 2023, and August 16, 2024 to verify and/or refine habitat boundaries and classification codes.

## 2.2 RESULTS

Based on site-specific data searches and field evaluations, a total of 24 soil types, 22 upland habitat types, and 12 wetland, surface water, and other surface water habitat types were identified within the study area. The following subsections describe the soils, land use and vegetative cover, wetland resources, and conservation areas that occur within the project study area.

### 2.2.1 SOILS

The soil types that occur within the study area were determined using the Natural Resource Conservation Service (NRCS) Geographic Information Systems (GIS) soil layer – see **Appendix A** for description of soils. More than 50% of the study area is classified as non-hydric; the common non-hydric soil type within the study area is Immokalee Sand, 0-2% Slopes. The hydric soils comprise 46% of the total study area; the common hydric soil type is Basinger Fine Sand, 0-2% Slopes. **Table 2-1** provides a summary of these soil types, including the general hydric designation, hydrologic group, and percent of the study area. A map of the NRCS soils within the project study area is provided in **Figure 2-1**.

### 2.2.2 LAND USE AND LAND COVER

Land use within the study area consists of agriculture, wetlands, surface waters, and other surface waters (including, but not limited to, FLUCFCS 2110, Improved Pastures; FLUCFCS 2120, Unimproved Pastures; FLUCFCS 2140, Row Crops; FLUCFCS 2420, Sod Farms; FLUCFCS 5100, Streams and Waterways; FLUCFCS 5340, Reservoirs less than 10 acres; FLUCFCS 6190, Exotic Wetland Hardwoods; and FLUCFCS 6400, Vegetated Non-Forested Wetlands). Rural and Low-density residential uses (FLUCFCS 1100, Residential, Low Density; FLUCFCS 1180, Rural Residential; and FLUCFCS 1220, Mobile Home Units) are present towards the east end of the corridor. A summary is provided in **Table 2-2**, the data with field-verified modifications is shown in **Figure 2-2,** and the land use descriptions are provided in **Appendix B**.

The dominant vegetation within the existing ROW is bahia grass (*Paspalum notatum*), which is regularly mowed, with hydrophytic vegetation within some of the roadside ditches. The common hydrophytic vegetation observed was cattail (*Typha domingensis*), pickerelweed (*Pontederia cordata*), soft rush (*Juncus effusus*), and Chapman's arrowhead (*Sagittaria graminea*). Upland forested habitats along the project corridor consist of Upland Hardwood Forest (FLUCFCS 4300) which includes patches of cabbage palm (*Sabal palmetto*) and laurel oak (*Quercus laurifolia*), as well as the nuisance/exotic species Brazilian pepper (*Schinus terebinthifolia*) (FLUCFCS 4220). Several natural wetlands occur within the project limits, including Mixed Wetland Hardwoods (FLUCFCS 6170), Cypress (FLUCFCS 6210), and Wetland Scrub (FLUCFCS 6310). These systems are typically surrounded by agricultural lands with the exception of wetlands hydrologically connected to the Kissimmee River and C-41A Canal. Representative photos are provided in **Appendix C**.

**Table 2-1: Existing NRCS Soil Types within the Study Area**

| County | Soil Number | Soil Type | Hydric Soils | Total Acres (Acres) | Percent of Study Area |
|---|---|---|---|---|---|
| Highlands | 3 | BASINGER FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 33.64 | 1.68% |
| | 4 | DUETTE SAND, 0 TO 5 PERCENT SLOPES | NO | 23.38 | 1.16% |
| | 7 | PLACID FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 20.99 | 1.05% |
| | 8 | IMMOKALEE SAND, 0 TO 2 PERCENT SLOPES | NO | 676.13 | 33.69% |
| | 10 | MYAKKA FINE SAND, 0 TO 2 PERCENT SLOPES | NO | 56.63 | 2.82% |
| | 12 | BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES | YES | 392.66 | 19.57% |
| | 13 | FELDA FINE SAND, 0 TO 2 PERCENT SLOPES | YES | 133.33 | 6.64% |
| | 16 | VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES | YES | 118.89 | 5.92% |
| | 19 | HICORIA MUCKY SAND, DEPRESSIONAL | YES | 4.49 | 0.22% |
| | 20 | SAMSULA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 2.72 | 0.14% |
| | 23 | GATOR MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 13.11 | 0.65% |
| | 24 | PINEDA SAND, 0 TO 2 PERCENT SLOPES | YES | 47.02 | 2.34% |
| | 26 | TEQUESTA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 50.27 | 2.50% |
| | 32 | ARENTS, VERY STEEP | NO | 22.40 | 1.12% |
| | 35 | SANIBEL MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES | YES | 5.25 | 0.26% |
| | 99 | WATER | UNRANKED | 16.88 | 0.84% |
| Okeechobee | 2 | BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES | YES | 44.34 | 2.21% |
| | 3 | BASINGER AND PLACID SOILS, DEPRESSIONAL | YES | 8.42 | 0.42% |
| | 5 | VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES | YES | 21.31 | 1.06% |
| | 11 | IMMOKALEE FINE SAND, 0 TO 2 PERCENT SLOPES | NO | 159.18 | 7.93% |
| | 12 | UDORTHENTS, 2 TO 35 PERCENT SLOPES | NO | 81.52 | 4.06% |
| | 13 | MANATEE, FLORIDANA, AND TEQUESTA SOILS, FREQUENTLY FLOODED | YES | 26.08 | 1.30% |
| | 14 | MYAKKA FINE SAND, 0 TO 2 PERCENT SLOPES | NO | 10.50 | 0.52% |
| | 18 | PARKWOOD FINE SAND | YES | 5.61 | 0.28% |
| | 25 | WABASSO FINE SAND, 0 TO 2 PERCENT SLOPES | NO | 15.54 | 0.77% |
| | 99 | WATER | UNRANKED | 16.59 | 0.83% |
| | | | **Total Hydric** | **928** | **46%** |
| | | | **Total Non-Hydric** | **1045** | **52%** |
| | | | **Total Unranked** | **33** | **2%** |
| | | | **Total** | **2007** | **100%** |

**Figure 2-1: NRCS Soils Map**

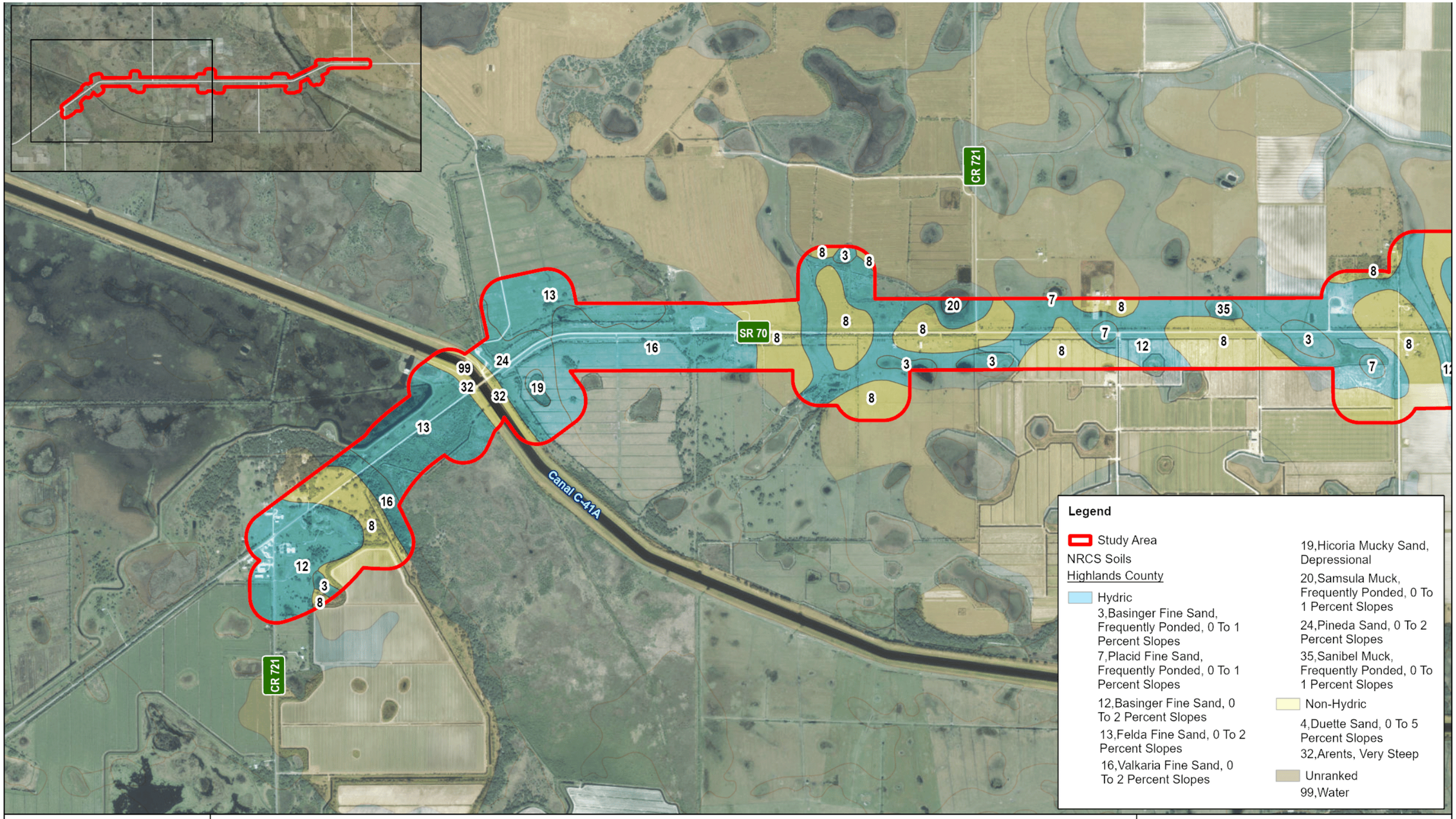



**Figure 3. NRCS Soils Map**
**Sheet 1 of 2**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

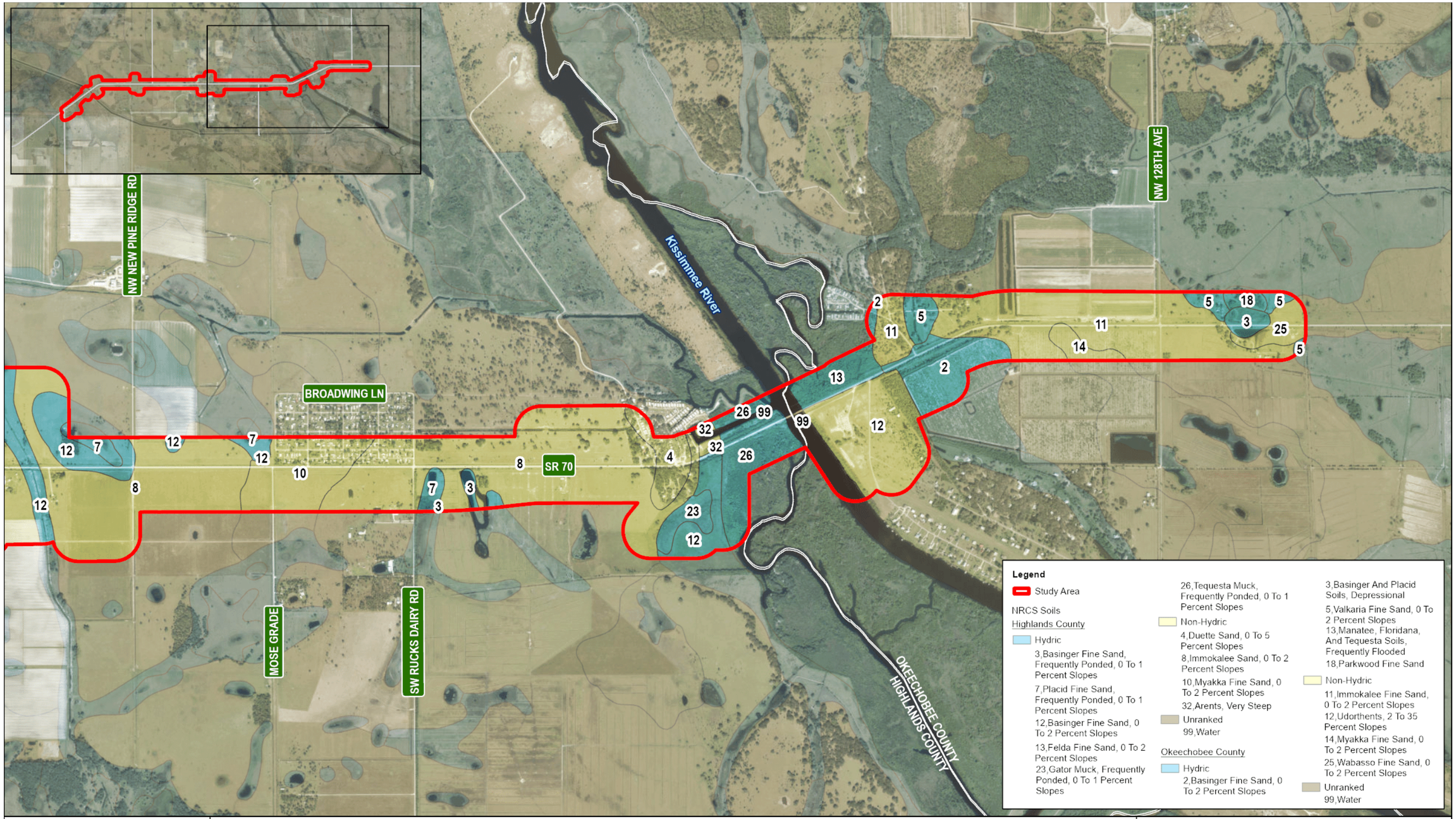



**Figure 3. NRCS Soils Map**
**Sheet 2 of 2**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

**Table 2-2: Existing FLUCFCS within Study Area**

| FLUCFCS Code | | FLUCFCS Description | Acreage | Percent of Total Project |
|---|---|---|---|---|
| 1000: Urban and Built-Up | 1100 | Residential, Low Density (less than 2 dwelling units/acre) | 0.18 | 0.01% |
| | 1180 | Rural Residential | 34.22 | 1.70% |
| | 1220 | Mobile Home Units (2 to 5 dwelling units/acre) | 44.01 | 2.21% |
| | 1400 | Commercial and Services | 4.44 | 0.22% |
| | 1720 | Religious | 0.24 | 0.01% |
| | | **Total** | **83.09** | **4.14%** |
| 2000: Agriculture | 2110 | Improved Pastures | 908.66 | 45.66% |
| | 2120 | Unimproved Pastures | 85.03 | 4.27% |
| | 2130 | Woodland Pastures | 157.86 | 7.87% |
| | 2140 | Row Crops | 22.12 | 1.11% |
| | 2150 | Field Crops | 2.90 | 0.15% |
| | 2210 | Citrus Groves | 66.74 | 3.35% |
| | 2420 | Sod Farms | 140.08 | 7.04% |
| | 2510 | Horse Farms | 27.12 | 1.36% |
| | | **Total** | **1410.51** | **70.28%** |
| 3000: Rangeland | 3200 | Shrub and Brushland | 10.80 | 0.54% |
| | | **Total** | **10.80** | **0.54%** |
| 4000: Upland Forests | 4200 | Upland Hardwood Forests | 4.18 | 0.21% |
| | 4220 | Brazilian Pepper | 22.91 | 1.15% |
| | 4280 | Cabbage Palm | 6.56 | 0.33% |
| | 4370 | Australian Pine | 2.53 | 0.13% |
| | | **Total** | **36.18** | **1.82%** |
| 5000: Water | 5100 | Streams and Waterways | 59.99 | 3.01% |
| | 5120 | Channelized Waterways | 36.74 | 1.83% |
| | 5340 | Reservoirs Less than 10 acres | 13.32 | 0.67% |
| | | **Total** | **110.04** | **5.48%** |
| 6000: Wetlands | 6170 | Mixed Wetland Hardwoods | 26.17 | 1.31% |
| | 6190 | Exotic Wetland Hardwoods | 33.79 | 1.70% |
| | 6210 | Cypress | 0.10 | 0.00% |
| | 6310 | Wetland Scrub | 25.75 | 1.29% |
| | 6400 | Vegetated Non-Forested Wetlands | 1.97 | 0.10% |
| | 6410 | Freshwater Marshes | 55.68 | 2.77% |
| | 6430 | Wet Prairies | 36.51 | 1.83% |
| | 6440 | Emergent Aquatic Vegetation | 2.07 | 0.10% |
| | 6530 | Intermittent Ponds | 0.41 | 0.02% |
| | | **Total** | **182.43** | **9.09%** |
| 7000: Barren Land | 7400 | Disturbed Land | 32.84 | 1.64% |
| | 7470 | Dikes and Levees | 16.03 | 0.81% |
| | | **Total** | **48.87** | **2.44%** |
| 8000: Transportation, Communication and Utilities | 8115 | Grass Airports | 0.92 | 0.05% |
| | 8140 | Roads and Highways | 113.80 | 5.72% |
| | 8300 | Utilities | 7.73 | 0.39% |
| | 8310 | Electric Power Facilities | 2.47 | 0.12% |
| | | **Total** | **124.93** | **6.28%** |
| | | **GRAND TOTAL** | **2007** | **100%** |

**Figure 2-2: Mapped and Field-Verified FLUCFCS Map**

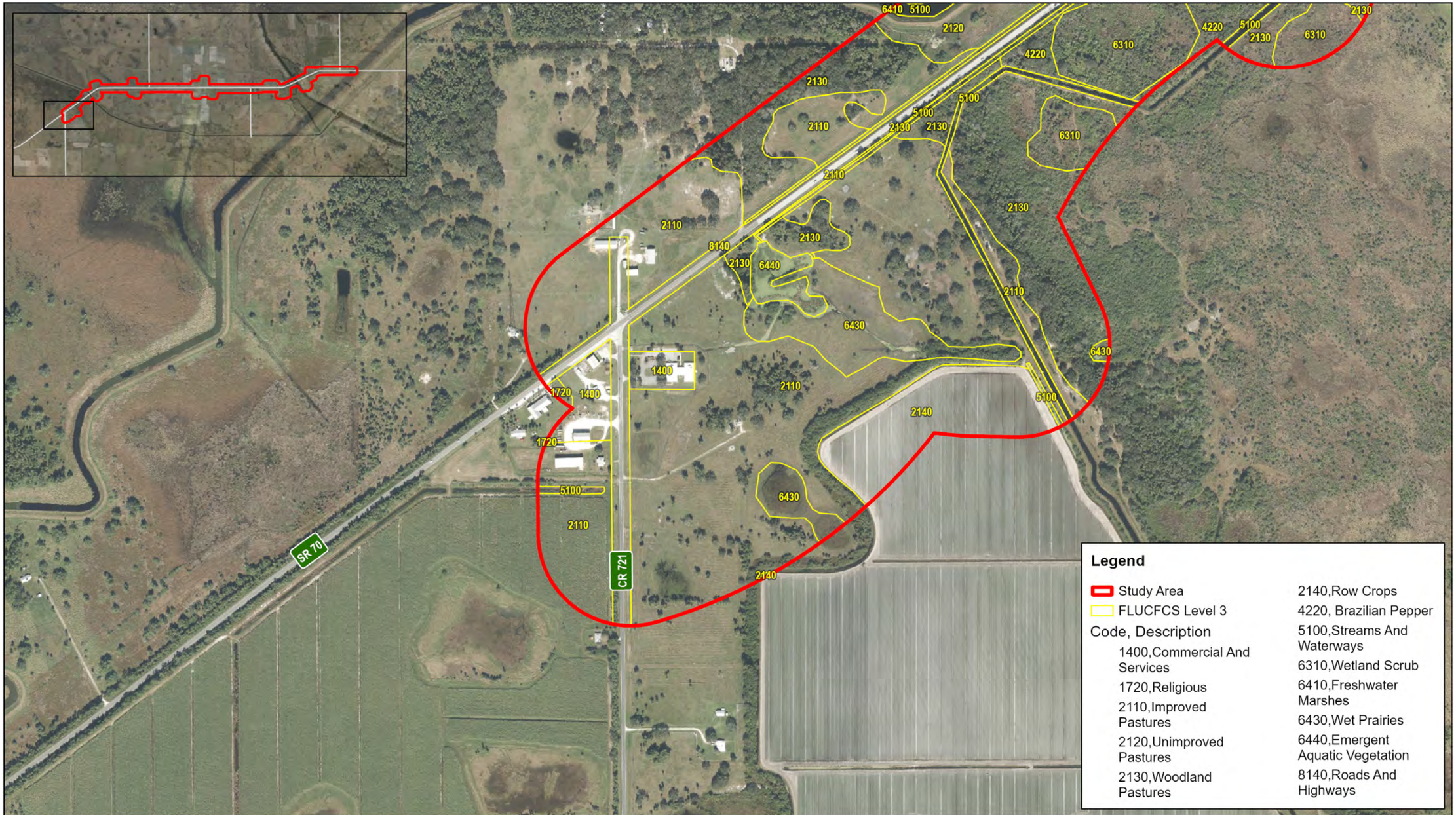



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 1 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

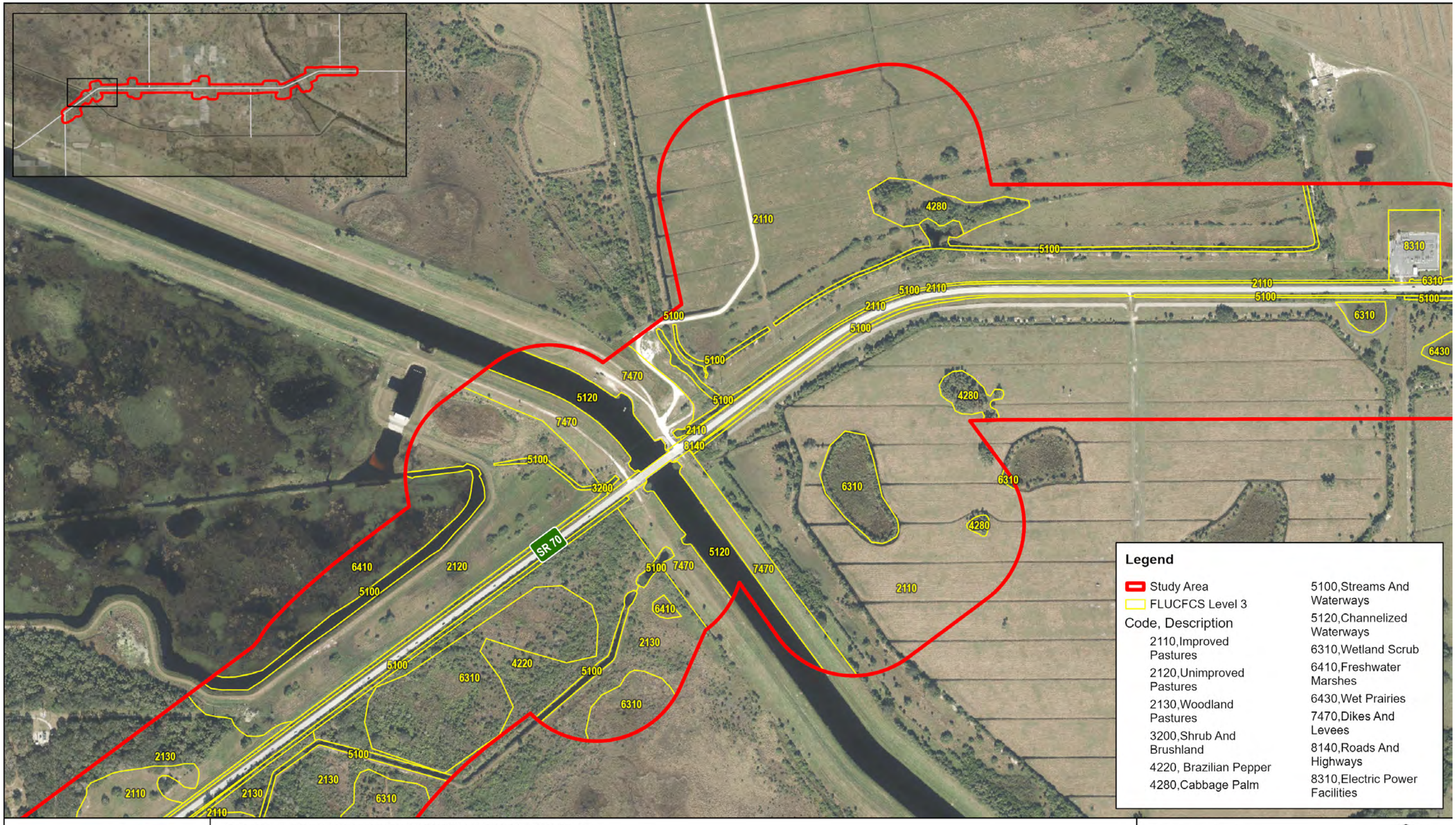



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 2 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: SFWMD
Image Source: ESRI
Image Date: 2023

NORTH

0 500 1,000 Feet

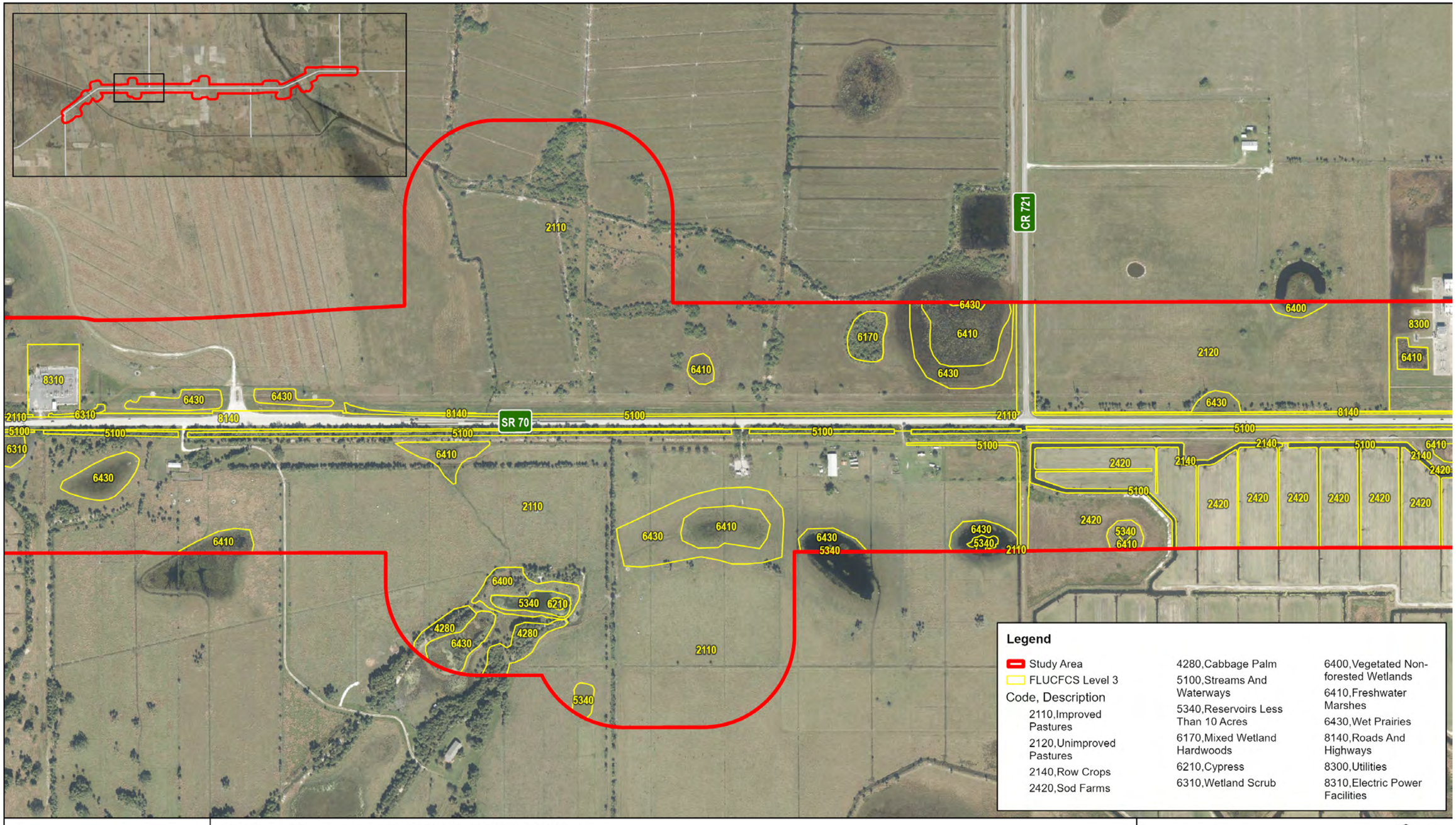



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 3 of 8**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: SFWMD
Image Source: ESRI
Image Date: 2023

NORTH

0 500 1,000 Feet

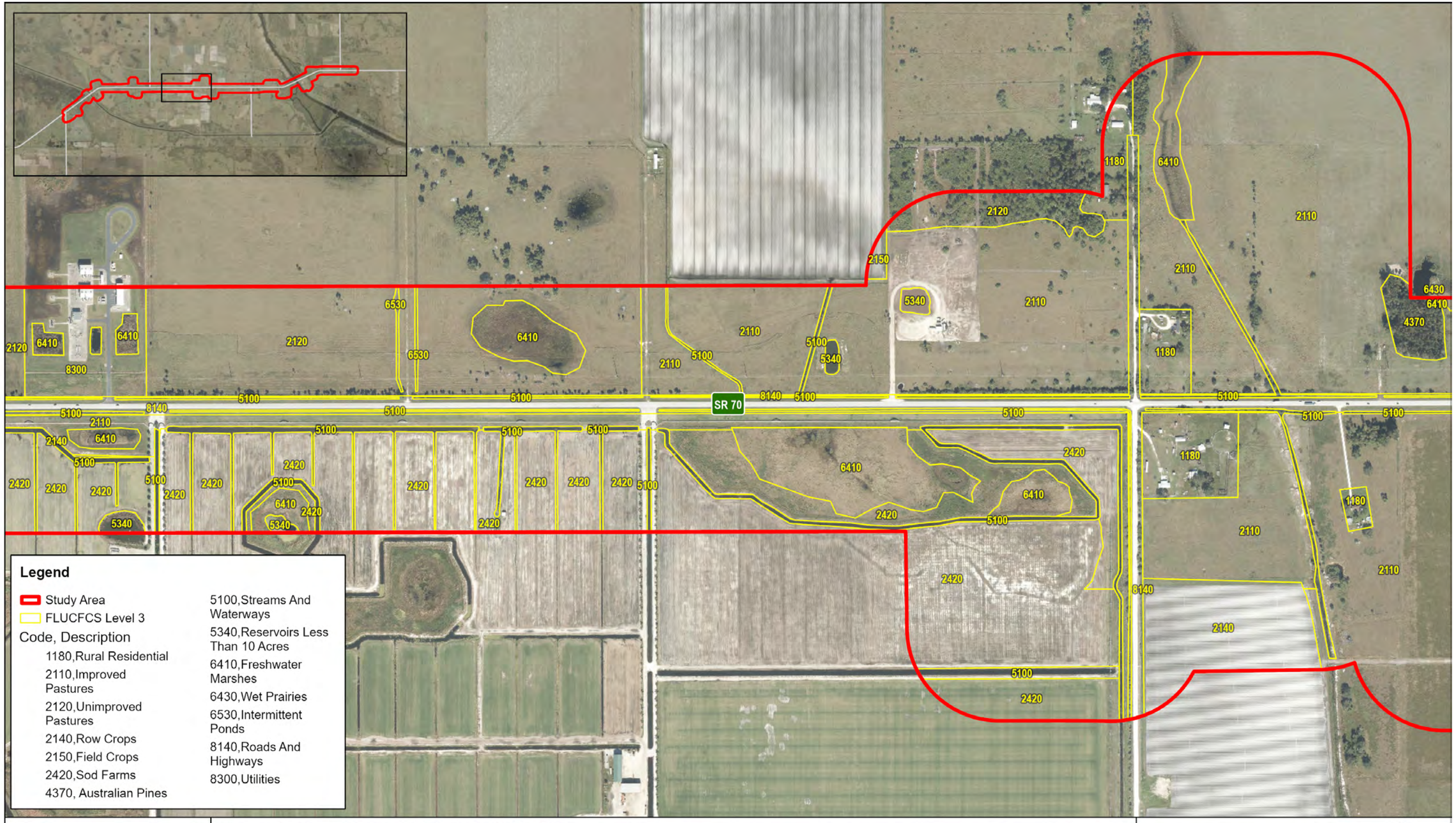



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 4 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

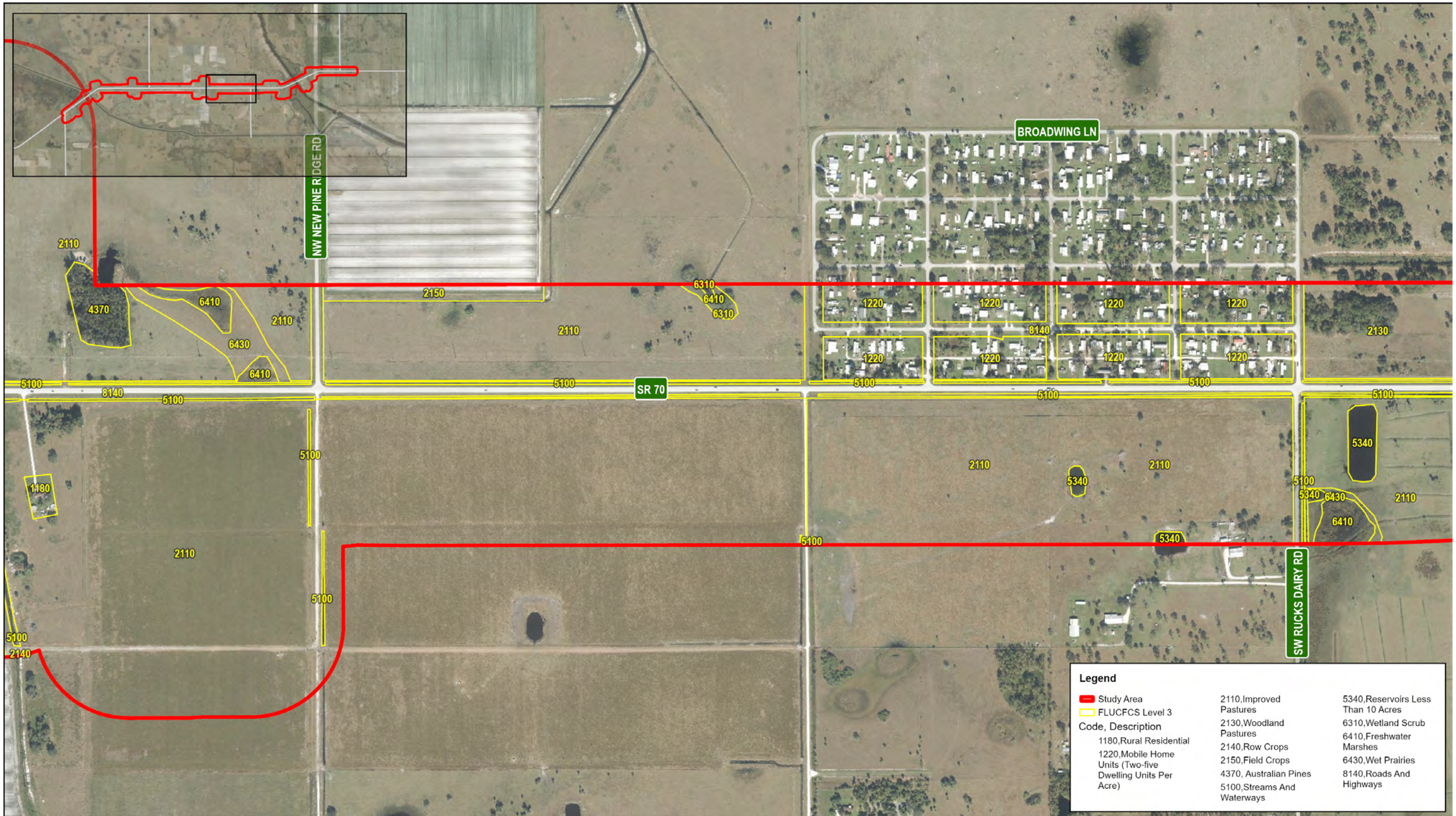



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 5 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: SFWMD
Image Source: ESRI
Image Date: 2023

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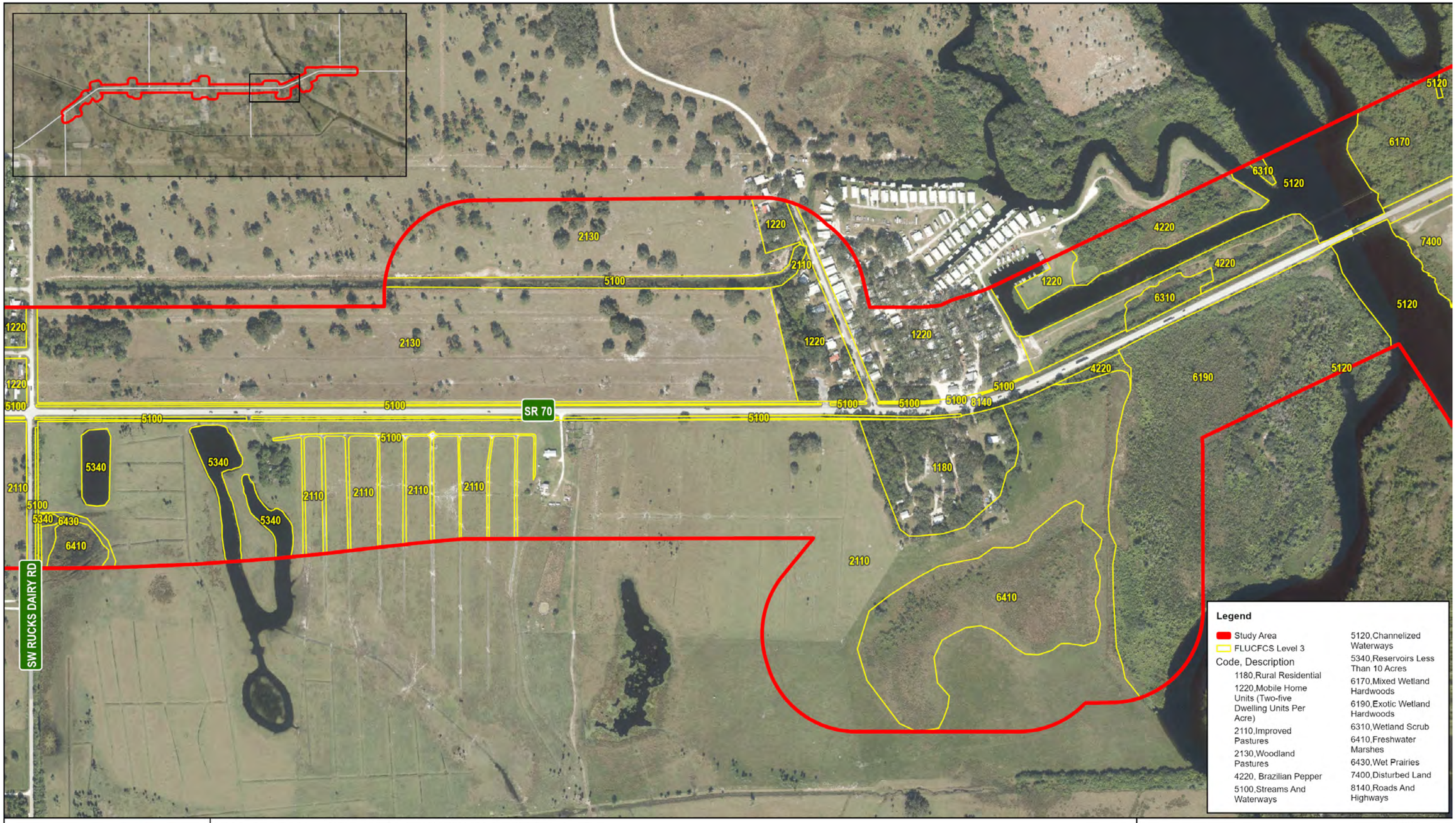


**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 6 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: SFWMD
Image Source: ESRI
Image Date: 2023

NORTH

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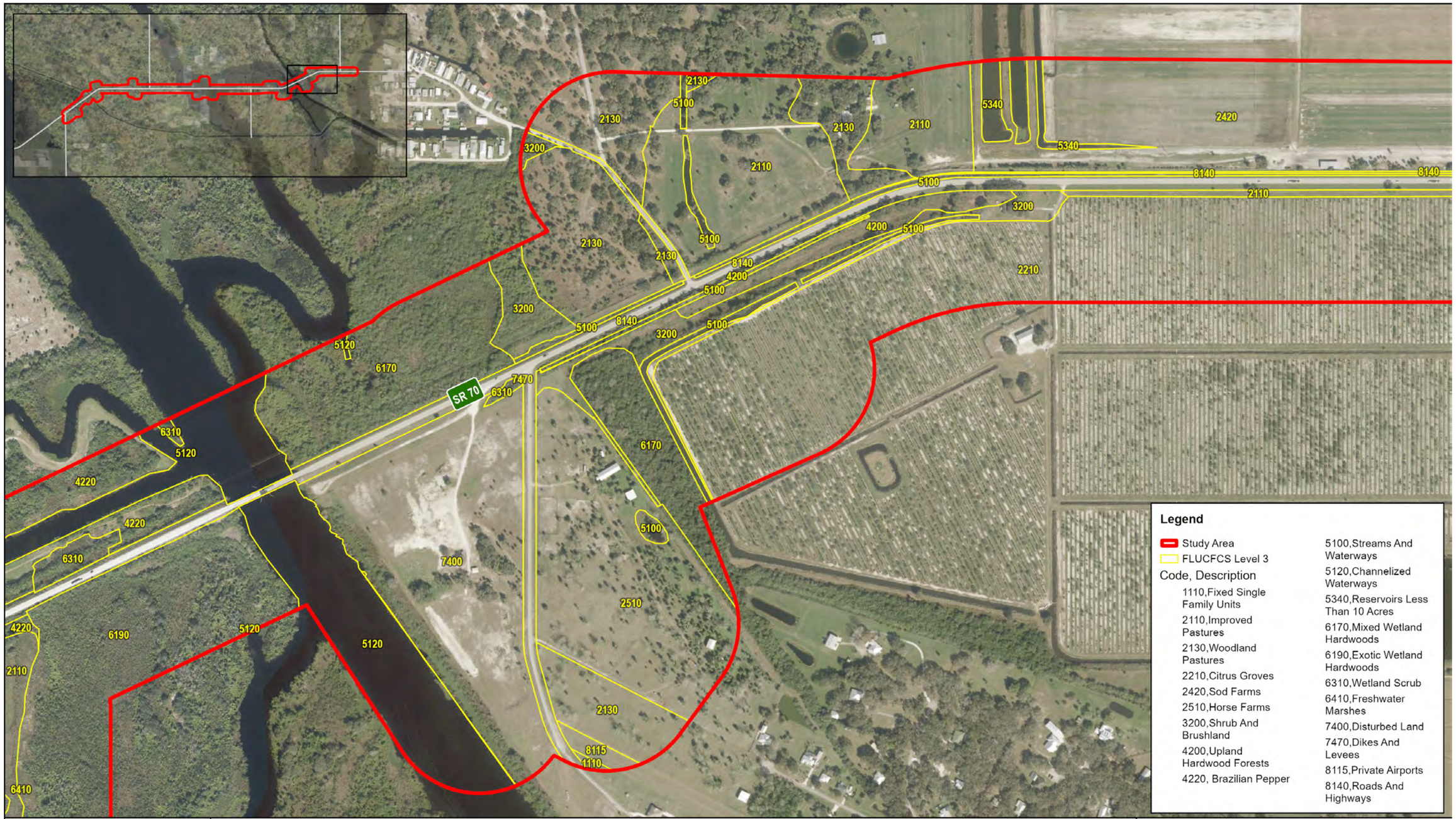



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 7 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

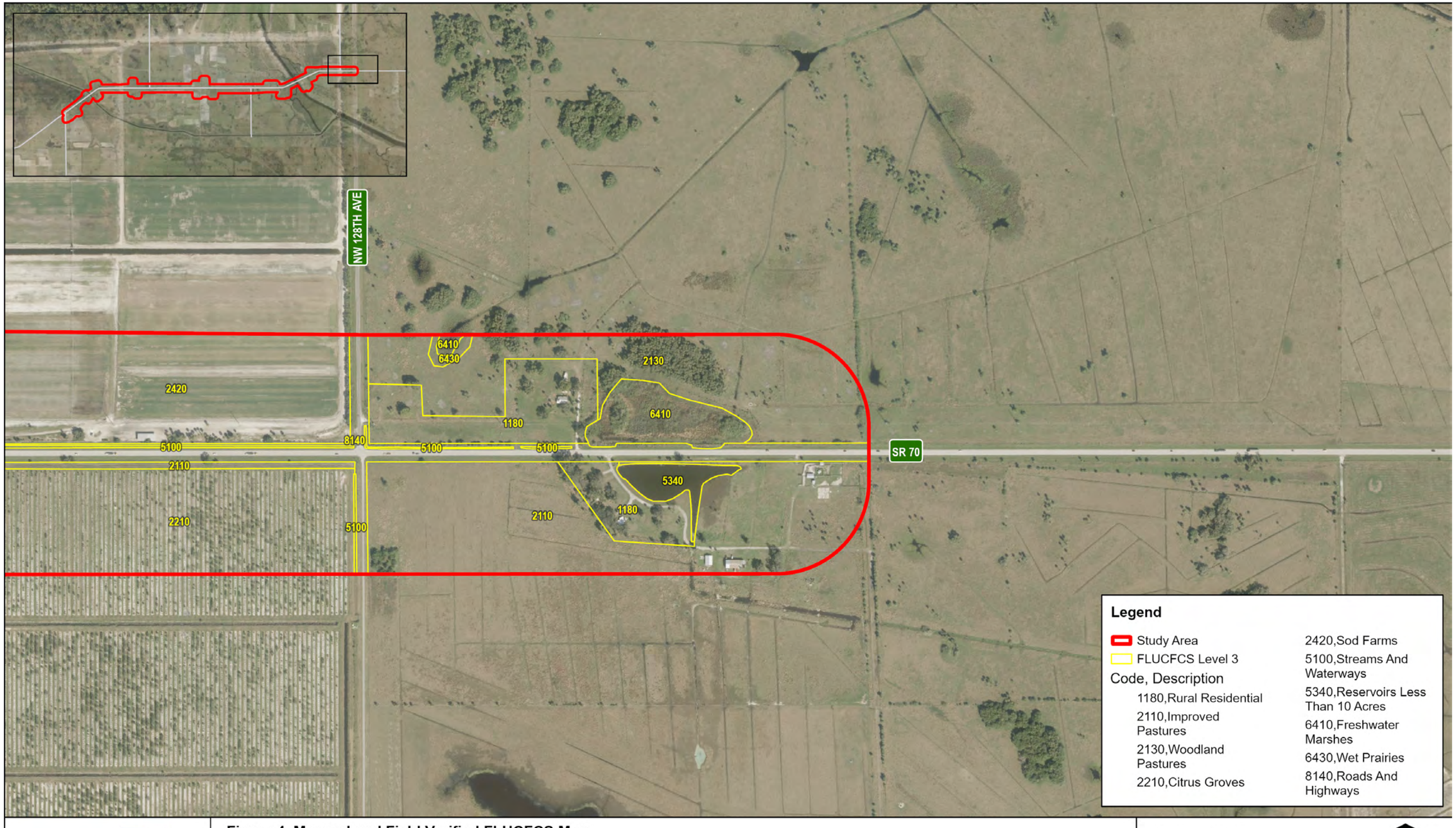



**Figure 4. Mapped and Field Verified FLUCFCS Map**
**Sheet 8 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

### 2.2.3 MANAGED AND OTHER PROTECTED LANDS

There are no Outstanding Florida Waters (OFW) or Aquatic Preserves (AP) within the project footprint or immediately downstream. Additionally, no conservation easements have been recorded within the project footprint. However, the project is adjacent to and within several managed and protected lands. It is acknowledged that the Everglades Headwaters National Wildlife Refuge and Conservation Area (EHNWRCA) Partnership, a large comprehensive area covering much of central Florida's native grasslands and savannas, is adjacent to SR 70 with limits ending along the northern portion of the roadway. This area is a collection of both existing and potential conservation focal areas and protected lands that aim to conserve wildlife habitat. Since this partnership area does not elicit any regulatory requirements it was not included in the map. The Kissimmee River Public Use Area (PUA), owned by the SFWMD and managed by FWC, spans five counties from SR 60 to SR 78 with some properties adjacent to SR 70. Additional managed lands in the region of the project, but beyond the project limits, include the USDA Bald Eagle Ranch Wetland Reserve Easement, FDACS Syfrett Ranch Agricultural and Conservation Easement, Lake Okeechobee Watershed Restoration, and Ecosystem Investment Partners (EIP)/SFWMD Water Quality Project. The EIP/SFWMD Water Quality Project aims to restore water quality by removing excessive nutrients (specifically phosphorus) from priority areas of the Lake Okeechobee watershed prior to flowing into Lake Okeechobee through manmade wetlands also known as treatment cells. **Figure 2-3** displays the managed lands adjacent to the project.

The Kissimmee River is a state sovereign submerged land (SSL). **Appendix D** contains relevant correspondence with the FDEP.

### 2.2.4 WETLANDS AND SURFACE WATERS

For this evaluation, wetlands, surface waters, and other surface waters are defined pursuant to the Wetlands and Other Surface Waters chapter of the PD&E manual, 62- 340, F.A.C., Section 373.019 (21) and (27) Florida Statutes (F.S.) and the 1987 Corps of Engineers Wetland Delineation Manual with the 2010 Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region. The wetlands, surface waters, and other surface waters are depicted along with the NWI data in **Figure 2-4** and are located throughout the SR 70 corridor. There is a concentration of wetlands surrounding the Kissimmee River and C-41A Canal. There are several other surface waters (roadside ditches and irrigation ditches) along the entire project footprint used for roadway runoff, water conveyance, sod farming and other agricultural purposes. Wetlands, surface waters and other surface waters were field verified and are shown in more detail in **Appendix E**.

Five wetland types and three surface water/other surface water types exist within the study area. **Appendix B** includes the descriptions of existing wetlands and waters within the project. While some of these wetlands are relatively high quality freshwater marshes, these wetlands are mostly isolated from other natural habitats due to surrounding agricultural lands. Aside from these wetlands, there are also wetlands that are hydrologically connected to the Kissimmee River and C-41A Canal. Historical aerials have shown the presence of wetlands throughout the entirety of the project area; however, since the development of SR 70 and the addition of irrigation canals, the historical water patterns have changed, natural upland communities have been converted to agricultural use and remaining natural wetlands have lost connection to natural upland communities. Per Chapter 62.600 (D) F.A.C., boundaries of surface waters and other surface waters with slopes of four to one (horizontal to vertical) or steeper are estimated using the top of bank. These systems include ditches, canals, and ponds. These, along with jurisdictional

**Figure 2-3: Managed and Other Protected Lands Map**

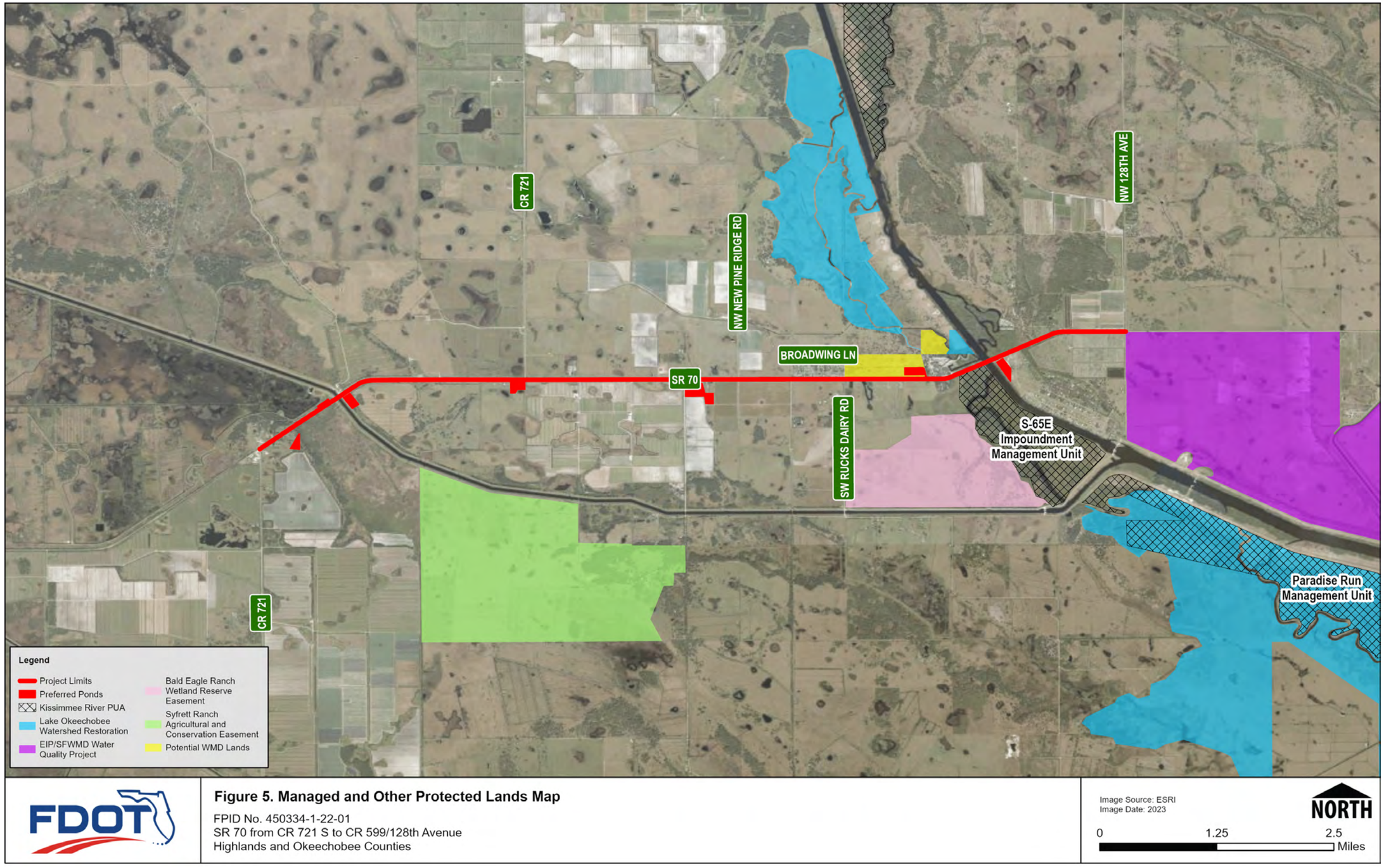


**Figure 2-4: National Wetlands Inventory (NWI) and Field Verified Wetlands and Waters**

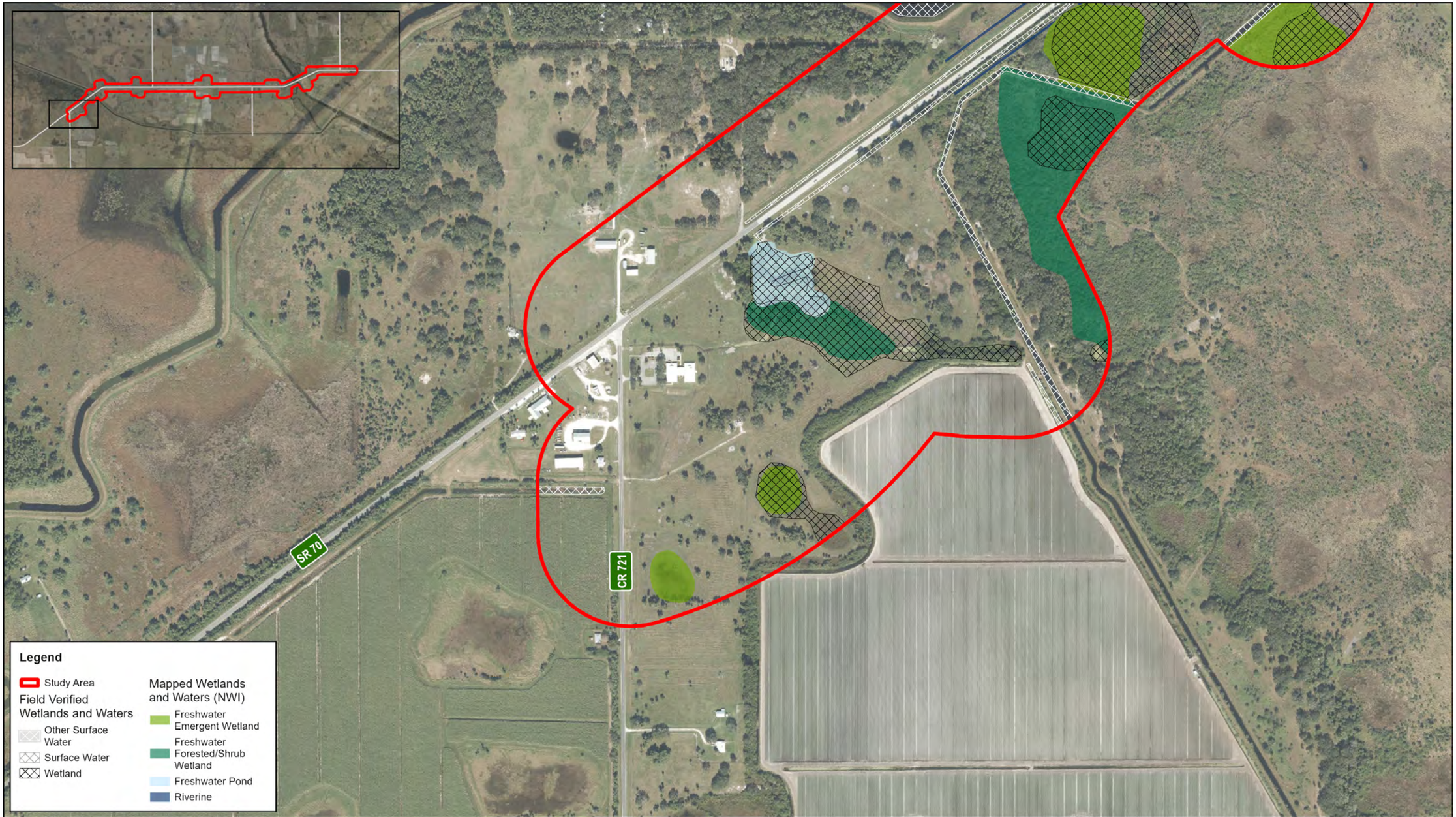
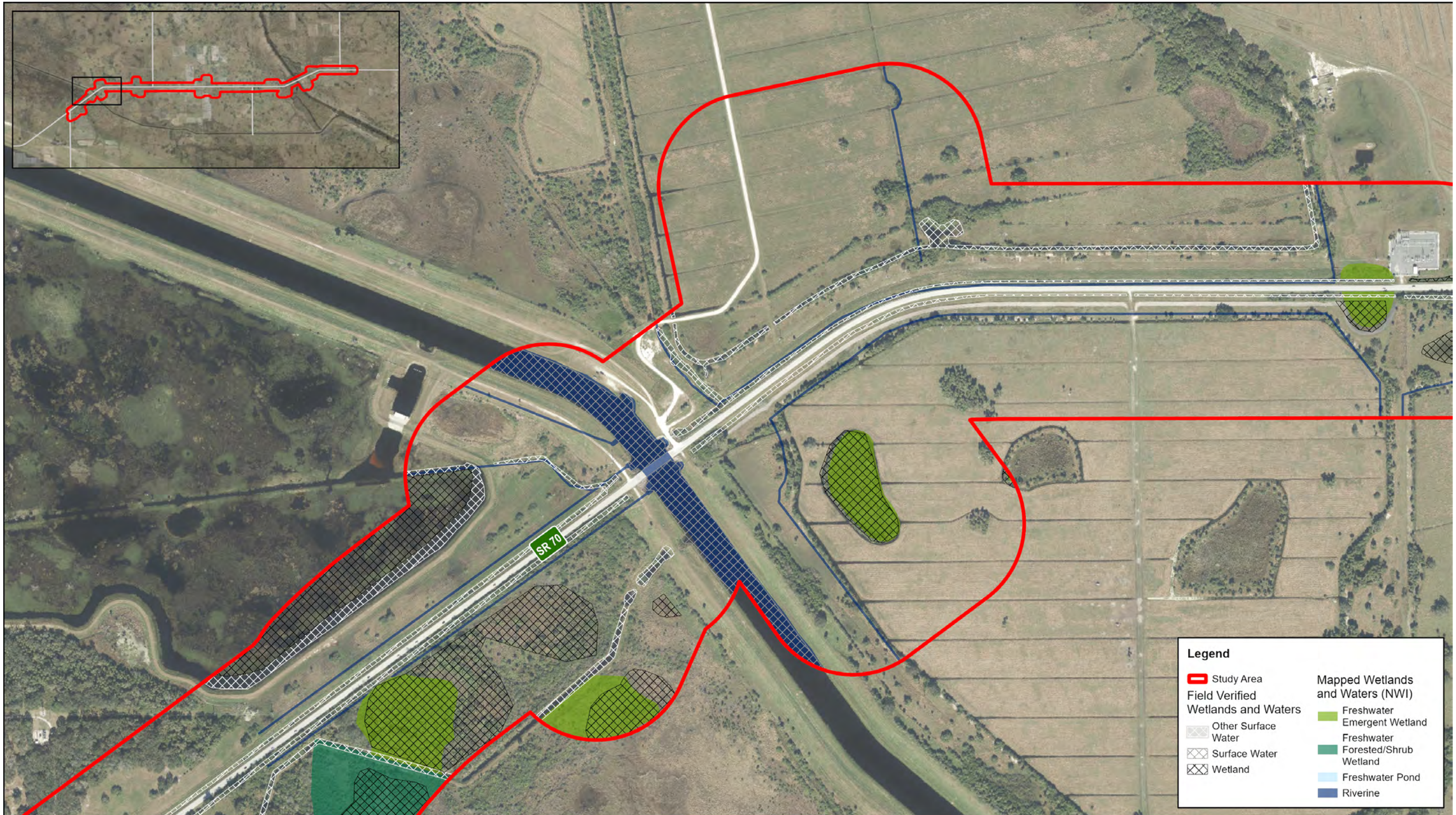



**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 1 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: USFWS NWI
Image Source: ESRI
Image Date: 2023

NORTH

0 500 1,000 Feet




FDOT

**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 2 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: USFWS NWI
Image Source: ESRI
Image Date: 2023

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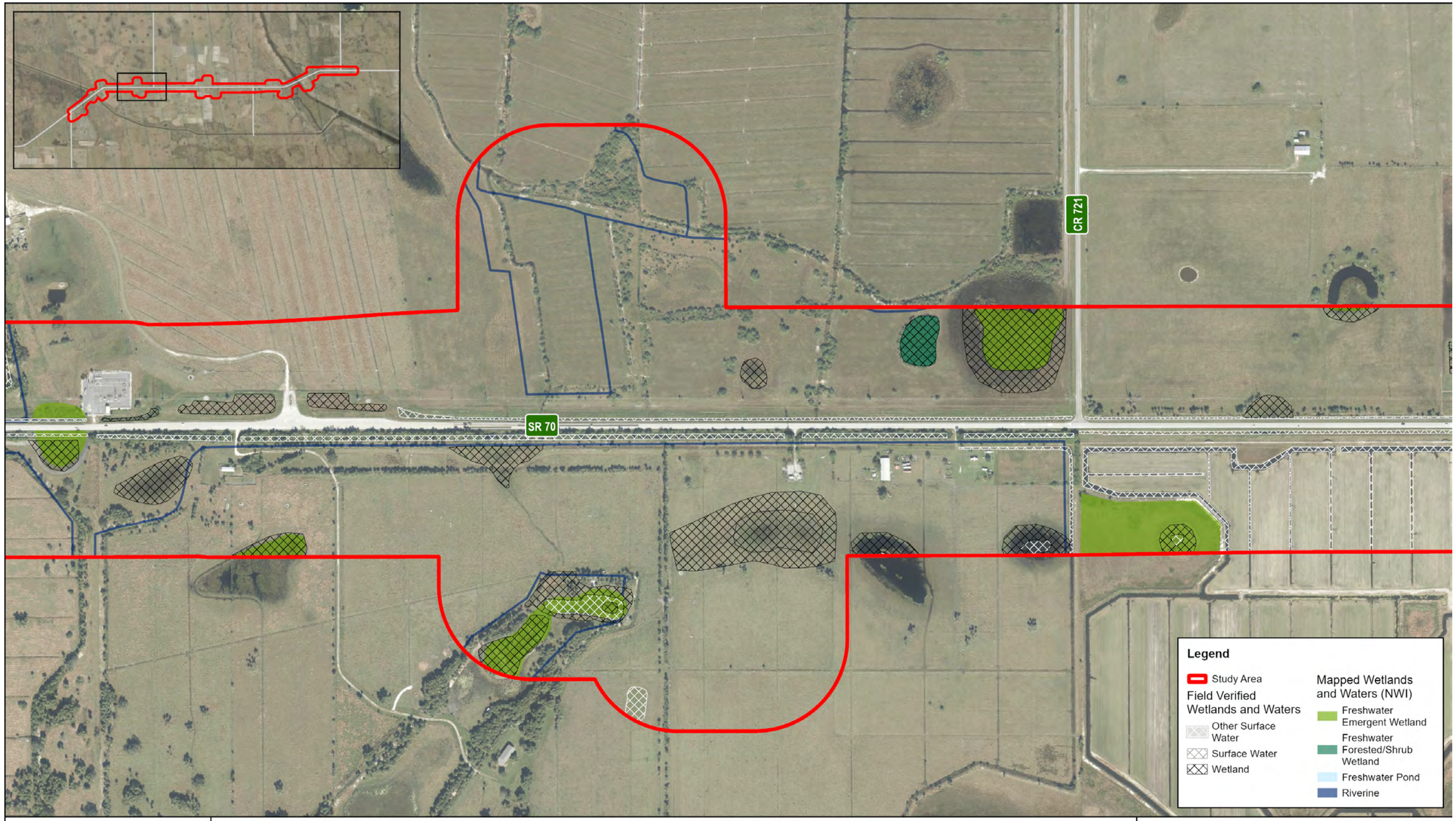


**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 3 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: USFWS NWI
Image Source: ESRI
Image Date: 2023

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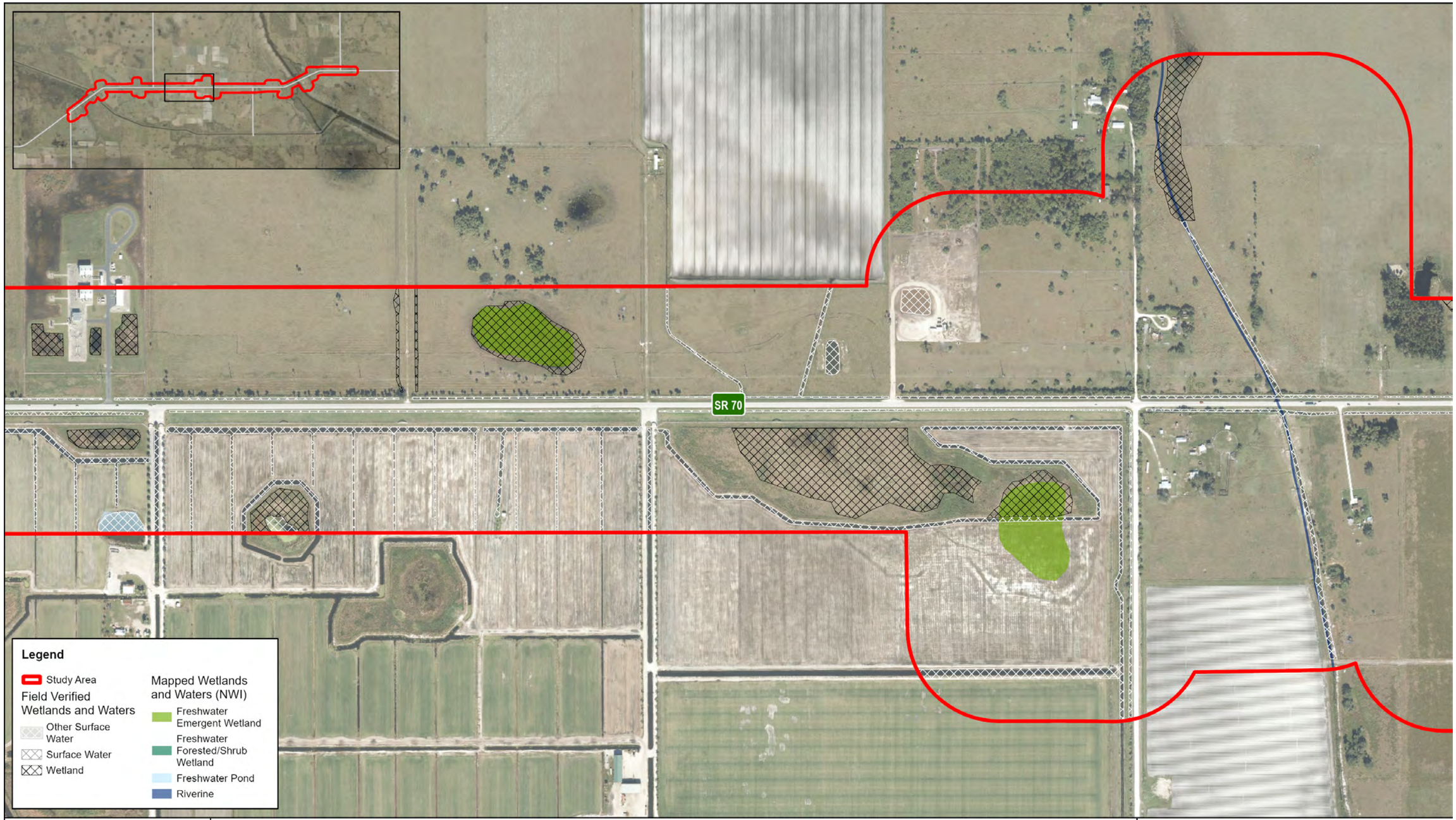


**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 4 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: USFWS NWI
Image Source: ESRI
Image Date: 2023

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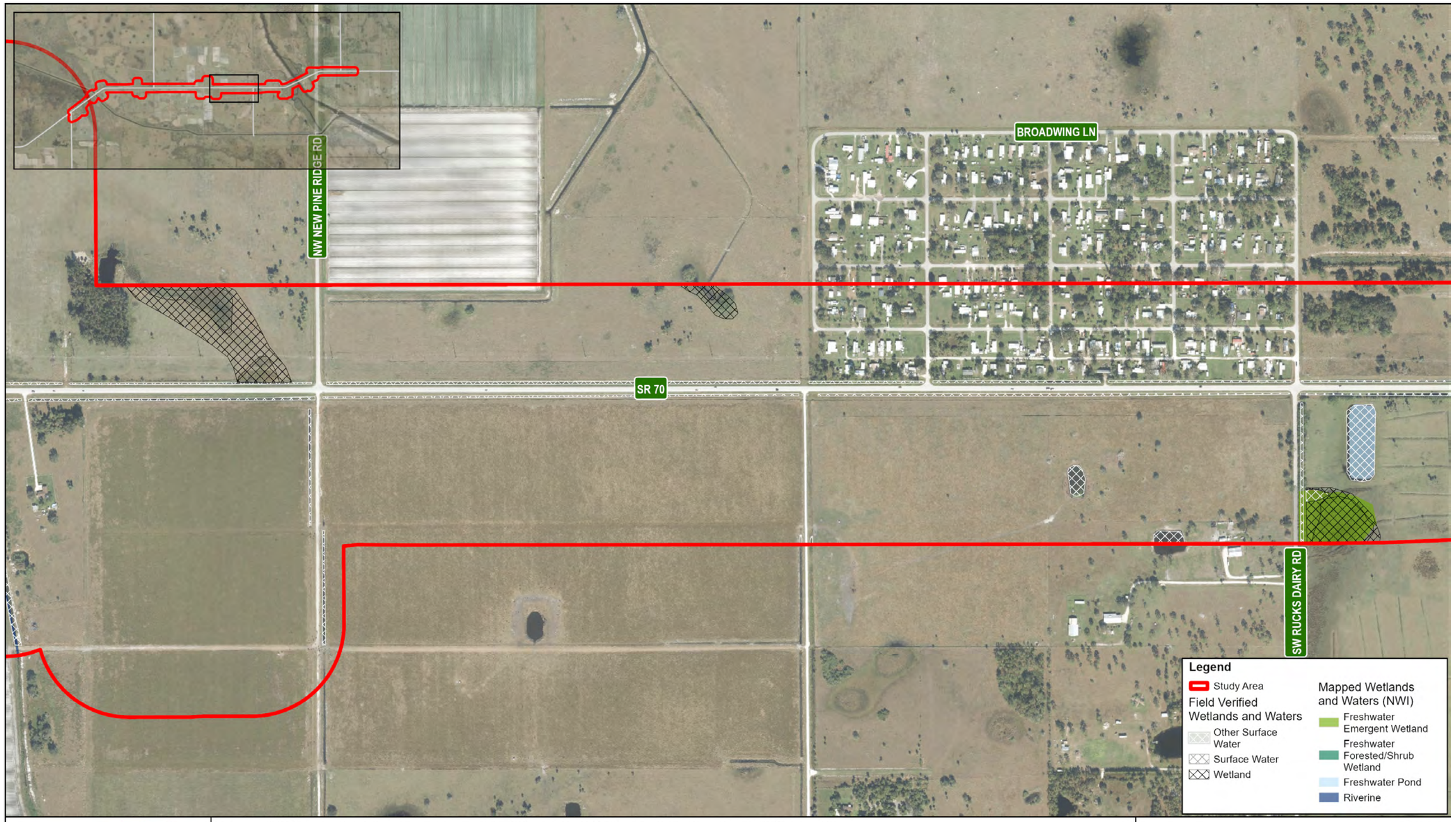


**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 5 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

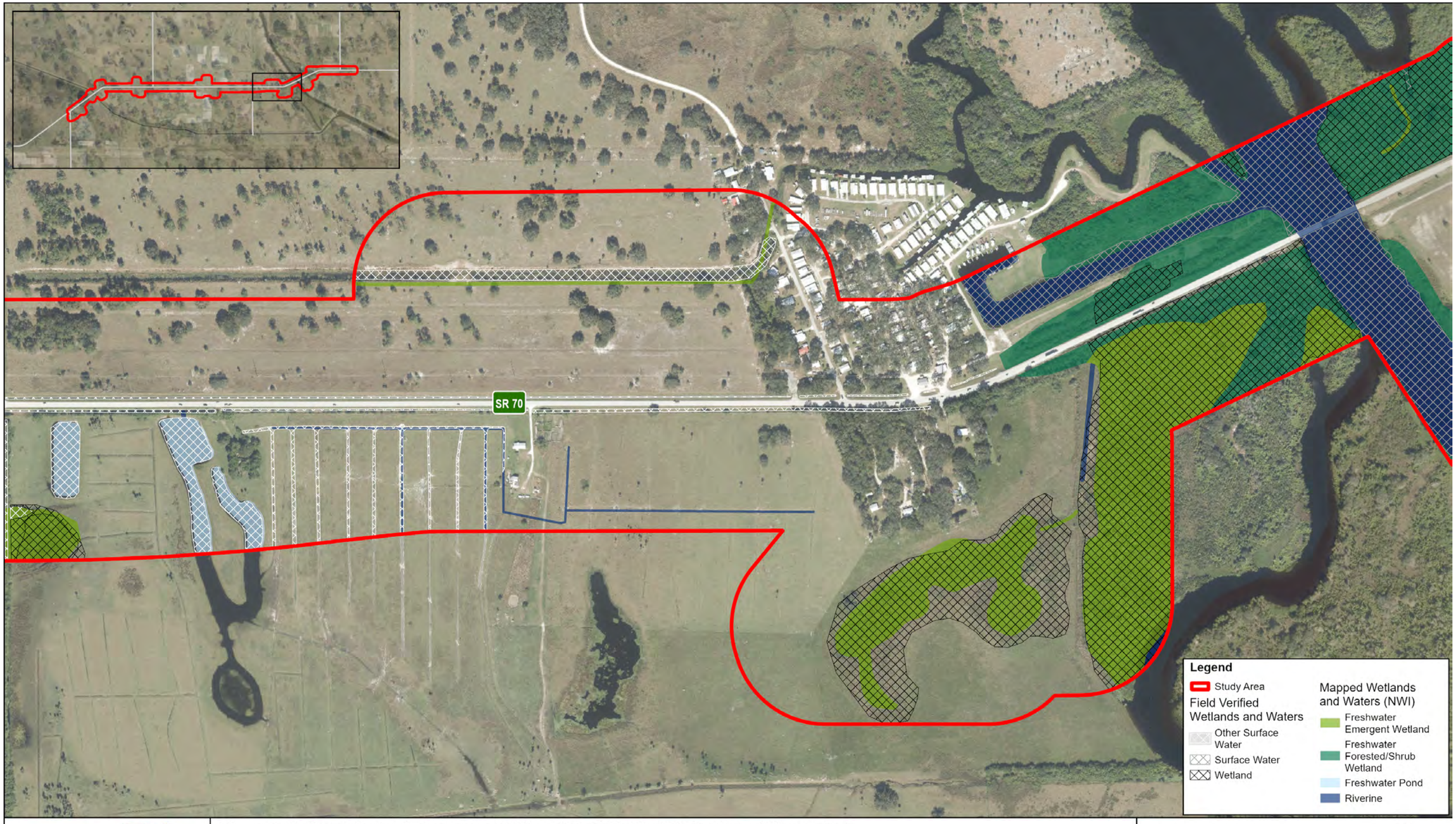


**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 6 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

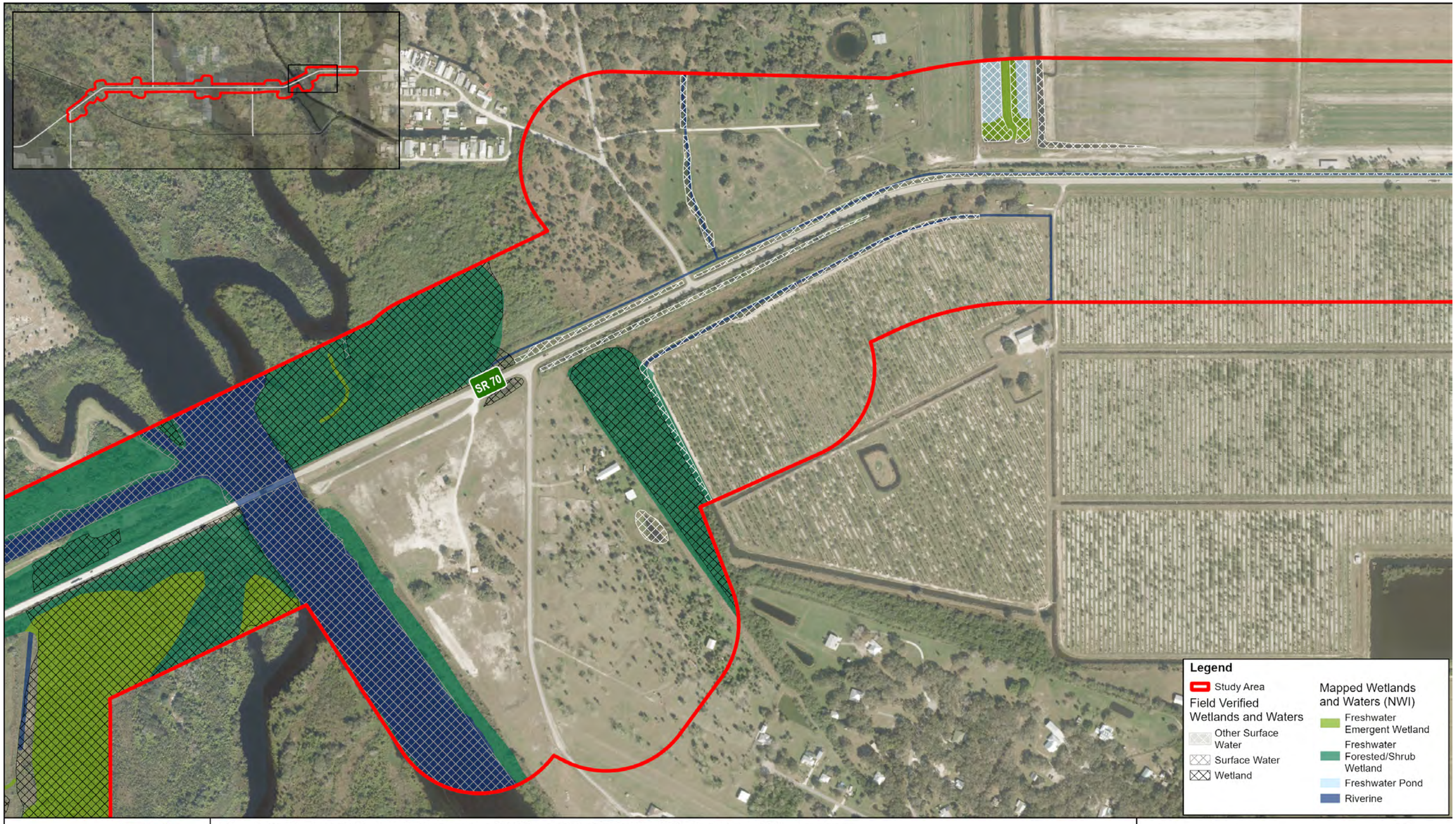


**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 7 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Data Source: USFWS NWI
Image Source: ESRI
Image Date: 2023

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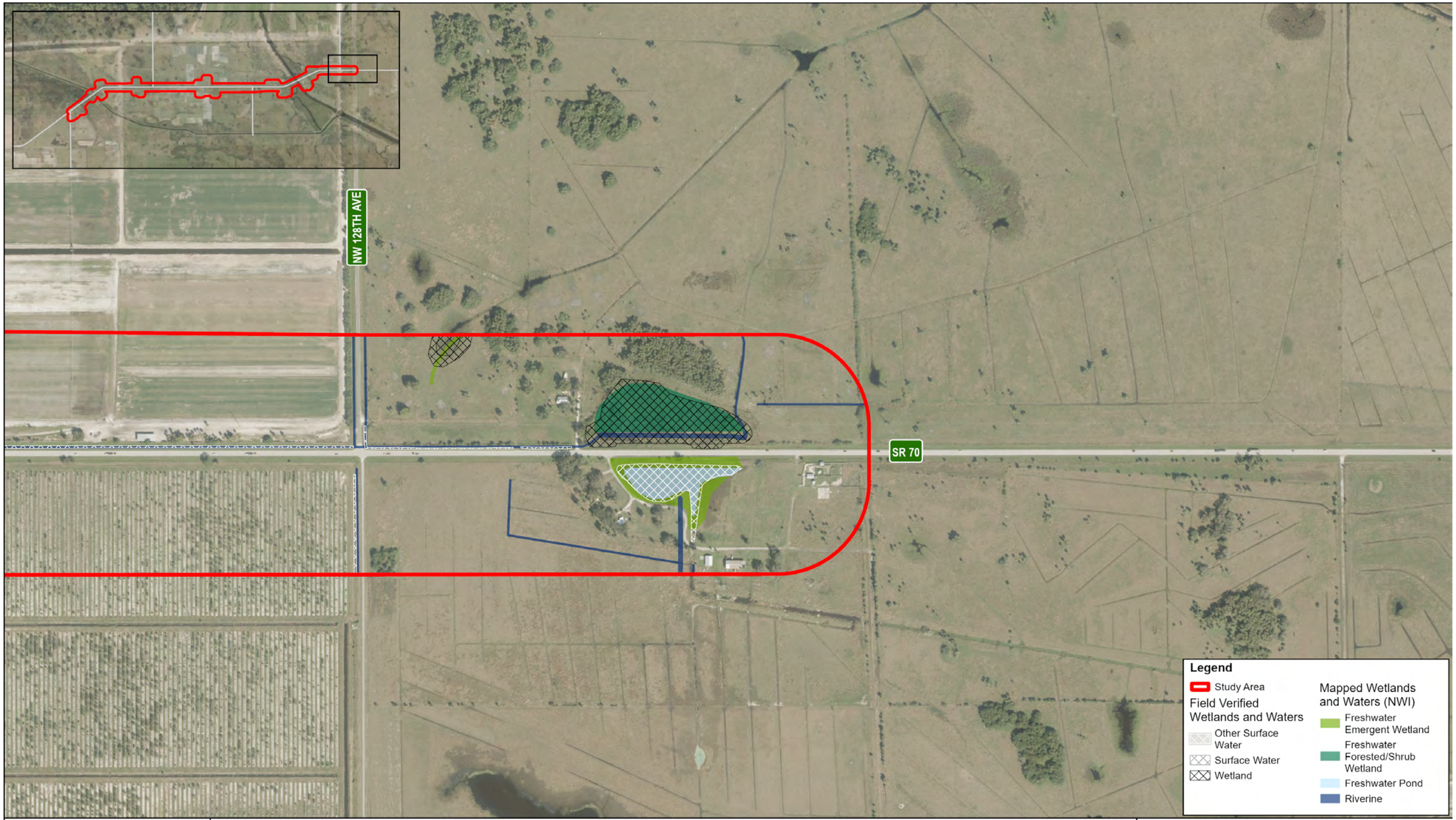



**Figure 6. National Wetlands Inventory (NWI) and Field-Verified Wetlands and Waters Map**
**Sheet 8 of 8**
FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

ditches with slopes of more than four to one, are classified as FLUCFCS code 5100 (Streams and Waterways) in this report. Wetland acreages per the NWI data are broken down by type in **Table 2-3.** The UMAM datasheets prepared as representative datasheets per wetland type, are provided in **Appendix F**.

**Table 2-3: Existing Field Verified Wetlands and Waters within Study Area**

| Wetland System Type | Wetland Description | Acreage | Percentage of Total Project |
|---|---|---|---|
| Palustrine | Freshwater Emergent Wetland | 106.10 | 5.29% |
| | Freshwater Scrub-Shrub Wetland | 43.99 | 2.19% |
| | Freshwater Forested Wetland | 60.05 | 2.99% |
| | Freshwater Pond | 45.59 | 2.27% |
| | **Total** | **255.73** | **12.74%** |
| Riverine | Riverine | 36.74 | 1.83% |
| | **Total** | **36.74** | **1.83%** |
| | **Total** | **293** | **15%** |

Note: The percentage of total project does not equal 100% because only 15% of the study area is composed of wetlands and surface waters. Additionally, 33.0 of the 106.10 acres of freshwater emergent wetlands are classified as roadside ditches/other surface waters.

# 3.0 PROTECTED SPECIES AND HABITAT

Listed species are afforded special protective status by federal and state agencies. This protection is federally administered by the United States Department of the Interior - USFWS, and National Oceanic and Atmospheric Administration – National Marine Fisheries Services (NOAA-NMFS) pursuant to the Endangered Species Act (ESA) of 1973 (as amended). The USFWS administers the federal list of Endangered and Threatened Wildlife and Plants (50 CFR 17.11-12). Federal protection of marine species is the responsibility of the NOAA-NMFS. Impacts to Critical Habitat were also evaluated per Section 3(5)(A) of the ESA. The study area was evaluated for the occurrence of Critical Habitat as defined by the Endangered Species Act of 1973 as amended and 50 CFR Part 424.

The State of Florida affords special protection to animal species designated as threatened or endangered, pursuant to Chapter 68A-27, F.A.C. Florida also affords protection to federally listed species, thus all federally listed species are considered state listed species pursuant to Rule 68A-27.003(b), F.A.C. The State of Florida also protects and regulates plant species designated as endangered, threatened or commercially exploited as identified on the Regulated Plant Index (5B-40.0055, F.A.C.), which is administered by the FDACS, Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C.

Agency comments from the ETDM programming screen regarding protected species include the following items: the potential presence of several federally-listed species including the crested caracara (*Polyborus plancus audubonii*), Eastern indigo snake (*Drymarchon corais couperi*), Florida bonneted bat (*Eumops floridanus*) and wood stork (*Mycteria americana*); recommendation that a biological assessment be prepared as part of the study; concern regarding potential loss of habitat and potential adverse effects to listed species; potential habitat fragmentation for animals with large home ranges; and recommendation to analyze the use of wildlife crossings or fencing/barriers to avoid motor vehicular collisions with wildlife.

The NRE serves as a biological assessment for the project and the analysis is consistent with the Protected Species and Habitat chapter of the PD&E Manual. It addresses potential impacts to all listed species including the crested caracara, Eastern indigo snake, Florida bonneted bat and wood stork as mentioned by the USFWS. Species-specific surveys were completed for the Florida bonneted bat and the crested caracara and survey memorandums are included as appendices in this document. Wildlife features were considered at the two bridge locations along the project to provide habitat connectivity across this segment of SR 70.

During the data collection phase of this project, the FDOT corresponded with the USFWS regarding the need for species-specific surveys for the snail kite and grasshopper sparrow. Other USFWS project communication included a methodology memorandum for the Florida bonneted bat and a request for information on historic eastern indigo snake observations. Details of these correspondences and information are provided in the following sections.

The following sections describe the methodology used to assess the potential for occurrence of protected species and to identify the effects that implementation of the proposed project alternative may have on protected species in accordance with the Protected Species and Habitat chapter of the FDOT PD&E Manual and with FHWA's *Management of the Endangered Species Act Environmental Analysis and Consultation Process*.

## 3.1 METHODOLOGY

Literature reviews, agency database searches, and field reviews of potential habitat areas were conducted to identify state and federally protected species occurring or potentially occurring within the project area. The Highlands County and Okeechobee County Soil Surveys, SFWMD land use/land cover mapping, recent aerial imagery from several sources, and management plan from adjacent conservation lands were reviewed to determine habitat types occurring within and adjacent to the project corridor that could support protected species. The project was screened through the USFWS Information for Planning and Consultation (IPaC) website and the project consultation code is 2025-0125724. The official species list from USFWS is include in **Appendix G**.

Information sources and databases include the following:

- Audubon Florida- EagleWatch public nest application (2023-2024 nesting data);
- eBird Species Map;
- FNAI- Biodiversity Matrix Report (http://www.fnai.org/biointro.cfm);
- FNAI- Standard Data Report (May 2023) – see **Appendix H**;
- FDACS – Notes on Florida's Endangered and Threatened Plants;
- FDOT
    - Conservation Plan for the Florida Panther (2024);
    - Efficient Transportation Decision Making (ETDM) Summary Report (June 1, 2023);
    - Environmental Screening Tool (EST);
    - Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed. (January 1999);
    - Wildlife Crossing Guidelines (2023);
    - Tricolored Bat Avoidance and Minimization Measures (December 12, 2024);
- FWC
    - Species Profiles;
    - Wading bird rookeries locator (1999);
    - Florida scrub-jay habitat and observations (1992-1993);
    - Bald Eagle Management Plan;
    - Florida's Official Endangered and Threatened Species List (Updated December 2022);
    - Kissimmee River Public Use Area Regulations Summary and Area Map;
- SFWMD and USACE – Lake Okeechobee Watershed Restoration Project;
- SFWMD – Kissimmee River Management Areas Ten-Year General Management Plan (2014-2024);
- USDA NRCS – Highlands and Okeechobee County soil surveys (FGDL SSURGO, 2021);
- USFWS
    - IPaC (IPaC: Getting Started - Draw on Map [fws.gov]) Project Code 2025-0125724;
    - Species Profiles;
    - Critical Habitat for threatened and endangered species;
    - Wood stork active colonies (2010-2019) (USFWS, 2020);
    - South Florida wood stork (*Mycteria americana*) CFA (18.6-mile radius);
    - Central and Southern Florida project Manatee Accessibility Map (2006);
    - Consultation Areas (CAs) for federally listed species; and
    - Effect Determination Keys for the wood stork, Eastern indigo snake, Florida bonneted bat, West Indian manatee, and Florida panther.

**Figure 3-1** depicts field observations as well as historic species occurrences from database searches. Based on the review of aerial photographs; soil, land use and NWI mapping; and results of database searches, field survey methods for specific habitat types and tables of potentially occurring protected fauna and flora were developed. Further research for protected flora was conducted to determine the flowering season for selecting the most appropriate seasons for field efforts.

Project scientists conducted general species surveys on August 15-17, 2023 and October 23-25, 2023. Field teams consisted of ecologists with a minimum of bachelor's degrees in a biological science, and several years of field experience in Florida ecosystems. Using vehicular and meandering pedestrian transect survey methods during daylight hours, appropriate habitat within 500 feet of the project area was visually scanned for evidence of listed species as well as general wildlife. All natural areas were considered as appropriate wildlife habitat and protected floral species habitat. All occurrences of wildlife in the study area were recorded and observation locations were depicted on project aerials. These occurrence records could include observations of the actual species, or signs of their presence including tracks, burrows, dens, scat, nests, or calls. Special attention was given to identifying signs of federal and state listed and protected species. Along with the general faunal and floral surveys, specific morning observation time for wetland-dependent birds was spent at appropriate habitat locations (e.g. wetlands and surface waters).

Field reviews consisted of vehicular surveys and detailed pedestrian surveys through natural areas and altered habitats with the potential to support protected species. In the absence of physical evidence of a protected species, evaluation of the appropriate habitat was conducted to determine the likelihood of a species being present. For a species to be considered potentially present, the project study area must be within the species' distribution range. An effect determination was then made for each federal and state listed and protected species based on an analysis of the potential impacts of the Preferred Alternative on each species.

## 3.2 RESULTS

A total of 24 federal listed and proposed wildlife species, and state listed and protected wildlife species were evaluated for their potential for occurrence within the project study area. Each potentially occurring species was assigned a likelihood of occurrence of "no", "low", "moderate", or "high" based on the types of habitats found along the project corridor. Definitions of species presence probability and habitat proximity are provided below.

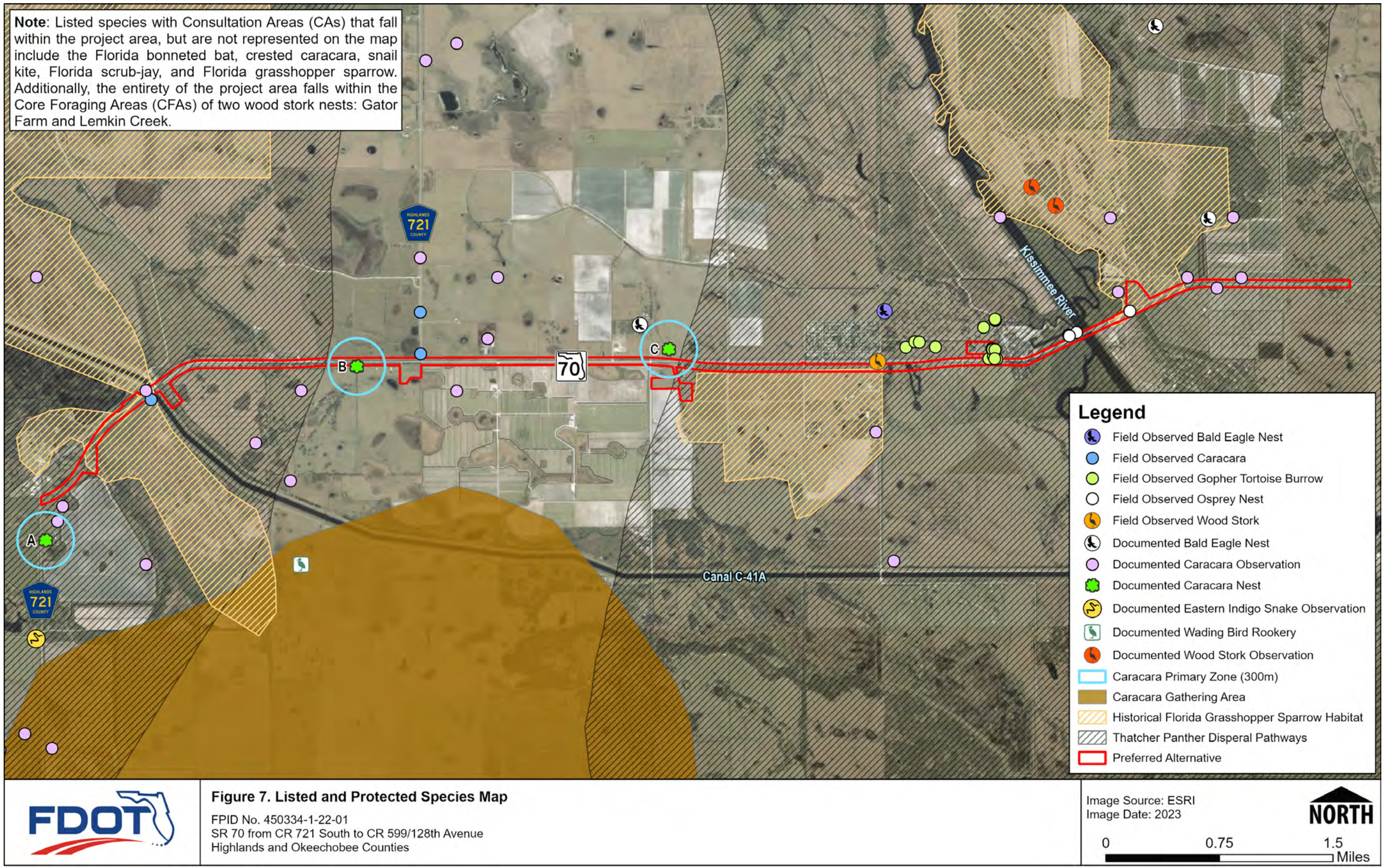
Likelihood of Species Presence

**No** – The species has been documented in Highlands and Okeechobee Counties or the bio-region, but due to complete absence of suitable habitat and lack of observations within one mile of the project, could not be naturally present within the project corridor.

**Low** – The species is known to occur in Highlands and Okeechobee Counties or the bio-region, but suitable habitat is limited along the project corridor and no documented observations are within one mile of the project.

**Moderate** – The species is known to occur in Highlands and Okeechobee Counties or the bio-region, suitable habitat is represented along the project corridor, and the species has been documented within one mile of the project or is expected to occasionally occur within the project corridor given suitable habitat.

**Figure 3-1: Listed and Protected Species Map**



**High** - The species is known to occur in Highlands and Okeechobee Counties or the bio-region, suitable habitat is represented along the project corridor, and the species has recently been documented within the project corridor.

**Table 3-1** lists the federally and state-listed and otherwise protected wildlife species known to occur within Highlands and Okeechobee Counties that could potentially occur near the project area based on potential availability of suitable habitat and known ranges.

There is no proposed or final Critical Habitat within or adjacent to the project area; therefore, the project will not result in the destruction or adverse modification of Critical Habitat.

### 3.2.1 FEDERALLY LISTED WILDLIFE SPECIES

#### 3.2.1.1 REPTILES

**Eastern Indigo Snake (*Drymarchon corais couperi*)**

The Eastern indigo snake is designated as threatened by the USFWS. This species may inhabit a variety of natural areas including forested uplands and wetlands as well as wet and dry prairies with a moderate potential to occur within the project corridor. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range and gopher tortoise burrows were observed in the project footprint. It is documented to have occurred on privately owned land approximately 1 mile south of SR 70 in 1970; there are no closer, publicly available recorded observations. FDOT corresponded with the USFWS in May 2023 to request information on any closer documented observations; the USFWS confirmed that the known observation is the closest to the project (**Appendix I**). Suitable habitat for the species exists within and adjacent to the project corridor. The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be utilized during construction (**Appendix J**). Based on the USFWS Consultation Key for the Eastern Indigo Snake – Revised (2017) (**Appendix K**), the key path for the species is (A>B>C>D>E), "may affect, not likely to adversely affect".

#### 3.2.1.2 BIRDS

**Florida Scrub-Jay (*Aphelocoma coerulescens*)**

The Florida scrub-jay is designated as threatened by the USFWS and the project is within the CA for the species. The Lake Wales Ridge Scrub-Jay Service Area, which defines the general species range for purposes of scrub-jay conservation bank mitigation, is located approximately one mile north of the project area. This species has no potential of occurrence within the project corridor. Optimal scrub-jay habitat occurs on scrub ridges with well drained to excessively well drained soils that have scrub oaks (*Quercus spp.)* one to three meters in height interspersed with ten to 50% unvegetated sandy opening, and a sand pine (*Pinus clausa*) canopy of less than 20%. However, scrub-jay habitat is generally defined as scrub and scrubby flatwoods or any upland community where scrub oak species make up 15% or more of the ground cover. According to available GIS data from 1992-1993, there was once suitable Florida scrub-jay habitat along the project corridor but that area has since been developed and is now part of the Kissimmee River Fishing Resort. The closest documented habitat (undeveloped) is located approximately one mile north of the project area. Additionally, two Florida scrub-jays were documented in 1992-1993 approximately 6 miles north of the project limits.

**Table 3-1: Potentially Occurring and Observed Listed Wildlife Species**

| Species | Common Name | FWC | USFWS | Habitat | Potential for Occurrence |
|---|---|---|---|---|---|
| **REPTILES** | | | | | |
| *Drymarchon corais couperi* | Eastern indigo snake | - | T | Hydric hammock, palustrine, sandhill scrub, upland pine forest, mangrove swamp | Moderate |
| *Gopherus polyphemus* | Gopher tortoise | T | - | Sandhill, scrub, xeric hammock, ruderal, dry prairie, pine flatwood | High |
| *Pituophis melanoleucus mugitus* | Florida pine snake | T | - | Well-drained sandy soils with a moderate to open canopy | Low |
| **BIRDS** | | | | | |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | - | E | Large, treeless, relatively poorly drained grasslands with history of frequent fire | No |
| *Aphelocoma coerulescens* | Florida scrub-jay | - | T | Relict dune ecosystems or scrub on well drained sandy soils; scrubby oaks | No |
| *Athene cunicularia floridana* | Florida burrowing owl | T | - | Native prairies and cleared areas with short groundcover | Low |
| *Egretta caerulea* | Little blue heron | T | - | Shallow edges of any surface waters | High |
| *Egretta tricolor* | Tricolored heron | T | - | Shallow edges of any surface waters | High |
| *Falco sparverius paulus* | Southeastern American kestrel | T | - | Sandhill, mesic flatwoods, ruderal, dry prairie | Moderate |
| *Grus canadensis pratensis* | Florida sandhill crane | T | - | Basin marsh, depression marsh, dry prairies, marl prairie, pastures | Moderate |
| *Haliaeetus leucocephalus* | Bald eagle | - | NL[1] | Estuarine, lacustrine, riverine, tidal marsh, tall trees or structures for nesting | Moderate |
| *Laterallus jamaicensis* | Eastern black rail | - | T | Brackish, salt, and freshwater wetlands with dense low-growing herbaceous vegetation | No |
| *Mycteria americana* | Wood stork | - | T | Shallow edges of surface waters | High |
| *Pandion haliaetus* | Osprey | - | NL[1] | Estuarine, lacustrine, riverine, tidal marsh, tall trees or structures for nesting | High |
| *Picoides borealis* | Red-cockaded woodpecker | - | E | Mature pine forests containing living longleaf pine trees | No |
| *Polyborus plancus audubonii* | Audubon's crested caracara | - | T | Prairies with cabbage palms, wooded areas with saw palmetto, scrub oaks, pastures | High |
| *Rostrhamus sociabilis plumbeus* | Snail kite | - | E | Lowland freshwater marshes and littoral shelves of lakes | No |
| *Sternula antillarum* | Least tern | T | - | Coastal beaches, estuaries, and bays, occasional use of rooftops | No |
| **MAMMALS** | | | | | |
| *Eumops floridanus* | Florida bonneted bat | - | E | Cavities in natural and manmade structures | Low |
| *Perimyotis subflavus* | Tricolored bat | - | P | Cavities in structures, trees, and land formations | High |
| *Puma concolor coryi* | Florida panther | - | E | Swamps, tropical hammocks, pine flatwoods, cabbage palm forests, sawgrass marshes, Brazilian pepper thickets | Moderate |
| *Trichechus manatus* | West Indian manatee | - | T | Coastal waters, bays, rivers | Moderate |
| *Ursus americanus floridanus* | Florida black bear | NL[2] | - | Flatwoods, swamps, scrub oak ridges, bayheads | Low |
| **INVERTEBRATES** | | | | | |
| *Danaus Plexippus* | Monarch butterfly | - | P | diversity of blooming nectar plants, specifically milkweed | Moderate |

ranking: E - endangered, T – threatened

**USFWS Notations:**

[1]The Bald Eagle and Osprey are not listed but are afforded federal protection through the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA).

P = The tricolored bat and monarch butterfly are proposed species for federal listing.

**FWC Notations:**

[2] The Florida black bear is no longer listed as threatened, however is still protected under the FWC Florida Black Bear Management Plan. This species has a significant vulnerability to habitat modification, environmental alteration, human disturbance, or human exploitation which, in the foreseeable future may result in becoming a threatened species unless appropriate protective/management techniques are initiated/maintained.

**Note:**

*In accordance with Florida Administrative Code (FAC) Title 68A-27.0012, Procedures for Listing and Removing Species from Florida's Endangered and Threatened Species List, federally endangered or threatened species under the Endangered Species Act are listed by the FWC by their federal designation.*

No evidence of Florida scrub-jays was observed during the course of project surveys. The project footprint lacks scrub habitat and lacks scrub oaks, and existing natural areas appear to experience fire suppression, which is not conducive to maintaining suitable scrub-jay habitat. As a result, no species-specific surveys are deemed necessary. Based on lack of previously documented individuals near the project footprint and lack of suitable habitat within the project footprint, but some potential for the species to occur beyond the 500-foot buffer of the project, a determination of "no effect" is appropriate for this species.

**Crested Caracara (*Polyborus plancus audubonii*)**

The Audubon's crested caracara is listed as threatened by the USFWS. The project is located within the CA for the species and is located approximately 0.80-mile outside of a caracara gathering area. Ideal caracara habitat consists of a mix of wet prairie with cabbage palms, wooded areas with saw palmetto, cypress, scrub oak (*Quercus inopina*) ecosystems, and open pasturelands. As caracaras forage on carrion, they are somewhat adapted to non-natural areas and opportunistically feed on roadkill. Cabbage palms are the preferred nesting location for the caracara. Cabbage palms occur intermittently adjacent to the corridor and there is available foraging habitat for the species. It is possible that the proximity to roadways would provide a reliable food source (carrion) for caracaras. There are several documented occurrences of this species and nests within and near the project footprint for the full extent of the project corridor (FNAI report). As a result, the potential for occurrence is high.

During general field surveys two crested caracara were observed on the morning of October 24th, 2023. Additionally, species-specific surveys were conducted from January 4 through April 28, 2023 for this project and an adjacent SR 70 PD&E Study segment (FPID 449851-1) – see **Appendix L** and **Figure 7**. This survey recorded a total of three nests in the vicinity of the project. USFWS Guidelines provide a series of recommended restrictions for activities in the primary and secondary zones both during nesting season and outside nesting season. The USFWS defines the primary zone as 300 meters (985 feet) and the secondary zone as 1,500 meters (4,920 feet).

Nest A is located east of CR 721 S and was recorded by the adjacent PD&E study project survey. This nest is located 1,270 feet south of the Preferred Alternative, therefore the Preferred Alternative is outside of the primary zone but within the secondary zone. The nest will remain in the post-project condition. A total of 30.71 acres of habitat is located within the secondary zone, east of CR 721 S (within this project segment). Two nests, Nests B and C, are located within the center portion of the project. Nest B will be directly impacted by the project and the nest tree will require removal for construction of the roadway widening. Nest C is located north of SR 70 and east of NW Boney Lane, and is approximately 336 feet north of the Preferred Alternative. This nest tree will remain in the post-project condition, but the project footprint overlaps the primary protection buffer and the secondary protection buffer. An estimated 61.35 acres of suitable caracara habitat are located within the primary protection buffer of which, approximately 7.64 acres will be impacted by the project. Additionally, a total of 48.24 acres of habitat is located within the secondary zone. **Table 3-2** provides details of the land uses within the primary protection zone of the Nest C, and what will remain and be impacted following project construction. **Figure 3-2** provides a zoomed-in view of Nest C in relation to the Preferred Alternative and depicts the suitable habitat that falls within both the Preferred Alternative and primary protection buffer. Though no impacts are expected for Nest A, given the direct impacts to Nest B, and direct impacts to suitable habitat within the primary protection zone of Nest C, a determination of "may affect, likely to adversely affect" is appropriate for this species. Impacts to the caracara are mitigated through a monetary contribution to the Crested Caracara Conservation Fund. A contribution of $100,000 is anticipated for the direct impact to Nest B and $45,840 is anticipated for the land use conversion of suitable habitat to transportation use within the primary

protection zone of Nest C. Mitigation for land conversion within the secondary protection zones is not proposed. The following commitments will be included for this project:

- FDOT will provide a financial contribution of $145,840 to the Crested Caracara Conservation Fund for impacts to the primary for the nests adjacent to the project action area.
- The Action Area will be resurveyed prior to construction to confirm the locations of active Audubon's crested caracara nests. If the nest locations have moved or additional nests are found, consultation with the USFWS will be reinitiated.

**Table 3-2: Suitable Caracara Habitat Associated with Nest C for Mitigation Determination**

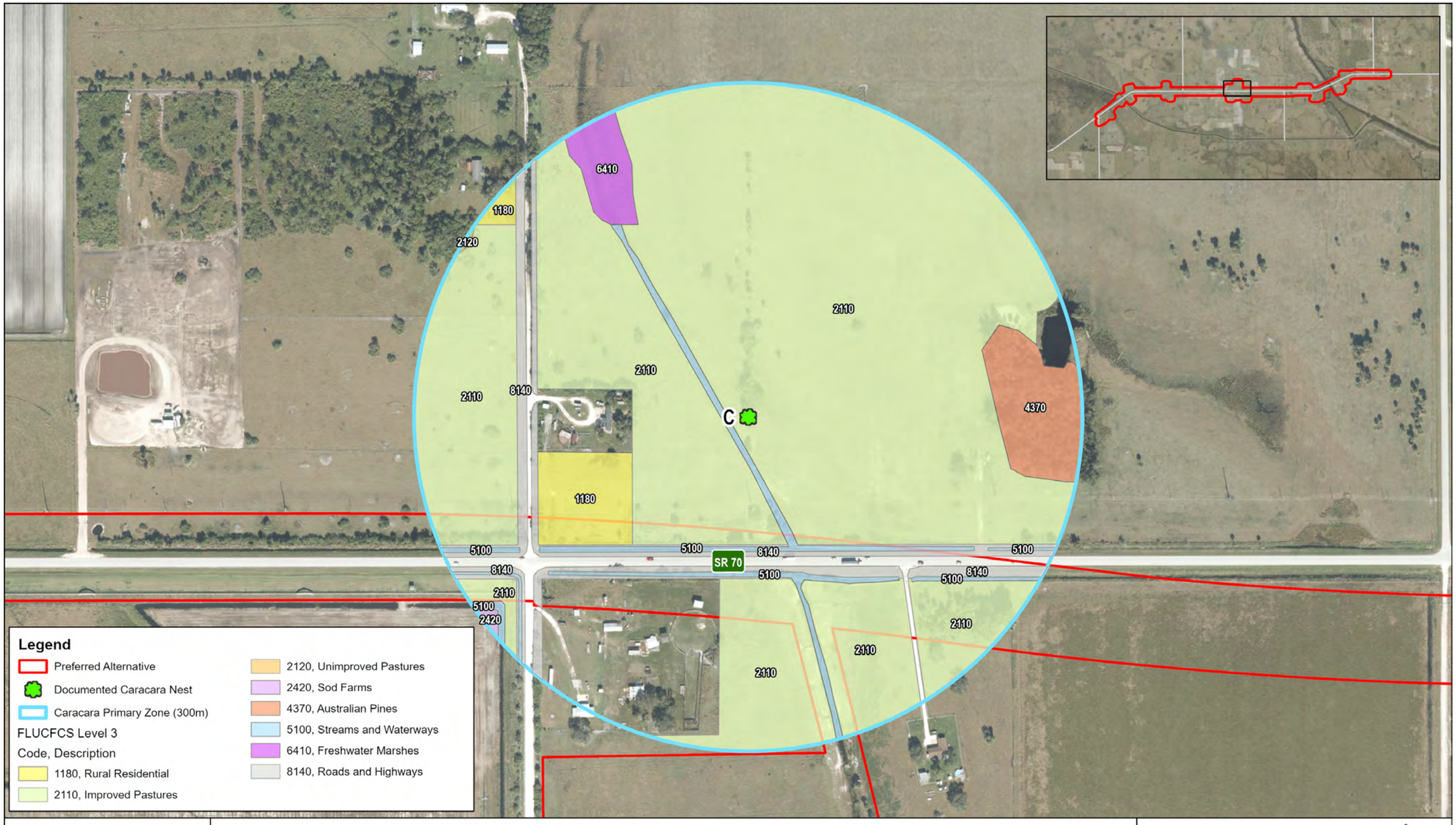
| Land Use Code | Land Use Description | Acres in Primary Protection Buffer | Acres in Primary Protection Buffer and Preferred Alternative | Acres that will Remain in Post-Project Condition |
|---|---|---|---|---|
| 1180 | Rural Residential | 1.96 | 0.47 | 1.49 |
| 2110 | Improved Pastures | 51.00 | 4.32 | 46.68 |
| 2120 | Unimproved Pastures | 0.03 | 0.00 | 0.03 |
| 2420 | Sod Farms | 0.07 | 0.00 | 0.07 |
| 4370 | Australian Pine | 2.19 | 0.00 | 2.19 |
| 5100 | Streams and Waterways | 1.86 | 1.02 | 1.84 |
| 6410 | Freshwater Marshes | 1.01 | 0.00 | 1.01 |
| 8410 | Roads and Highways | 3.24 | 1.83 | 3.24* |
| **TOTAL** | | **61.35** | **7.64** | **56.55** |

Note: roads and highways does not include the existing roadway pavement but does include the grassy roadside.
*In the post-project condition, the reconstructed roadway will contain the same or more acreage of grassy roadside for foraging.

**Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)**

The Florida grasshopper sparrow is listed as endangered by the USFWS and the project is located within the CA of the species. The Florida grasshopper sparrow is endemic to the dry prairies of central and southern Florida. This species has extremely specific habitat requirements and only inhabits large (greater than 50-hectare), essentially treeless, relatively poorly drained grasslands that have a history of frequent fire; therefore, there is no potential of occurrence within the project corridor. There are patches of potential habitats within central Florida, however this species last known strongholds are Three Lakes Wildlife Management Area and the Kissimmee Prairie Preserve State Park. The closest recorded observation to the project is approximately 17 miles north and on the outskirts of the Kissimmee Prairie Preserve State Park. There are two FLUCFCS series that could potentially sustain habitat for this species, FLUCFCS 2000 (Agriculture) and FLUCFCS 3000 (Rangeland). However, the historic habitat data layer for this species was reviewed and upon desktop and field verification, areas within the project study area that are mapped as these series are either maintained or altered and harvested, consisting primarily of improved pasture and sod farms. No native dry prairie habitat is found within the project footprint or the

**Figure 3-2: Suitable Caracara Habitat Associated with Nest C Map**



study area. Due to the lack of habitat, the FDOT concluded that a species-specific survey was not necessary and confirmed this finding and approach with the USFWS in April 2024 (**Appendix I**). Given the lack of suitable habitat for the species within not only the project footprint but also the project study area, the project will have "no effect" on the Florida grasshopper sparrow.

**Wood Stork (*Mycteria americana*)**

The wood stork is listed as threatened by the USFWS. Wood storks are known to use freshwater marshes, swamps, lagoons, ponds, flooded fields, depressions in marshes and brackish wetlands, open pine-cypress wetlands, and manmade wetlands (i.e. ditches, canals, and stormwater retention ponds). Wood storks are typically colonial nesters and construct their nests in medium to tall trees located within wetlands or on islands. Wood storks are known to forage within a large area, up to 40 miles, from the colony. The potential for occurrence of this species within the project corridor is high.

For south Florida, the USFWS has defined the CFA for a wood stork colony as the area within an 18.6-mile radius from the colony location. The project corridor is located within the CFA of two wood stork colonies: Gator Farm (approximately 14 miles south) and Lemkin Creek (approximately 5 miles southeast). As defined by the USFWS, wood stork suitable foraging habitat (SFH) includes wetlands and surface waters that have areas of water that are relatively calm, uncluttered by dense thickets of aquatic vegetation, and have permanent or seasonal water depth between two and 15 inches. During the field visit, wood storks were observed foraging in ditches along the SR 70 project corridor.

The wetlands and other surface waters within the project footprint generally provide SFH. The project proposes permanent impacts to 30.14 acres of short-hydroperiod other surface water and wetlands, and 8.96 acres of long-hydroperiod wetlands which results in a net loss of 37.98 kilograms total (fish and crayfish) biomass. **Table 3-3** includes the summary of biomass period hydroperiod class. Mitigation for wetland and surface water impacts would likely exceed what is required to offset impacts to wood stork SFH. FDOT will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank. Due to the availability of a viable mitigation option (discussed in **Section 4.4**), and use of the USFWS South Florida Programmatic Concurrence for the wood stork (2010) (**Appendix M**) the key path is (A>B>C>D) and a determination of "may affect, not likely to adversely affect" is appropriate for this species.

**Table 3-3: Summary of Wetland and Water Impacts by Hydroperiod Length**

| Hydroperiod Classes | ID | Direct Impacts (acres) | Biomass (kilograms) |
|---|---|---|---|
| Class 2 (60-120 days) | OSW-2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 21, 28, 29, 31, 32, 33, 41, 42, 43, 44, 45, 46, 52, 53, 54, 55, 61, 62, 63, 64, 65, 66, 74, 75, 76, 78, 79, 80, 82, 86, 89, 91, 93, 96, 97, 103, 109<br>WL-32 | 25.54 | 20.83 |
| Class 3 (120-180 days) | WL-30 | 3.08 | 0.16 |
| Class 3 (120-180 days) | WL-36 | 1.52 | 1.69 |
| Class 4 (180-240 days) | WL-4, 9, 24, 33, 37, 50 | 5.17 | 5.89 |
| Class 5 (240-300 days) | WL-1, 10, 16, 48, 62, 67 | 3.59 | 8.85 |
| Class 6 (300-330 days) | WL-12, 42, 43 | 0.20 | 0.57 |
| | **Total** | **39.10** | **37.98** |

**Snail Kite (*Rostrhamus sociabilis plumbeus*)**

The snail kite is designated by the USFWS as endangered. The project is located within the CA for the species. This species requires habitat consisting of freshwater marshes and shallow vegetated marshes or lake edges where apple snails (*Pomacea paludosa*) are found. While the majority of the corridor has been converted to agricultural land uses, which has resulted in the removal of native vegetation and the lowering of the ground water table, some small freshwater marsh wetlands remain, primarily as wetland pockets within pastureland. The closest documented snail kite nest is approximately 8 miles southeast of the project, located in the northern part of Lake Okeechobee. No individuals were observed during field reviews.

This species has no potential to occur within the project corridor. A site review was conducted on April 27, 2023 to inspect potential snail kite habitat within the project area. However, based on this survey, suitable foraging and nesting habitat was not observed. Based on the lack of suitable foraging and nesting habitat, a snail kite species-specific survey was not deemed warranted and FDOT requested review and approval by the USFWS in May 2023. USFWS agreed that suitable nesting habitat is lacking from the project study area and that no further survey is warranted (**Appendix I)**. Therefore, the appropriate determination of effect is "no effect" the species.

**Red-Cockaded Woodpecker (*Picoides borealis*)**

The red-cockaded woodpecker is federally listed as endangered by the USFWS. While portions of Highlands County are located within the CA for the species, the project study area is outside of the CA. This species is extremely habitat specific; optimal habitat consists of forests of mature live longleaf pine (*Pinus palustris*) and/or loblolly pine (*Pinus taeda*). Therefore this species has no potential of occurrence within the project corridor. Red-cockaded woodpeckers are primary excavators of these trees; their behavioral adaptations require them to excavate cavities in the live wood. The nearest documented species observation is approximately 16 miles west of the project and no observations were made during field reviews. As suitable old-growth forest is absent from the project area and limited in the nearby surroundings, the project will have "no effect" on the species.

**Eastern Black Rail (*Laterallus jamaicensis*)**

The Eastern black rail is federally listed as threatened by the USFWS. The project is within the current range for the species. This marsh bird is wetland dependent. While it can be found in salt, brackish, and freshwater marshes that are tidally or non-tidally influenced, it has a very specific niche habitat. It requires dense herbaceous vegetation to provide shelter and cover and areas for protected nest sites; it is not found in areas with woody vegetation. There is no potential of occurrence within the project corridor. Occupied habitat tends to be primarily composed of fine-stemmed emergent plants (rushes, grasses, and sedges) with high stem densities and dense canopy cover. The species also requires moist to saturated soils and gentle slopes that allow for shallow inundation for nesting areas but also elevated refugia with dense cover to survive high water events. Although there are herbaceous wetlands within and near the project, these have generally short hydroperiods and have been field-verified to not provide constant inundation, particularly during the nesting season of the species in South Florida which is from February through May. The hydrology of wetlands in the project study area appears to be impacted by land use practices, for example, ditching to drain pastures, and ditching and canal management to maintain sod farms and row crops. Also, due to mowing and cattle use, continuous, dense vegetation that the species requires is lacking in the project study area wetlands. Suitable nesting and foraging habitat is therefore absent within the project footprint, and a species-specific survey is not warranted. There are no records

of this species within one mile of the project limits and no individuals were observed during field reviews. Additionally, the project will provide suitable mitigation for all wetland impacts. Therefore, the appropriate determination of effect for the Eastern black rail is "no effect".

#### 3.2.1.3 MAMMALS

**Florida Bonneted Bat (*Eumops floridanus*)**

The Florida bonneted bat is listed as endangered by the USFWS. The species inhabits forests, wetlands, open water areas, and both natural and manmade structures in southern Florida. The project is within the CA for the species; however, not within the designated Critical Habitat for this species (**Figure 7**). During field reviews, potential Florida bonneted bat roosts were observed, consisting of numerous large trees and snags with suitably sized cavities. Upon inspection of the bridges over canal C41A and the Kissimmee River, no evidence of bat roosting was noted. Additionally, an emergence survey was completed on October 23, 2023 and May 2, 2024, and no bats were observed in the C-41A Canal or the Kissimmee River bridges. The potential for occurrence is low for this species within the project corridor.

Given that the project footprint contains potential roosting habitat and greater than five acres of potential habitat will be affected, the Consultation Key for the Florida bonneted bat (2019) (**Appendix N**) indicates that the project (step 1a>2a>3b> Conduct acoustic survey, then go to 6) requires a species-specific survey before the USFWS can consult on this species. The FDOT coordinated with USFWS with submittal of the proposed survey methodology which was approved on April 18, 2024. An acoustic survey for this species was conducted from May 2, 2024 to May 15, 2024 and the summary memorandum is provided in **Appendix O**. No evidence of the Florida bonneted bat was documented. Therefore, as per the 2019 key, because Florida bonneted bat activity was not detected (step 6b), a determination of "no effect" was reached.

**Tricolored Bat (*Perimyotis subflavus*)**

The tricolored bat was proposed for federal listing by the USFWS as endangered on September 13, 2022 but is currently not a federally listed species. There is no CA for this species at this time. In its southern range, which includes Florida, this species roosts in tree foliage, palm fronds, Spanish moss, and man-made structures during the summer. There is potential roosting habitat within and adjacent to the study area. During field surveys, visual inspection of potential roosting trees, cavities, and existing bridges was conducted to identify potential bat roosting sites within the project area; however, no evidence (guano, staining, smell or aural sounds) of roosting bat habitat was observed within or adjacent to the study area. Field surveys also included evening emergence surveys on October 22, 2023 and May 2, 2024 with a biologist stationed at each bridge location (Kissimmee River and C-41A).

While the IPaC report did not list the tricolored bat as potentially occurring within the project area, the acoustic survey conducted for the Florida bonneted bat auto-detected 675 calls of the tricolored bat; therefore, this species has a high potential for occurrence within the project corridor. Since these calls were not manually verified, additional data analysis would be required to confirm that they were tricolored bat recordings but given the high number of recorded calls it is presumed that the species does exist in the project study area. The project may result in impacts to the tricolored bat in the form of vegetation removal during construction. As this species is currently proposed for listing, consultation is not required at this time. If the listing status of the tricolored bat is elevated by USFWS to threatened or endangered prior to the completion of construction, FDOT commits to re-initiating consultation with the USFWS to determine the appropriate avoidance and minimization measures.

**West Indian Manatee (*Trichechus manatus*)**

The West Indian manatee is a federally listed threatened species. The project is not within the CA of this species. The nearest documented species observation is located approximately 18 miles south of the project area. The nearest documented mortality occurred in 2020 one mile south of the project within the Kissimmee River. Manatees may inhabit marine and freshwater habitats and seek warm-water sites during the winter season. The potential for occurrence within the project corridor is moderate. The C-41A Canal does not allow manatee movement due to lock structure S84 at the Kissimmee River connection. According to the Central and Southern Florida Project Manatee Accessibility Map, the Kissimmee River from Lake Okeechobee to Lake Kissimmee is accessible to manatees (including the lock structures). The Kissimmee River is the only waterway within the project limits that is accessible to the manatee; however, there have been no documented observations of manatees north of lock structure S65E (SW 128th Avenue) up to Lake Kissimmee. Therefore, manatees are not expected to traverse the project area due to limited documented observations, and none were observed during field visits. The USFWS and FWC Standard Manatee Construction Conditions for In-Water Work will be utilized during construction (**Appendix P**). The USFWS Effect Determination Key for the Manatee in Florida (2019) (step A>B>C>G>N>O>P) (**Appendix Q**) indicates a determination of "may affect, not likely to adversely affect" for this species.

**Florida Panther (*Puma concolor coryi*)**

The Florida panther is a federally endangered species found primarily in South Florida. This species has a moderate potential for occurrence within the project corridor. The project is not located within the Panther Focus Area, but is within the Thatcher Dispersal Pathway. This area is based on model locations that show some areas where panthers have historically moved to access habitats further north of the Focus Area. Therefore, the Thatcher Dispersal Pathway and the project are located outside the panther Focus Area and the closest FWC telemetry data is recorded 10 miles southwest of the project area. The nearest Florida panther vehicle-caused mortality to this project occurred in 2024 and was documented approximately four miles west of CR 721 S on SR 70. There are no documented panther vehicle hot spots as per the Southwest Florida Roads Hot Spots data within the project limits. The project does not propose impacts to the Focus Area of this species. Additionally, there have been no recorded observations of the Florida panther within two miles of the project corridor or within the last two years, and no evidence of panthers was observed during field surveys.

As per the FDOT Florida Panther Conservation Plan, this project is considered a "Group 4" project, which is a project that is not covered by the FDOT Programmatic Approach for Minor Transportation Activities and is outside of the panther Focus Area. As a result, no habitat impact offsets through the purchase of panther habitat units (PHU) are anticipated. While not required, there is an opportunity for FDOT to provide conservation measures that reduce wildlife vehicle collisions (current or future anticipated) or that support range expansion. Portions of the project, particularly the areas of the C-41A Canal bridge and Kissimmee River bridge, are included as Priority 1- Critical Linkages- of the Ecological Greenways Network. These same areas are included in the Florida Wildlife Corridor, Priority 1 Region. Additionally, a Florida Panther Least Cost Path, named the Fisheating Creek WMA to Dupuis/Corbett WMA, is identified crossing SR 70 at the Kissimmee River, which indicates a computer-modeled potential travel pathway for the species. Surrounding this least cost path is a Primary Corridor as identified by the Florida Panther Corridors. Wildlife crossings and features are discussed in **Section 3.3**.

FDOT in partnership with FWS and FWC, drafted the FDOT Conservation Plan in May 2024 which includes the Florida Panther Project-Level Section 7 Form as Appendix B within the Conservation Plan (**Appendix R** in this NRE). Based on the 2024 Conservation Plan, the project "may affect, not likely to adversely affect" this species. Additionally, beneficial effects will be achieved from implementing proactive conservation measures consisting of the inclusion of wildlife shelves at the two project bridge locations. The estimated habitat mitigation value of the enhancement areas, assuming wildlife shelves on each side of the C-41A Canal and Kissimmee River bridges with no fencing (to serve as a conservative estimate which will be refined in the design phase), is 46.6 PHUs. **Appendix R** provides the PHU calculation.

#### 3.2.1.4 INVERTEBRATES

**Monarch Butterfly (*Danaus plexippus*)**

The monarch butterfly was proposed for listing under the ESA by the USFWS on December 12, 2024. Within North America, the monarch butterfly is a highly migratory species which typically winters in Mexico. This species requires a diversity of blooming nectar resources, but of particular importance is milkweed (Asclepias spp.). Milkweed is a microhabitat requirement for this species to both deposit eggs and as a larval nutrition source. Milkweed was not observed during field reviews, but it is reasonable to assume that it can sporadically exist along the roadside and open land uses when maintenance activities such as mowing are infrequent. A moderate potential of occurrence within the project corridor is anticipated. As this species is currently proposed for listing, consultation is not required at this time. If the listing status of the monarch butterfly is elevated by USFWS to threatened or endangered and the Preferred Alternative is located within the CA, FDOT commits to re-initiating consultation with the USFWS during the design and permitting phase of the project to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the monarch butterfly.

### 3.2.2 STATE-LISTED WILDLIFE SPECIES

#### 3.2.2.1 REPTILES

**Gopher Tortoise (*Gopherus polyphemus*)**

The gopher tortoise is listed by the FWC as threatened. Gopher tortoise burrows provide habitat for many commensal species. Ideal habitats include xeric areas with sandy soils, open canopy and low groundcover. During the field surveys, 16 burrows were observed on October 23 and 24, 2023 (**Figure 7**); therefore, this species has a high potential for occurrence within the project study area. A comprehensive, 100 percent gopher tortoise burrow survey will be required prior to construction. Based on current FWC regulations, any gopher tortoise located within 25 feet of the project construction area must be relocated to an FWC-approved recipient site or temporarily relocated onsite. Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC. Because a 100 percent survey with relocation, if needed, will be conducted prior to construction, the project will have no adverse effect anticipated on the gopher tortoise.

**Florida Pine Snake (*Pituophis melanoleucus mugitus*)**

The Florida pine snake is a state designated threatened species that inhabits areas featuring well-drained sandy soils with a moderate to open canopy cover of primarily pine trees (*Pinus* spp.) and scrub oaks (*Quercus* spp.). No individuals were observed during field reviews and there is minimal habitat along the project corridor that could provide habitat for this species, therefore the potential for occurrence is low.

Since impacts to such habitat are expected to be minimal, the project will have no adverse effect anticipated on the Florida pine snake.

#### 3.2.2.2 BIRDS

**Florida Sandhill Crane (*Grus canadensis pratensis*)**

The Florida sandhill crane is listed as threatened by the FWC. These birds nest on mats of vegetation approximately two feet in diameter and in shallow freshwater marshes, prairies, and pastures. Foraging habitat can include any type of open land, wet or dry. Suitable nesting and foraging habitat exist in the project study area. This species has a moderate potential for occurrence within the project corridor. No Florida sandhill crane individuals or nests were observed during general species field surveys, however individuals were observed during the species-specific caracara surveys conducted January through April 2023. Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. With the implementation of these measures, the project will have no adverse effect anticipated on the Florida sandhill crane.

**Florida Burrowing Owl (*Athene cunicularia floridana*)**

The Florida burrowing owl is designated by the FWC as threatened. The range of the burrowing owl is throughout peninsular Florida in patches and localized areas. The species inhabits open prairies in Florida that have very little understory vegetation and good visibility. These areas include golf courses, airports, pastures, agriculture fields, and vacant lots. The closest recorded nest according to FWC data is located 2.5 miles north of SR 70 along Larson Dairy Road. The species utilizes existing subterranean burrows created by other species (including gopher tortoises, opossums, and armadillos). Dry prairies and dry pastureland are present throughout the project study area but no burrows were observed during field reviews; therefore, the species has a low potential for occurrence. Surveys for the Florida burrowing owl will be conducted during the design phase. If it is determined individuals or nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. If burrowing owls are found, coordination with the FWC will establish avoidance, minimization, and permitting options. As a result of these measures, the project will have no adverse effect anticipated on the Florida burrowing owl.

**Southeastern American Kestrel (*Falco sparverius paulus*)**

The Southeastern American kestrel is listed by the FWC as threatened. The species inhabits sandhills, flatwoods, and open pastures with scattered pine. The species is commonly observed perched on power lines in rural to suburban areas. A moderate potential for occurrence within the project corridor is anticipated for this species. Nesting habitat includes cavities in snags (dead trees). Suitable habitat for the species, including occasional snags, occur along the project corridor. The Southeastern American kestrel subspecies is very difficult to differentiate from the American kestrel (*Falco sparverius*). As a result, positive confirmation of Southeastern American kestrels is generally limited to the subspecies' nesting season, which is May through August. During the field reviews conducted in August 2023, no Southeastern American kestrels were observed. Surveys for the Southeastern American kestrel will be conducted during the nesting season (May through August) in the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. Based on this measure

and since no kestrels are known to nest within the project footprint, the project is anticipated to have no adverse effect anticipated on the Southeastern American kestrel.

**Wading Birds**

Wading birds such as the little blue heron (*Egretta caerulea*) and tricolored heron (*Egretta tricolor*), are state listed threatened and are afforded some levels of federal protection by the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). The reddish egret (*Egretta rufescens*) and roseate spoonbill (*Platalea ajaja*) are also known as part of the commonly listed wading birds; however, they are not known to occur in Highlands or Okeechobee counties. The closest wading bird rookery is approximately 0.87-mile southeast as recorded in 1999. These species utilize shallow herbaceous or shrub-dominated wetlands for both nesting and foraging habitat and have a high potential for occurrence within the project corridor. The project proposes to impact wetlands and surface waters which provide foraging habitat for wading birds. All wetland impacts will be mitigated to prevent a net loss of wetland functions and values. This wetland mitigation will offset impacts to wading bird foraging and nesting habitat. Based on the proposed mitigation, it is anticipated that the project will have no adverse effect anticipated on the little blue and tricolored herons.

**Least Tern (*Sternula antillarum*)**

The least tern is a listed as threatened by FWC. This shorebird species, which is known to occur along coastal Florida, occasionally inhabits inland sandy areas including a majority of Highlands County and a portion of Okeechobee County. The species is known to breed on sandy or gravelly beaches and banks. It is also known to utilize the roofs of buildings, especially ones with gravel, as nesting locations. During various field visits for listed species, the least tern was not observed and has no potential for occurrence within the project corridor. The project footprint does not provide appropriate habitat given lack of open, sandy areas and lack of gravel-roof buildings, and no individuals were historically documented nearby; therefore, the project will have no effect anticipated on this shorebird species.

#### 3.2.2.3 PROTECTED NON-LISTED WILDLIFE SPECIES

**Bald Eagle (*Haliaeetus leucocephalus*)**

This species receives federal protection under the MBTA and the Bald and Golden Eagle Protection Act (BGEPA). Protection buffers of eagle nests include a 330-foot buffer, in which construction activity cannot occur during the eagle nesting season (October 1 – May 15), and a 660-foot buffer, in which construction during the nesting season can only occur if monitored by a biologist and confirmed that no nest disturbance results. A desktop review using FWC data and Audubon EagleWatch 2023 nesting data indicates that no documented nests are within the project area. The closest documented nest is HI015, occurring north of SR 70 and east of NW Boney Lane (0.24-mile north of the corridor) (**Figure 7**). This nest, which is unmonitored and lacks current occupancy data, was not observed from the vantage point of Boney Lane during field reviews. A local resident informed project ecologists on May 2, 2024 that the nest was no longer active. Also on May 2, 2024, an eagle nest was observed near Broadwing Lane, approximately 0.3 miles north of the project, which could be the new location of this nest (**Figure 7**). No activity was observed during this field survey. Other bald eagle nests in the general area exist but are all significantly further than 660 feet away from the project footprint. Therefore, the potential of occurrence for this species within the project corridor is moderate.

A surveys to update locations of active bald eagle nest sites will be conducted during the design phase, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary. Therefore, the project will have no anticipated impact on the bald eagle.

**Osprey (*Pandion haliaetus*)**

The osprey receives federal protection under the MBTA and has the potential to occur within the project area. Ospreys predate fish in open fresh and saltwater wetlands. Several ospreys and osprey nests were observed during field surveys within the project footprint (**Figure 7**). The potential of occurrence for this species within the project corridor is high. A survey to update locations of active osprey nest sites will be conducted during the design phase, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary. Therefore, the project will have no anticipated impact on the osprey.

**Florida Black Bear (*Ursus americanus floridanus*)**

The Florida black bear is no longer listed as a threatened species by the FWC. While it was removed from the state list of protected species in August 2012, it is still protected through the Florida Administrative Code 68A-4.009 Florida Black Bear Conservation. The project area is located approximately two miles northeast of the secondary range of the Glades/Highlands population. Bears are considered rare within this area of the South Bear Management Unit; therefore, the potential for occurrence is low. There are no nuisance reports documented within one mile of the project area. The nearest bear nuisance event was reported 2.67 miles northwest of the project area in 2000. No bear mortalities have been documented within one mile of the project. Although suitable habitat occurs in pockets surrounding the project area, this project is not anticipated to result in an increase in the chance for road-associated mortalities given the lack of documented bear activity in the area. Therefore, the project will have no anticipated impact on the Florida black bear. However, beneficial effects from implementing proactive conservation measures could result. Wildlife features are discussed in **Section 3.3**.

### 3.2.3 PLANTS

In accordance with the ESA of 1973 (as amended), Chapter 5B-40.0055 F.A.C., and Chapter 581.185, F.S., the project was evaluated for the presence of listed plants within the project area. The project is not within the CA for the Lake Wales Ridge plant group or any other federally-listed plant CA. **Table 3-4** lists the federal and state-protected plant species that could potentially occur near the project area based on potential availability of suitable habitat and known ranges. A total of 15 protected plant species could occur, consisting of one federally listed and 14 state listed by the FDACS. The preferred habitats of these plant species are shown in **Table 3-4**.

The dominant vegetation along the corridor is bahia grass which is regularly mowed and maintained. Additionally, the majority of the stormwater pond sites are on agricultural properties, with varying degrees of routine maintenance and disturbance; native communities no longer remain. However, with fragments of remaining native habitats, it is possible for any of these plants to be found along the corridor, although no individuals were observed during field reviews.

**Table 3-4: Potentially Occurring Listed Plant Species**

| Species | Common Name | FDACS – Division of Plant Industry* | USFWS | Habitat | Probability of Presence or Occurrence |
|---|---|---|---|---|---|
| *Calamintha ashei* | Ashe's savory | T | - | Sandhills, sandy disturbed areas | No |
| *Nolina atopocarpa* | Florida Beargrass | T | - | Wet flatwoods | No |
| *Nolina brittoniana* | Britton's beargrass | E | E | Scrub, sandhill, scrubby flatwoods, xeric hammocks | No |
| *Calopogon multiflorus* | Many-flowered grass-pink | T | - | Dry to moist flatwoods | No |
| *Centrosema arenicola* | Sand butterfly pea | E | - | Sandhill, scrubby flatwoods, dry upland woods | No |
| *Coelorachis tuberculosa* | Piedmont jointgrass | T | - | Depressional marshes, margins of sandhill upland lakes, ephemeral ponds | Low |
| *Lechea cernua* | Nodding pinweed | T | - | Scrub and scrubby flatwoods | No |
| *Coleataenia abscissa* | Cutthroatgrass | E | - | Wet flatwoods, prairies, seepage areas | Low |
| *Linum carteri var. smallii* | Small's flax | E | - | Pine rocklands, pine flatwoods, adjacent disturbed areas | No |
| *Nemastylis floridana* | Celestial lily | E | - | Marshes, prairies, cabbage palm hammock edge, wet flatwoods | Low |
| *Platanthera integra* | Yellow fringeless orchid | E | - | Seepage slopes, open wet prairies and wetland flatwoods, wet pine barren, peaty depressions | Low |
| *Pteroglossaspis ecristata* | Giant orchid | T | - | Sandhill, pine flatwoods, scrub | No |
| *Lilium catesbaei* | Pine lily | T | - | Mesic flatwoods, dry prairies, wet prairie | Low |
| *Tillandsia fasciculata* | Cardinal wild-pine | E | - | Hammocks, flatwoods, swamps, the periphery of basin marshes and sloughs | Low |
| *Tillandsia utriculata* | Giant wild-pine | E | - | Pinelands, cypress swamps, dry and mesic hammocks | Low |

*T= Threatened, E=Endangered

### 3.2.3.1 FEDERALLY PROTECTED PLANTS

**Britton's Beargrass (*Nolina brittoniana*)**

Britton's beargrass is listed as endangered by USFWS and endemic to central peninsular Florida. This species range (as reported by USFWS) is located near the project area in the western portions of Highlands County, inhabiting scrub, sandhill, scrubby flatwoods, and xeric hammock habitats. It also requires prescribed burns to stimulate flowering and eliminate competition; therefore, there is no potential for occurrence. These xeric habitats are not present in the project study area and this type of land management is not known to occur within the project study area. Additionally, during field reviews, this species was not observed and according to the FNAI report, there are no documented observations of this species within one mile. Therefore, a determination of no effect is appropriate for this species.

### 3.2.3.2 STATE- PROTECTED PLANTS

**Small's flax (*Linum carteri var. smallii*)**

This species is listed as endangered and inhabits pine rocklands, pine flatwoods, and adjacent disturbed areas. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. Additionally, there is no suitable habitat within the project study area and there is no potential for occurrence of this species. Therefore, there is no effect anticipated on the small's flax.

**Florida Beargrass (*Nolina atopocarpa*)**

This species is listed as threatened. It inhabits grassy areas of mesic and wet flatwoods and has the potential to occur in Highlands County. It appears similar to a grass and grows as a rosette that forms bulblike bases. During field reviews, this species was not observed and according to the FNAI report, there are no documented observations of this species within one mile. This species has no potential for occurrence within the project corridor. Additionally, there is no suitable habitat within the project. Therefore, there is no effect anticipated on the Florida beargrass.

**Many-flowered grass-pink (*Calopogon multiflorus*)**

This species is listed as threatened and inhabits dry to moist flatwoods. These orchids depend on fire to flower. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. Additionally, there is no suitable habitat present within the project and no potential for occurrence of this species. Therefore, there is no effect anticipated on the many-flowered grass-pink.

**Piedmont jointgrass (*Coelorachis tuberculosa*)**

This species is listed as threatened and inhabits depressional marshes, margins of sandhill upland lakes, and ephemeral ponds. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor. Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the piedmont jointgrass.

**Cutthroatgrass (*Coleataenia abscissa*)**

This species is listed as endangered and inhabits wet flatwoods, prairies, and seepage areas. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor.

Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the cutthroatgrass.

**Celestial lily (*Nemastylis floridana*)**
This species is listed as endangered and inhabits marshes, prairies, cabbage palm hammock edge, wet and flatwoods. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor. Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the celestial lily.

**Yellow fringeless orchid (*Platanthera integra*)**
This species is listed as endangered and inhabits seepage slopes, open wet prairies and wetland flatwoods, wet pine barren, and peaty depressions. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor. Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the yellow fringeless orchid.

**Pine lily (*Lilium catesbaei*)**
This species is listed as threatened and inhabits mesic flatwoods, dry prairies, and wet prairies. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. Additionally, there is some suitable habitat within the project and low potential for occurrence of this species. Therefore, there is no adverse effect anticipated on the pine lily.

**Cardinal wild-pine (*Tillandsia fasciculata*)**
This species is listed as endangered and inhabits hammocks, flatwoods, swamps, the periphery of basin marshes and sloughs. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor. Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the cardinal wild-pine.

**Giant wild-pine (*Tillandsia utriculata*)**
This species is listed as threatened and inhabits pinelands, cypress swamps, dry and mesic hammocks. No documented records of the species occur within one mile of the project and no individuals were observed during project field surveys. This species has a low potential for occurrence within the project corridor. Additionally, there is some suitable habitat within the project. Therefore, there is no adverse effect anticipated on the giant wild-pine.

**Scrub-habitat plants**
The Ashe's savory (*Calamintha ashei*), sand butterfly pea (*Centrosema arenicola*), nodding pinweed (*Lechea cernua*), and giant orchid (*Pteroglossaspis ecristata*) were originally considered and evaluated for potential occurrence within the project area based on FNAI data. Habitat for these species includes sandhills, sandy disturbed areas, scrubby flatwoods, xeric hammocks, scrub, and sand pine scrub. These are generally plants endemic to the Lake Wales Ridge, and the project is not within the Lake Wales Ridge plant group CA. Additionally, following the field-verification of habitats and land use along the project corridor, these habitat types were not identified and no documented records of the species occur within one mile of the project. There is no potential for these species to occur in the project corridor. Therefore, there is no effect anticipated on these species.

#### 3.2.3.3 NON-LISTED RARE PLANTS

As per the April 2021 FDOT Native Florida Plant Coordination Guidance, peninsular Florida non-listed plants of interest or concern were reviewed for the project. According to the Everglades Headwater National Wildlife Refuge Land and Conservation Area Protection Plan and the South Florida Water Management District General Management Plan, non-listed rare plants have not been documented within the project study area. There have been no other documented non-listed rare plants identified by stakeholders within the project study area. During previous project field reviews, non-listed rare species were not identified; surveys were conducted in locations of the project with the highest quality habitat, least land use impacts, and during flowering seasons. Should non-listed rare plants be identified in later project phases, FDOT will report them to the FDACS. The FDACS may choose to forward the documentation to the Endangered Plant Advisory Council or similar organizations for plant preservation.

## 3.3 WILDLIFE FEATURES

A wildlife *crossing* is a road-related structure that provides wildlife an option to cross under roadways. These crossings have the potential to reduce motor vehicle collisions with wildlife, consequently reducing the likelihood of injuries and mortalities to humans and wildlife as well as reducing the potential for damage to motor vehicles. A wildlife *feature* may include, but is not limited to new or modified structures, such as bridges, bridges with shelves, specially designed culverts, enlarged culverts or drainage culverts and/or exclusionary devices such as fencing, walls or other barriers, or some combination of these features. Comments in the programming screen review as part of the ETDM process suggested consideration of wildlife crossings or features or other means to reduce motor vehicle mortalities.

There are no documented vehicular-related mortalities of Florida panther or black bear within the project limits. Similarly, there are no nuisance bear reports or panther telemetry data along the study corridor. The project is within the Thatcher Dispersal Zone for the Florida panther, which is outside of the Florida panther Focus Area. However, this area is noted to have historical panther movement accessing more northern areas of the state. The regions of the C-41A Canal and Kissimmee River bridges are within the Florida Wildlife Corridor and a Priority 1 area of the Ecological Greenways Network. Additionally, a Florida panther least cost pathway crosses SR 70 at the Kissimmee River and this pathway is buffered by a primary corridor of the Florida Panther Corridors. The project lies just outside of the Florida black bear secondary range of the Glades/Highlands population. Based on available data, panthers and bears are not known to commonly traverse this portion of SR 70. However, the locations of the C-41A Canal and Kissimmee River bridges are noted as small animal-vehicle collision road hotspots on roadways in wetland habitats presented at a coarse scale.

Existing conservation lands along the project corridor include the Kissimmee River Public Use Area, which is south of SR 70 and immediately west of the Kissimmee River. Potential conservation lands include a segment of property north of SR 70 between Kissimmee River Estates and the Kissimmee River Fishing Resort. Therefore, there is currently no location along the corridor where conservation lands are present on both sides.

In following the FDOT Wildlife Crossing Guidelines, a wildlife crossing is not warranted for the project because there does not appear to be a documented or science-based need for a crossing. There is insufficient documentation of large animals (i.e. panthers and bears) that would benefit from the crossing and the project is located outside of major habitat zones (i.e. Florida panther Focus Area) of these species. Additionally, conservation lands are not present on both sides of the corridor to make a crossing effective. However, the data does suggest that a benefit could be realized from construction of a wildlife feature. Specifically, wildlife shelves at the C-41A Canal and Kissimmee River bridges will enhance

passage for small animals and could also be used by panthers and bears due to the existing vertical clearance of these bridges. Currently, these bridges have rubble rip-rap on both sides of the water features which make passage under the bridges difficult. Wildlife shelves, with a minimum width of three feet consisting of a flattened area with poured concrete or gunite within the rubble rip rap, will be constructed and the elevation of the shelves set above the seasonal high water elevation**.** FDOT commits to design and construction of wildlife shelves at Slough Ditch (C-41A) Canal and Kissimmee River bridges per current wildlife crossing guidelines. The design details of the wildlife shelves, including evaluation of fencing/funneling and landscape features, will be further evaluated during the design phase.

# 4.0 WETLAND EVALUATION

In accordance with EO 11990 Protection of Wetlands, U.S. DOT Order 5660.1A, FHWA Technical Advisory T6640.8A, and the Wetlands and Other Surface Waters chapter of the FDOT PD&E Manual, the FDOT has undertaken all action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. The FDOT has determined that there is no practicable alternative to construction occurring in wetlands. Unavoidable wetland impacts are necessary to meet transportation safety standards. However, wetland impacts have been minimized to the extent possible; potential wetland impacts were included in the evaluation matrix prepared to compare alternatives and identify the Preferred Alternative. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

State water quality standards will be met during construction in accordance with the most current edition of the FDOT's Standard Specifications for Road and Bridge Construction, "Prevention, Control, and Abatement of Erosion and Water Pollution," and through the use of best management practices (BMPs). Additionally, a new stormwater management system, which will be constructed as part of the project, will meet state water quality criteria and minimize water quality impacts from stormwater discharges of the roadway, thus protecting adjacent and downstream wetlands.

Agency comments/statements from the ETDM programming screen regarding wetlands and water resources include the following items: the project overlaps the Lake Okeechobee watershed, which is near the Northern Everglades and Estuary Protection Program (NEEP) and the Lake Okeechobee Aquifer Storage and Recovery Comprehensive Everglades Restoration Plan (CERP); the project is within the Biscayne Bay Streamflow and Recharge Source Zones for the Biscayne Bay Sole Source Aquifer; mitigation is anticipated to offset impacts to wetlands, waters, species, and their respective habitats; the project should reduce/minimize impacts to water quality by retro-fitting stormwater conveyance systems; the project should implement Best Management Practices (BMPs); the project should meeting criteria in the Environmental Resource Permit (ERP) Applicant's Handbook Volume I and II; and a debris containment plan will be required for demolition of existing bridges and construction of new bridges.

## 4.1 METHODOLOGY

Literature reviews, desktop reviews and field reviews were conducted to identify wetlands, surface waters and other surface waters occurring within the project area. The following sources were reviewed during this process:

- U.S. Fish and Wildlife Service (USFWS) NWI Maps;
- Land use and land cover maps (SFWMD 2021-2023);
- FDOT's Efficient Transportation Decision Making (ETDM) Summary Report (June 1st, 2023);
- USDA, NRCS, Soil Survey of Highlands County, Florida, 19894;
- USDA, NRCS, Soil Survey of Okeechobee County, Florida, 1971 and 2003;
- Updated NRCS Soils Survey of Highlands County, Florida (2021);
- Updated NRCS Soil Survey of Okeechobee County, Florida (2021);
- FDOT APLUS Highlands County recent aerial imagery (2023); and
- FDOT APLUS Okeechobee County recent aerial imagery (2021).

Subsequent to the review of all available materials, a field assessment was conducted on April 27, 2023 and August 15-16, 2023 to identify the presence of wetland vegetation, evidence of hydrology, and hydric soil indicators. During field reviews of the project study area, environmental scientists aerially-delineated the approximate boundaries of existing wetland, surface water, and other surface water communities. Each system within the project study area was classified using FLUCFCS (FDOT 1999) and the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1979). Approximate boundaries were identified in accordance with the Florida statewide unified wetland delineation methodology as adopted by the Florida Department of Environmental Protection (FDEP) and the Water Management Districts per Chapter 62-340 of the Florida Administrative Code (F.A.C.) and described in The Florida Wetlands Delineation Manual, the U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20). Formal wetland boundaries were not determined as part of the study and will be completed during the design and permitting phase of the project. In addition, project biologists evaluated wetland, surface water and other surface water systems using the Uniform Mitigation Assessment Method (UMAM) to estimate wetland mitigation needs. Like the approximate wetland boundaries, these mitigation assessment estimates will be finalized during the design and permitting process. The results presented in this report are a compilation of information collected from field assessments performed by project biologists and from the data sources described above.

### 4.1.1 WETLAND AND SURFACE WATER IMPACTS

#### 4.1.1.1 DIRECT IMPACTS

**Table 4-1** shows the expected direct impacts to wetlands, surface waters, and other surface waters associated with the construction of roadway, embankment, and construction of stormwater management facilities. **Appendix E** includes a map of the proposed impacted wetland, surface water and other surface water areas. The Preferred Alternative is anticipated to directly impact 41.70 acres of wetlands, surface waters, and other surface waters. This includes 13.88 acres of impacts to jurisdictional wetlands, 2.60 acres to surface waters (C-41A Canal and Kissimmee River), and 25.22 acres to other surface waters.

#### 4.1.1.2 SECONDARY IMPACTS

Secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased contaminants such as trash or oil entering the wetlands or increased light penetration. When a portion of wetland (typically not surface waters or other surface waters) is directly impacted by new construction, the SFWMD and USACE require an analysis of secondary impacts to the remaining portion of the wetland to assess reduced functions. Typically, if an upland buffer cannot

**Table 4-1: Proposed Wetland and Surface Water Impacts**

| ID | FLUCFCS Classification | NWI Classification | Direct Impacts (acres) | Secondary Impacts (acres) |
|---|---|---|---|---|
| SW 1 | 5120 | R2UBHx | 1.18 | 0.00 |
| SW 2 | 5120 | R2UBHx | 1.42 | 0.00 |
| OSW 2 | 5100 | PEM1x | 1.16 | 0.00 |
| OSW 3 | 5100 | PUBx | 0.90 | 0.00 |
| OSW 5 | 5100 | PEM1x | 0.99 | 0.00 |
| OSW 6 | 5100 | PEM1x | 0.40 | 0.00 |
| OSW 7 | 5100 | PUBx | 0.40 | 0.00 |
| OSW 8 | 5100 | PUBx | 1.78 | 0.00 |
| OSW 9 | 5100 | PUBx | 0.44 | 0.00 |
| OSW 10 | 5100 | PEM1x | 0.35 | 0.00 |
| OSW 11 | 5100 | PEM1x | 0.32 | 0.00 |
| OSW 14 | 5100 | PUBx | 1.07 | 0.00 |
| OSW 21 | 5100 | PUBx | 0.0001 | 0.00 |
| OSW 28 | 5100 | PEM1x | 0.51 | 0.00 |
| OSW 29 | 5100 | PEM1x | 0.61 | 0.00 |
| OSW 31 | 5100 | PEM1x | 0.82 | 0.00 |
| OSW 32 | 5100 | PEM1x | 0.19 | 0.00 |
| OSW 33 | 5100 | PUBx | 0.08 | 0.00 |
| OSW 41 | 5340 | PUBx | 0.93 | 0.00 |
| OSW 42 | 5340 | PUBx | 1.21 | 0.00 |
| OSW 43 | 5100 | PEM1x | 0.80 | 0.00 |
| OSW 44 | 5100 | PEM1x | 0.27 | 0.00 |
| OSW 45 | 5100 | PEM1x | 0.77 | 0.00 |
| OSW 46 | 5100 | PEM1x | 0.95 | 0.00 |
| OSW 52 | 5100 | PEM1x | 0.001 | 0.00 |
| OSW 53 | 5100 | PEM1x | 0.07 | 0.00 |
| OSW 54 | 5100 | PEM1x | 0.17 | 0.00 |
| OSW 55 | 5100 | PEM1x | 1.98 | 0.00 |
| OSW 61 | 5100 | PEM1x | 0.60 | 0.00 |
| OSW 62 | 5100 | PEM1x | 0.04 | 0.00 |
| OSW 63 | 5100 | PEM1x | 0.01 | 0.00 |
| OSW 64 | 5100 | PEM1x | 0.06 | 0.00 |
| OSW 65 | 5100 | PEM1x | 0.05 | 0.00 |
| OSW 66 | 5100 | PEM1x | 0.35 | 0.00 |
| OSW 74 | 5100 | PEM1x | 0.41 | 0.00 |
| OSW 75 | 5100 | PEM1x | 0.39 | 0.00 |
| OSW 76 | 5100 | PEM1x | 0.23 | 0.00 |
| OSW 78 | 5100 | PEM1x | 0.05 | 0.00 |
| OSW 79 | 5100 | PEM1x | 0.04 | 0.00 |
| OSW 80 | 5100 | PEM1x | 0.30 | 0.00 |
| OSW 82 | 5100 | PEM1x | 0.38 | 0.00 |
| OSW 86 | 5100 | PEM1x | 0.54 | 0.00 |
| OSW 89 | 5100 | PEM1x | 1.22 | 0.00 |
| OSW 91 | 5100 | PEM1/ABx | 1.11 | 0.00 |
| OSW 93 | 5100 | PUBx | 0.33 | 0.00 |
| OSW 96 | 5100 | PEM1x | 0.10 | 0.00 |
| OSW 97 | 5100 | PEM1x | 0.94 | 0.00 |
| OSW 103 | 5100 | PUBx | 0.09 | 0.00 |
| OSW 109 | 5340 | PUBx | 0.82 | 0.00 |
| WL 1 | 6430 | PEM/SS1C | 2.83 | 0.48 |
| WL 4 | 6310 | PSS1 | 1.77 | 0.72 |
| WL 9 | 6310 | PSS | 0.68 | 0.06 |
| WL 10 | 6430 | PEM1 | 0.12 | 0.13 |
| WL 12 | 6410 | PEM1E | 0.15 | 0.26 |
| WL 16 | 6430 | PEM1Cd | 0.04 | 0.11 |
| WL 24 | 6410 | PEM/SS1C | 2.03 | 0.49 |
| WL 30 | 6190 | PFO/SS1 | 3.08 | 0.74 |
| WL 32 | 6170 | PFO1/3d | 0.32 | 0.20 |
| WL 33 | 6310 | PSS1x | 0.26 | 0.00 |
| WL 36 | 6170 | PFO/SS1/3 | 1.52 | 0.79 |
| WL 37 | 6310 | PSS1/3 | 0.34 | 0.26 |
| WL 42 | 6530 | PEM2Cx | 0.02 | 0.01 |
| WL 43 | 6530 | PEM2Cx | 0.02 | 0.01 |
| WL 48 | 6430 | PEM1x | 0.07 | 0.10 |
| WL 50 | 6310 | PSS1/3x | 0.09 | 0.03 |
| WL 62 | 6430 | PEM | 0.51 | 0.03 |
| WL 67 | 6430 | PEM1 | 0.01 | 0.06 |
| ***Herbaceous Wetland Impacts*** | | | ***0.96*** | ***0.71*** |
| ***Shrub Wetland Impacts*** | | | ***8.00*** | ***2.03*** |
| ***Forested Wetlands Impacts*** | | | ***4.92*** | ***1.73*** |
| **Total Wetlands Impacts** | | | **13.88** | **4.47** |
| **Total Other Surface Waters Impacts** | | | **25.22** | **0.00** |
| **Total Surface Waters Impacts** | | | **2.60** | **0.00** |
| **Total Impacts** | | | ***41.70*** | **4.47** |

Note: only wetland, surface water, and other surface waters that are impacted by the Preferred Alternative have been included in the table. Secondary impacts were only calculated for wetlands.

be provided, a width of 25 feet of anticipated secondary impact is assumed to the wetland. As an estimate for the project, approximately 4.47 acres of secondary impacts are anticipated to wetlands. **Table 4-1** shows the expected secondary impacts to wetlands, surface waters, and other surface waters.

### 4.1.2 UNIFORM MITIGATION ASSESSMENT METHODOLOGY AND RESULTS

The Uniform Mitigation Assessment Method (UMAM) per Chapter 62-345, F.A.C., is a state and federal approved method to assess wetlands in the State of Florida. UMAM was used to estimate functional loss of wetlands incurred by impacts as a result of the project. Functional loss is defined as the removal of ecosystem services such as wildlife habitat and flood attenuation that the impacted areas currently provide. To calculate functional loss, the difference between the existing condition function scores and the proposed condition function scores for each wetland was multiplied by the proposed project's impact acreage (**Table 4-2**). The representative UMAM data sheets for each habitat type are provided in **Appendix F**. Functional loss was calculated by wetland type for the Preferred Alternative. The Preferred Alternative results in 16.98 functional units for direct impacts and 0.31 functional units for secondary impacts. These calculations are estimates based on existing conditions. The UMAM scores and functional loss are summarized in **Table 4-3**. To provide a conservative mitigation estimate for the project, functional loss for surface waters and other surface waters was calculated; however, mitigation typically is not required for upland-cut ditches, ponds, and canals that lack wetland vegetation.

### 4.1.3 WETLAND IMPACT MITIGATION

Compensatory mitigation for 14.87 emergent/herbaceous credits (14.68 credits from direct impacts and 0.19 credits from secondary impacts) and 2.42 forested credits (2.30 credits from direct impacts and 0.12 credits from secondary impacts) are anticipated during the permitting phase to offset wetland impacts. The project is located within the SFWMD South Kissimmee Basin and entirely within one mitigation bank service area, Lake Istokpoga, and partially within the service areas of Twin Oaks and Bluefield Ranch mitigation banks. Twin Oaks and Bluefield Ranch mitigation banks are located outside the state-recognized cumulative impact basin. Up until mid 2025, a Cumulative Impact Analysis would have been required by the SFWMD to demonstrate that credit purchase from banks outside the basin is appropriate. However, Senate Bill 492 mandated that starting on July 1, 2025, a "proximity factor" can be used to calculate mitigation credit requirements for use of "out-of-basin" wetland mitigation banks when an "in-basin" bank is not available. Lake Istokpoga Mitigation Bank is within basin with credit availability; therefore this bank is a viable option for this project in the future. This mitigation bank is permitted for a total of 14.90 herbaceous and 79.72 forested state credits. Twin Oaks Mitigation Bank does not currently have credits available and this bank is only permitted with the state therefore could satisfy state mitigation requirements once credits are released mid 2026. Bluefield Ranch Mitigation Banks currently offers approximately 700 forested credits and 400 herbaceous credits to offset impacts from the project. The proximity factor will need to be utilized for Bluefield Ranch and Twin Oaks mitigation banks since they are not within the same basin as the project but credit purchase from these banks may be a viable option.

The project is located within the USACE-recognized Western Okeechobee Inflow (03090103) Hydrologic Unit Code (HUC) Basin and Kissimmee (03090101) HUC Basin which differ from the SFWMD watershed boundaries. The USACE evaluates both mitigation bank service areas and Hydrologic Unit Code (HUC) Basins instead of the state watersheds as part of the geographical component of the mitigation assessment. It is anticipated that Lake Istokpoga Mitigation Bank will also be satisfactory for USACE permitting since the project shares service area and HUC Basins with the bank. This mitigation bank is

permitted for a total of 16.55 emergent and 79.75 forested federal credits which is sufficient to provide compensatory mitigation for the credits required during permitting phase. The status of available mitigation banks and credits will be re-assessed as the project moves forward into design and permitting. Another valid wetland mitigation option available is “permittee-responsible” mitigation in which the permit applicant provides mitigation in the form of created wetlands, typically on-site or in a nearby area.

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

### 4.1.4 AGENCY COORDINATION AND PERMITTING

Agency coordination has been initiated through the ETDM process. The purpose of the ETDM is to incorporate environmental considerations into transportation planning to inform project delivery. Both the SFWMD and USACE were commenting agencies through the ETDM process. Pre-application meetings were held with the SFWMD on February 26, 2025 and with the USACE on December 12, 2024. The USACE and SFWMD regulate wetlands within the study area and issue wetland impact-related permits or authorizations. Other agencies, including the FDEP, USEPA, USFWS, FWC, and the FDACS review and comment on wetland permitting and potential effects to protected wildlife species.

**Table 4-2: Representative UMAM Scores for Wetlands and Other Surface Waters**

| FLUCFCS Code | FLUCFCS Description | Wetland Type | Representative Wetland, SW, and OSW ID# | Direct Delta | Secondary Delta |
|---|---|---|---|---|---|
| 5100 | Streams and Waterways | Other Surface Water | OSW-2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 21, 28, 29, 31, 32, 33, 43, 44, 45, 46, 52, 53, 54, 55, 61, 62, 63, 64, 65, 66, 74, 75, 76, 78, 79, 80, 82, 86, 89, 91, 93, 96, 97, 103 | 0.37 | N/A |
| 5120 | Channelized Waterways - Canals | Surface Water | SW-1, 2 | 0.40 | N/A |
| 5340 | Reservoirs | Other Surface Water | OSW-41, 42, 109 | 0.47 | N/A |
| 6310 | Wetland Shrub | Herbaceous | WL-4, 9, 33, 37, 50 | 0.40 | 0.07 |
| 6410 | Freshwater Marshes | Herbaceous | WL-12, 24 | 0.43 | 0.07 |
| 6430 | Wet Prairies | Herbaceous | WL-1, 10, 16, 48, 62, 67 | 0.50 | 0.07 |
| 6530 | Intermittent Ponds | Herbaceous | WL-42, 43 | 0.43 | 0.07 |
| 6190 | Exotic Wetland Hardwoods | Forested | WL-30 | 0.43 | 0.07 |
| 6170 | Mixed Wetland Hardwoods | Forested | WL-32, 36 | 0.53 | 0.07 |

Note: UMAM scores have not been approved by permitting agencies and are subject to change during the permitting process. All wetlands and other surface waters were assigned to UMAM analyses regardless of proposed impact or not.

**Table 4-3: Estimated UMAM Functional Loss from Wetland and Other Surface Water Impacts**

| ID | FLUCFCS Classification | NWI Classification | Direct UMAM Delta | Secondary UMAM Delta | Direct Impacts (acres) | Direct Functional Loss | Secondary Impacts (acres) | Secondary Functional Loss |
|---|---|---|---|---|---|---|---|---|
| SW 1 | 5120 | R2UBHx | 0.40 | -- | 1.18 | 0.47 | 0.00 | -- |
| SW 2 | 5120 | R2UBHx | 0.40 | -- | 1.42 | 0.57 | 0.00 | -- |
| OSW 2 | 5100 | PEM1x | 0.37 | -- | 1.16 | 0.43 | 0.00 | -- |
| OSW 3 | 5100 | PUBx | 0.37 | -- | 0.90 | 0.33 | 0.00 | -- |
| OSW 5 | 5100 | PEM1x | 0.37 | -- | 0.99 | 0.37 | 0.00 | -- |
| OSW 6 | 5100 | PEM1x | 0.37 | -- | 0.40 | 0.15 | 0.00 | -- |
| OSW 7 | 5100 | PUBx | 0.37 | -- | 0.40 | 0.15 | 0.00 | -- |
| OSW 8 | 5100 | PUBx | 0.37 | -- | 1.78 | 0.66 | 0.00 | -- |
| OSW 9 | 5100 | PUBx | 0.37 | -- | 0.44 | 0.16 | 0.00 | -- |
| OSW 10 | 5100 | PEM1x | 0.37 | -- | 0.35 | 0.13 | 0.00 | -- |
| OSW 11 | 5100 | PEM1x | 0.37 | -- | 0.32 | 0.12 | 0.00 | -- |
| OSW 14 | 5100 | PUBx | 0.37 | -- | 1.07 | 0.40 | 0.00 | -- |
| OSW 21 | 5100 | PUBx | 0.37 | -- | 0.0001 | 0.00003 | 0.00 | -- |
| OSW 28 | 5100 | PEM1x | 0.37 | -- | 0.51 | 0.19 | 0.00 | -- |
| OSW 29 | 5100 | PEM1x | 0.37 | -- | 0.61 | 0.22 | 0.00 | -- |
| OSW 31 | 5100 | PEM1x | 0.37 | -- | 0.82 | 0.30 | 0.00 | -- |
| OSW 32 | 5100 | PEM1x | 0.37 | -- | 0.19 | 0.07 | 0.00 | -- |
| OSW 33 | 5100 | PUBx | 0.37 | -- | 0.08 | 0.03 | 0.00 | -- |
| OSW 41 | 5340 | PUBx | 0.47 | -- | 0.93 | 0.44 | 0.00 | -- |
| OSW 42 | 5340 | PUBx | 0.47 | -- | 1.21 | 0.57 | 0.00 | -- |
| OSW 43 | 5100 | PEM1x | 0.37 | -- | 0.80 | 0.30 | 0.00 | -- |
| OSW 44 | 5100 | PEM1x | 0.37 | -- | 0.27 | 0.10 | 0.00 | -- |
| OSW 45 | 5100 | PEM1x | 0.37 | -- | 0.77 | 0.29 | 0.00 | -- |
| OSW 46 | 5100 | PEM1x | 0.37 | -- | 0.95 | 0.35 | 0.00 | -- |
| OSW 52 | 5100 | PEM1x | 0.37 | -- | 0.001 | 0.0003 | 0.00 | -- |
| OSW 53 | 5100 | PEM1x | 0.37 | -- | 0.07 | 0.02 | 0.00 | -- |
| OSW 54 | 5100 | PEM1x | 0.37 | -- | 0.17 | 0.06 | 0.00 | -- |
| OSW 55 | 5100 | PEM1x | 0.37 | -- | 1.98 | 0.73 | 0.00 | -- |

| ID | FLUCFCS Classification | NWI Classification | Direct UMAM Delta | Secondary UMAM Delta | Direct Impacts (acres) | Direct Functional Loss | Secondary Impacts (acres) | Secondary Functional Loss |
|---|---|---|---|---|---|---|---|---|
| OSW 61 | 5100 | PEM1x | 0.37 | -- | 0.60 | 0.22 | 0.00 | -- |
| OSW 62 | 5100 | PEM1x | 0.37 | -- | 0.04 | 0.02 | 0.00 | -- |
| OSW 63 | 5100 | PEM1x | 0.37 | -- | 0.01 | 0.003 | 0.00 | -- |
| OSW 64 | 5100 | PEM1x | 0.37 | -- | 0.06 | 0.02 | 0.00 | -- |
| OSW 65 | 5100 | PEM1x | 0.37 | -- | 0.05 | 0.02 | 0.00 | -- |
| OSW 66 | 5100 | PEM1x | 0.37 | -- | 0.35 | 0.13 | 0.00 | -- |
| OSW 74 | 5100 | PEM1x | 0.37 | -- | 0.41 | 0.15 | 0.00 | -- |
| OSW 75 | 5100 | PEM1x | 0.37 | -- | 0.39 | 0.15 | 0.00 | -- |
| OSW 76 | 5100 | PEM1x | 0.37 | -- | 0.23 | 0.09 | 0.00 | -- |
| OSW 78 | 5100 | PEM1x | 0.37 | -- | 0.05 | 0.02 | 0.00 | -- |
| OSW 79 | 5100 | PEM1x | 0.37 | -- | 0.04 | 0.01 | 0.00 | -- |
| OSW 80 | 5100 | PEM1x | 0.37 | -- | 0.30 | 0.11 | 0.00 | -- |
| OSW 82 | 5100 | PEM1x | 0.37 | -- | 0.38 | 0.14 | 0.00 | -- |
| OSW 86 | 5100 | PEM1x | 0.37 | -- | 0.54 | 0.20 | 0.00 | -- |
| OSW 89 | 5100 | PEM1x | 0.37 | -- | 1.22 | 0.45 | 0.00 | -- |
| OSW 91 | 5100 | PEM1/ABx | 0.37 | -- | 1.11 | 0.41 | 0.00 | -- |
| OSW 93 | 5100 | PUBx | 0.37 | -- | 0.33 | 0.12 | 0.00 | -- |
| OSW 96 | 5100 | PEM1x | 0.37 | -- | 0.10 | 0.04 | 0.00 | -- |
| OSW 97 | 5100 | PEM1x | 0.37 | -- | 0.94 | 0.35 | 0.00 | -- |
| OSW 103 | 5100 | PUBx | 0.37 | -- | 0.09 | 0.03 | 0.00 | -- |
| OSW 109 | 5340 | PUBx | 0.47 | -- | 0.82 | 0.39 | 0.00 | -- |
| WL 1 | 6430 | PEM/SS1C | 0.50 | 0.07 | 2.83 | 1.42 | 0.48 | 0.03 |
| WL 4 | 6310 | PSS1 | 0.40 | 0.07 | 1.77 | 0.71 | 0.72 | 0.05 |
| WL 9 | 6310 | PSS | 0.40 | 0.07 | 0.68 | 0.27 | 0.06 | 0.004 |
| WL 10 | 6430 | PEM1 | 0.50 | 0.07 | 0.12 | 0.06 | 0.13 | 0.01 |
| WL 12 | 6410 | PEM1E | 0.43 | 0.07 | 0.15 | 0.07 | 0.26 | 0.02 |
| WL 16 | 6430 | PEM1Cd | 0.50 | 0.07 | 0.04 | 0.02 | 0.11 | 0.01 |
| WL 24 | 6410 | PEM/SS1C | 0.43 | 0.07 | 2.03 | 0.87 | 0.49 | 0.03 |
| WL 30 | 6190 | PFO/SS1 | 0.43 | 0.07 | 3.08 | 1.32 | 0.74 | 0.05 |
| WL 32 | 6170 | PFO1/3d | 0.53 | 0.07 | 0.32 | 0.17 | 0.20 | 0.01 |
| WL 33 | 6310 | PSS1x | 0.40 | 0.07 | 0.26 | 0.10 | 0.00 | -- |
| WL 36 | 6170 | PFO/SS1/3 | 0.53 | 0.07 | 1.52 | 0.81 | 0.79 | 0.06 |
| WL 37 | 6310 | PSS1/3 | 0.40 | 0.07 | 0.34 | 0.14 | 0.26 | 0.02 |
| WL 42 | 6530 | PEM2Cx | 0.43 | 0.07 | 0.02 | 0.01 | 0.01 | 0.001 |
| WL 43 | 6530 | PEM2Cx | 0.43 | 0.07 | 0.02 | 0.01 | 0.01 | 0.001 |
| WL 48 | 6430 | PEM1x | 0.50 | 0.07 | 0.07 | 0.04 | 0.10 | 0.01 |
| WL 50 | 6310 | PSS1/3x | 0.40 | 0.07 | 0.09 | 0.04 | 0.03 | 0.002 |
| WL 62 | 6430 | PEM | 0.50 | 0.07 | 0.51 | 0.26 | 0.03 | 0.002 |
| WL 67 | 6430 | PEM1 | 0.50 | 0.07 | 0.01 | 0.003 | 0.06 | 0.004 |
| | | | | ***Herbaceous/Shrub Wetlands Functional Loss*** | | ***4.01*** | | ***0.19*** |
| | | | | ***Forested Wetlands Functional Loss*** | | ***2.30*** | | ***0.12*** |
| | | | | ***Surface Water and Other Surface Water Functional Loss*** | | ***10.67*** | | ***--*** |
| | | | | ***Total Functional Loss*** | | ***16.98*** | | ***0.31*** |

Functional Loss for OSWs and SWs were tabulated as worst case. Mitigation is not anticipated to offset impacts to upland-cut ditches, ponds, or canals.

# 5.0 ESSENTIAL FISH HABITAT

This section documents Essential Fish Habitat (EFH) in accordance with the Essential Fish Habitat chapter of the FDOT PD&E Manual and the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). EFH is defined as “those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity”; the term “fish” includes finfish, crabs, shrimp, and lobsters that are under federal Fishery Management Plans.

In 2002, regulations were established by NMFS to provide a process for NMFS to coordinate and consult with federal and state agencies on activities that may adversely affect EFH in order to minimize adverse effects while identifying other actions to conserve and enhance EFH. Reviewing agency comments from SFWMD and NMFS through the ETDM programming screen review stated that pursuant to the Coastal Zone Management Act (CZMA), the project is not within a coastal county. Therefore, coastal barrier resources, EFH, and Habitat Aras of Particular Concern are not present.

## 5.1 RESULTS

Based on the evaluation of field reviews, database searches, and NMFS ETDM comments, there are no managed fisheries or habitat within or adjacent to the project area that were considered as having the potential to occur, given lack of marine, estuarine, or tidally-influenced features. Therefore, the proposed project will have no involvement with EFH.

# 6.0 PERMITTING AND REVIEW AGENCIES

The USACE regulates impacts to waters of the U.S. (WOTUS) through Section 404 of the Clean Water Act; a permit is required before dredged or fill material may be discharged into these resources. Through the Environmental Resource Permitting (ERP) process, the SFWMD is also responsible for regulating impacts to wetlands and surface waters, as well as authorizing stormwater management systems. Other agencies, including the FDEP, USFWS, and USEPA, review and comment on the state and federal permit applications.

The FWC issues permits for gopher tortoise relocation activities and the USFWS issues permits for bald eagle nest take permits. The U.S. Coast Guard (USCG) regulates proposed activities that may affect a bridge over a navigable waterway. In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of impact to jurisdictional areas. It is anticipated that the following permits will be required for the project – see **Table 6-1**.

**Table 6-1: Anticipated Permits Required**

| Permit | Issuing Agency |
|---|---|
| Section 404 and Section 10 Permit | USACE |
| Section 408 Permit | USACE |
| Individual ERP | SFWMD |
| Right-of-Way Occupancy Permit | SFWMD |
| Sovereign Submerged Lands (SSL) Authorization | FDEP |
| National Pollutant Discharge Elimination System (NPDES) | FDEP |
| Gopher Tortoise Relocation Permit | FWC |
| Incidental Take Permit (as necessary) | USFWS |

The project is within one USACE civil works project, Everglades and South Florida Ecosystem Restoration (CERP); therefore, the project is subject to Section 408 review.

A USCG bridge permit is not anticipated to be needed for this project. The USCG District Bridge Office for District 7 determined that the Kissimmee River bridge is within the jurisdiction of the USCG but a permit is not required. Additionally, the USCG determined that the C-41A Canal bridge is not a navigation channel and is outside of USCG jurisdiction and similarly, no permit is required. Since this bridge is not over a navigational channel, the USACE concluded that a removable span is not required.

# 7.0 CONCLUSIONS

## 7.1 PROTECTED SPECIES AND HABITAT

The project area was evaluated for the presence of federal and state protected species and their suitable habitats in accordance with Section 7 of the ESA and the Protected Species and Habitat chapter of the PD&E Manual. There is no Critical Habitat for any listed species within the project footprint; therefore, no destruction or adverse modification of Critical Habitat will occur. **Tables 7-1** and **7-2** summarize the effect determinations that have been made for each federal and state listed species based upon their probability ranking and the implementation measures and/or commitments to offset any potential impacts to each species. Additionally, to eliminate and minimize potential effects to species, protection measures will be used. Some of these protection/ implementation measures will require additional field surveys and agency coordination during future phases as discussed in **Section 7.4** and **7.5**.

**Table 7-1: Federal Listed Species Effect Determinations**

| Project Effect | Federal Listed Species | Listing |
|---|---|---|
| **No Effect** | **BIRDS** | |
| | Red-cockaded woodpecker (*Picoides borealis*) | E |
| | Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) | E |
| | Florida scrub-jay (*Aphelocoma coerulescens*) | T |
| | Snail kite (*Rostrhamus sociabilis plumbeus*) | E |
| | Eastern black rail (*Laterallus jamaicensis)* | T |
| | **MAMMALS** | |
| | Florida bonneted bat (*Eumops floridanus*) | E |
| | **PLANTS** | |
| | Britton's beargrass (*Nolina brittoniana*) | E |
| **May affect, not likely to adversely affect** | **REPTILES** | |
| | Eastern indigo snake (*Drymarchon corais couperi*) | T |
| | **BIRDS** | |
| | Wood stork (*Mycteria americana*) | T |
| | **MAMMALS** | |
| | West Indian manatee (*Trichechus manatus*) | T |
| | Florida panther (*Puma concolor coryi*) | E |
| **May affect, likely to adversely affect** | **BIRDS** | |
| | Crested caracara (*Caracara plancus audubonii*) | T |
| **N/A*** | Tricolored bat (*Perimyotis subflavus*) | P |
| | Monarch butterfly (*Danaus plexippus*) | P |

*The tricolored bat and monarch butterfly are proposed for federal listing and do not have project effect determinations at this time.

**Table 7-2: State Listed Species Effect Determinations**

| Project Effect | State Listed Species | Listing |
|---|---|---|
| **No adverse effect anticipated** | **REPTILES** | |
| | Gopher tortoise (*Gopherus polyphemus*) | T |
| | Florida pine snake (*Pituophis melanoleucus mugitus*) | T |
| | **BIRDS** | |
| | Florida sandhill crane (*Antigone canadensis pratensis*) | T |
| | Florida burrowing owl (*Athene cunicularia floridana*) | T |
| | Little blue heron (*Egretta caerulea*) | T |
| | Tricolored heron (*Egretta tricolor*) | T |
| | Southeastern American kestrel (*Falco sparverius paulus*) | T |
| | **PLANTS** | |
| | Giant wild-pine (*Tillandsia utriculata*) | E |
| | Cardinal wild-pine (*Tillandsia fasciculata*) | E |
| | Pine lily (*Lilium catesbaei*) | T |
| | Yellow fringeless orchid (*Platanthera integra*) | E |
| | Celestial lily (*Nemastylis floridana*) | E |
| | Cutthroatgrass (*Coleataenia abscissa*) | E |
| | Piedmont jointgrass (*Coelorachis tuberculosa*) | T |
| **No effect anticipated** | **BIRDS** | |
| | Least tern (*Sternula antillarum*) | T |
| | **PLANTS** | |
| | Many-flowered grass-pink (*Calopogon multiflorus*) | T |
| | Florida beargrass (*Nolina atopocarpa*) | T |
| | Small's flax (*Linum carteri var. smallii*) | E |
| | Sand butterfly pea (*Centrosema arenicola*) | E |
| | Ashe's savory (*Calamintha ashei*) | T |
| | Giant orchid (*Pteroglossaspis ecristata*) | T |
| | Nodding pinweed (*Lechea cernua*) | T |

## 7.2 WETLANDS AND SURFACE WATERS

The Preferred Alternative was evaluated for impacts to wetlands in accordance with Executive Order 11990 Protection of Wetlands, U.S. DOT Order 5660.1A, and the Wetlands and Other Surface Waters chapter of the PD&E Manual. Based on the type and location of project impacts, the FDOT has determined that there is no practicable alternative to the proposed construction in wetlands. The proposed project will have no significant short-term or long-term adverse impacts to wetlands. In accordance with Executive Order 11990, the FDOT has undertaken all actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Any unavoidable impacts to wetlands

will be mitigated to achieve no net loss of wetland function. **Table 7-3** provides a summary of anticipated impacts and functional loss.

**Table 7-3: Summary of Wetland and Other Surface Water Impacts and Functional Loss**

| System Type | Direct Impacts (acres) | Direct Impact Mitigation Need (Functional Loss) | Secondary Impacts (acres) | Secondary Impact Mitigation Need (Functional Loss) |
|---|---|---|---|---|
| Herbaceous wetlands | 0.96 | 0.47 | 0.71 | 0.05 |
| Shrub Wetlands | 8.00 | 3.54 | 2.03 | 0.14 |
| Forested wetlands | 4.92 | 2.30 | 1.73 | 0.12 |
| Other Surface Waters | 25.22 | 9.63 | 0.00 | -- |
| Surface Waters | 2.60 | 1.04 | 0.00 | -- |
| **Totals** | **41.70** | **16.98** | **4.47** | **0.31** |

Note: shrub wetlands are mitigated under the emergent/herbaceous category.

A final determination of impact acreages will occur during the design and permitting phases. Wetland impacts which will result from the construction of the project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. §1344. Compensatory mitigation for the project is anticipated to be completed through the purchase of 14.87 emergent/herbaceous credits and 2.42 forested credits from Lake Istokpoga Mitigation Bank, or other permitted wetland mitigation banks that offer appropriate credits at the time of permitting.

## 7.3 ESSENTIAL FISH HABITAT

The proposed project has no involvement with EFH.

## 7.4 IMPLEMENTATION MEASURES

Based on the field and literature reviews outlines in this report, federal and state protected species have the potential to occur within the project area. In order to assure that the proposed project will not adversely impact these species, the following measures will be followed:

- Surveys for the Southeastern American kestrel will be conducted during the nesting season (May through August) in the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.
- Surveys to update locations of active osprey and bald eagle nest sites will be conducted during the design phase, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary.
- Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with

FWC to determine appropriate avoidance and minimization measures to apply during construction.

- FDOT contractors must adhere to FDOT's Contractor Requirements for Unanticipated Interaction with Protected Species. These requirements are included in FDOT's Standard Specifications for Road and Bridge Construction and apply to all FDOT construction projects.

## 7.5 COMMITMENTS

To minimize project impacts on protected species to the greatest extent practicable, the following project commitments will be adhered to:

- The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be utilized during construction.
- The USFWS and FWC Standard Manatee Construction Conditions for In-Water Work will be utilized during construction.
- FDOT will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a USFWS-approved wetland mitigation bank or wood stork conservation bank.
- FDOT commits to design and construction of wildlife shelves at the Slough Ditch (C-41A) Canal and Kissimmee River bridges per current wildlife crossing guidelines. The design details of the wildlife shelves, including evaluation of fencing/funneling and landscape features, will be further evaluated during the design phase.
- FDOT will provide a financial contribution to the Crested Caracara Conservation Fund for impacts consisting of $100,000 for the take of Nest B and $45,840 for impacts to suitable habitat within the primary zone of Nest C.
- The Action Area will be resurveyed prior to construction to confirm the locations of active Audubon's crested caracara nests. If the nest locations have moved or additional nests are found, consultation with the USFWS will be reinitiated.
- If the monarch butterfly is listed by USFWS as Threatened or Endangered and the project may affect the species, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.
- If the tricolored bat is listed by USFWS as Threatened or Endangered and the project may affect the species, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.

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# Appendix A: NRCS Soil Descriptions

## Soils - Classifications and Descriptions

The following categories represent USDA NRCS soil classifications as specified by each County, Highlands and Okeechobee. The soil types have been revised since the manuscript for each county was published in the 1970s and 1980s for Okeechobee and Highlands County respectively; therefore, some descriptions from the manuscript for each county does not include the specific soil descriptions but instead the soil series (these soils will be noted with a "*").

**HIGHLANDS COUNTY SOILS (1989)**

*3: Basinger Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes

Basinger fine sand, depressional are very poorly drained, sandy soil is in wet depressions. The mapped areas are irregular in shape and range from 5 to more than 50 acres. The slopes are smooth to concave and range from 0 to 2 percent. The available water capacity of this Basinger soil is low. The permeability is rapid. Internal drainage is very slow because of the high-water table. This soil is ponded for 4 to 6 months each year.

4: Duette Sand, 0 to 5 Percent Slopes

Duette sands are moderately well drained, nearly level to gently sloping that occur in moderately high sandy areas. The slopes are generally smooth to convex. The water table is within 48 to 72 inches of the surface for 1 to 4 months during summer rainy season and it recedes to a lower depth during the rest of the year. The available water capacity is very low. Permeability is moderately rapid. Duette Sand, frequently flooded, 0 to 1 percent slopes are not classified as hydric soils by the NRCS Web Soils (NRCS 2021).

*7: Placid Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes

Placid fine sand, depressional. This nearly level, very poorly drained soil is in depressional areas on the flatwoods and along the edges of swamps and marshes in the county. The depressional areas are circular, and the areas along the edges of swamps and marshes are irregular in shape. These mapped areas range from less than 1 acre to about 70 acres. The slopes are smooth to concave and range from 0 to 2 percent. The available water capacity of this Placid soil is low. The permeability is rapid. This soil is ponded for much of the year. The water table is generally within 10 inches of the surface for the rest of the year, but during long dry periods, it may recede to a depth of more than 30 inches

8: Immokalee Sand, 0 To 2 Percent Slopes

Immokalee sands are poorly drained, nearly level soils that occur in broad flatwoods and in lower areas. The slopes are smooth and range from 0 to 2. The water table is within 12 inches of the surface during the summer rainy season. Generally, it is between depths of 12 and 40 inches for the rest of the year. It may recede to a depth of more than 40 inches during extended dry periods. The available water capacity is low and the permeability is moderate. Immokalee sand, 0 to 2 percent slopes are not classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

10: Myakka Fine Sand, 0 to 2 Percent Slopes

Myakka fine sands are poorly drained, nearly level soils that occur in low, broad, flatwood areas. Slopes are smooth and range from 0 to 2 percent. The water table is less than 12

inches of the surface during the rainy season and generally, within 12 to 40 inches during the rest of the year. The available water capacity is very low. Permeability is moderate. Myakka fine sand, 0 to 2 slopes are not classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

12: Basinger Fine Sand, 0 to 2 Percent Slopes

Basinger fine sands are poorly drained, nearly level soils that occur in low flatwoods and in sloughs and poorly defined drainageways. The slopes are smooth and range from 0 to 2 percent. The water table is within 12 inches of the surface for 2 to 5 months during the summer rainy seasons. Generally, it is between depths of 12 and 40 inches for 6 months or more but may recede to lower depth during extended dry periods. The available water capacity is low and the permeability is rapid. Basinger find sand, 0 to 2 percent slopes are classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

13: Felda Fine Sand, 0 to 2 Percent Slopes

Felda fine sands are poorly drained, nearly leveled soils that occur in broad, low flats and in large drainageways in the flatwoods. The slopes are smooth and range from 0 to 1 percent. The water table is within 12 inches of the surface during the summer rainy seasons. For the remaining of the year, the water table is between depths of 12 and 40 inches except during dry periods when it may recede to a lower depth. The available water table is low, and permeability is moderate to moderately rapid. Felda find sand, 0 to 2 percent slopes are classified as hydric by the NRCS Web Soils Survey (NRCS 2021).

16: Valkaria Fine Sand, 0 to 2 Percent Slopes

Valkaria fine sands are poorly drained, nearly level soils that occur in low flatwoods and in sloughs and poorly defined drainageways. The slopes are smooth and range from 0 to 2 percent. The water table is within 12 inches of the surface for 2 to 4 months during the summary rainy season. Generally, it is 12 to 40 inches for 6 months or more but may recede to a lower depth during extended dry periods. The available water capacity is low and permeability is rapid. Valkaria fine sand, 0 to 2 percent slopes are classified as hydric soils by the NRCS Web Soils (NRCS 2021).

19: Hicoria Mucky Sand, Depressional

Hicoria mucky sands are poorly drained, nearly level soils that occur in wet depressions. The slopes are smooth to concave and range from 0 to 2 percent. The water table is at a depth of 10 inches or less. The available water capacity is high. Permeability is moderately slow or slow in the subsoil. The soil is ponded most of the year. Hicoria mucky sand, depressional is classified as hydric soils by the NRCS Web Soils (NRCS 2021).

20: Samsula Muck, Frequently Ponded, 0 to 1 Percent Slopes

Samsula muck sands are very poorly drained, nearly level soils that occur in depressions, swamps, and marshes. The slopes are smooth to concave and range for 0 to 1 percent. The soil, under natural conditions, is ponded 6 to 9 months of the year. The water table is at a depth of 10 inches or less. The available water capacity is high, and permeability is rapid. Samsula muck, frequently ponded, 0 to 1 percent slopes are classified as hydric soils by the NRCS Web Soils (NRCS 2021).

23: Gator Muck, Frequently Ponded, 0 to 1 Percent Slopes

Gator muck sands are very poorly drained, nearly level soils that occur in swamps, marshes, and wet depressions. The slopes are smooth to concave and range from 0 to 1 percent. The soil, under normal conditions, is ponded for 6 to 9 months. The water table is generally within 10 inches of the surface. The available water capacity is high and permeability is slow or very slow. Gator muck, frequently ponded, 0 to 1 percent slopes are classified as hydric soils by the NRCS Web Soils (NRCS 2021).

24: Pineda Sand, 0 to 2 Percent Slopes

Pineda sands are poorly drained, nearly level soils that occur in low, narrow to broad flats and in sloughs or poorly defined drainageways. The slopes are smooth and range from 0 to 2 percent. The water table is within 12 inches of the surface during the summer rainy season and the remaining of the year, it is between 12 and 40 inches except during dry period when it can recede to a lower depth. The available water capacity is low and permeability is slow or very slow. Pineda sand, 0 to 2 percent slopes are classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

26: Tequesta Muck, Frequently Ponded, 0 to 1 Percent Slopes

Tequesta muck sands are poorly drained, nearly level soils that occur in marshes and depressions. The slopes are smooth to concave and range from 0 to 2 percent. The soil, under normal conditions, is ponded for most of the year. The water table is within 10 inches of the surface. The available water capacity is moderate and permeability is moderately slow. Tequesta muck, frequently ponded, 0 to 1 percent slopes are classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

32: Arents, Very Steep

Arents soils are excessively drained, unconsolidated soil material that has been excavated from major canals and redeposited along the side of the canals. The water table is at a depth of more than 72 inches. The available water capacity of this soil is variable but generally is low. The permeability is variable but generally is rapid to moderate. Arents, very steep is not classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

35: Sanibel Muck

Sanibel muck sands are very poorly drained, nearly level soils that occur in marshes, swamps, and poorly defined drainageways. The slopes are smooth to concave and range from 0 to 2 percent. The water table, under normal conditions, is above the surface for 2 to 6 months during the wet seasons. During the remaining of the year, it is at a depth of less than 10 inches. The available water capacity is low and permeability is rapid. Sanibel muck is classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

**OKEECHOBEE COUNTY SOILS (1971 AND REVISED 2003)**

2: Basinger Fine Sand, 0 to 2 Percent Slopes

Basinger fine sands are poorly drained that occur in sloughs, depressions, on low flats, and in poorly drained drainageways. The slopes are smooth, slightly concave, and range from 0 to 2 percent. The seasonal high-water table is at the surface to a depth of 12 inches

from June through February. During the remaining of the year, it is at a depth of 12 to 40 inches during extended dry periods. The available water capacity is low and permeability is rapid. Basinger fine sand, 0 to 2 percent slopes are classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

3: Basinger and Placid Soils, Depressional

Basinger and Placid soils are very poorly drained soils that occur in swamps, marches and low lying areas. The slopes are smooth to concave and range from 0 to 2 percent. The seasonal high-water table is at the surface to 24 inches above the surface during June through March. The available water capacity is low and permeability is rapid. Basinger and Placid Soils, Depressional are classified as hydric soils by NRCS Web Soil Survey (NRCS 2021).

5: Valkaria Fine Sand, 0 To 2 Percent Slopes

Valkaria fine sands are poorly drained soils that occur in sloughs, low flats, in depressions, and in poorly drained drainageways. The slopes are smooth, slightly concave, and range from 0 to 2 percent. The seasonal water table is at the surface to a depth of 12 inches from June through September. During the remaining of the year, it is typically at a depth of 12 to 40 inches. The available water capacity is low and permeability is rapid. Valkaria fine sand, 0 to 2 percent slopes are classified as hydric soils by the NRCS Web Soils Survey (NRCS 2021).

11: Immokalee Fine Sand, 0 to 2 Percent Slopes

Immokalee fine sands are poorly drained soils that occur in broad areas of flatwoods. The slopes are smooth, slightly concave or slightly convex, and range from 0 to 2 percent. The seasonal water table is 6 to 18 inches from June through September. During the remaining of the year, it is typically at a depth of 18 to 40 inches. The available water capacity is low and permeability is rapid in the surface and subsurface layers but moderate to moderately rapid in the subsoils. Immokalee fine sand, 0 to 2 percent slopes are not classified as hydric soils by the NRCS Web Soils Survey (NRCS 2021).

12: Udorthents, 2 to 35 Percent Slopes

Udorthents sands are excessively drained, unconsolidated soil material that has been excavated from canals and redeposited along the sides of canals. The slopes range from 2 to 35 percent. The seasonal high water table is below 72 inches in depth. The available water capacity is variable but usually low and permeability is variable but generally rapid. Udorthents, 2 to 35 percent slopes are not classified as hydric soils by the NRCS Web Soils Survey (NRCS 2021).

13: Manatee, Floridana, and Tequesta Soils, Frequently Flooded

Manatee, Floridana and Tequesta sands are poorly drained soils located in hardwood swamps and marshes that are part of the Kissimmee River basin. The slopes are 0 to 2 percent; however, stream dissection has created numerous short, steep slopes. The seasonal high water table is highly variable. The water table fluctuates depending on stream flow. During the flooding, the soils are saturated or covered with water. During dry periods, the stream provides drainage to the soils, lowering the water table. The available

water capacity is moderate and permeability is rapid in the surface soil and moderate to very slow in the subsoil. Manatee, Floridana and Tequesta Soils, frequently flooded are classified as hydric soils by the NRCS Web Soils Survey (NRCS 2021).

14: Myakka Fine Sand, 0 to 2 Percent Slopes

Myakka fine sands are poorly drained, nearly level soils that occur in broad flatwoods. Slopes are smooth to slightly concave and range from 0 to 2 percent. The water table is within 10 inches of the surface for 1 to 3 months and 10 to 40 inches below the surface for 2 to 6 months. The available water capacity is medium in the subsoil and very low in the surface and subsurface layers. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil. Myakka fine sands are not classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

18: Parkwood Fine Sand

Parkwood fine sands are poorly drained soil located in low, broad flats and cabbage palm hammocks. The slopes are smooth, slightly concave or convex, and range from 0 to 2 percent. The water table is at the surface to a depth of 12 inches from June through September. The available water capacity is moderate. Natural fertility is medium. Permeability is rapid in the surface layer and moderate in the subsoil. Parkwood fine sands are classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

25: Wabasso Fine Sand, 0 to 2 Percent Slopes

Wabasso fine sands are poorly drained soils that occur in flatwoods, floodplains, and depressions. The slopes are 0 to 2 percent. The seasonal high-water table is 6 to 18 inches in depth from June through September. The available water capacity is low in the surface and subsurface layers. Permeability is rapid in the surface and subsurface layers. Wabasso fine sands are not classified as hydric soils by the NRCS Web Soil Survey (NRCS 2021).

# Appendix B: FLUCFCS Descriptions

## Land Use and Habitat - Classifications and Descriptions

The following numeric codes represent FDOT-designated Land Use and Cover Classifications as specified in the Florida Land Use, Cover, and Forms Classification System Manual (1999). The descriptions relate to project-specific conditions as well as supplemental language from the manual.

**WETLANDS**

6170: Mixed Wetland Hardwoods

This class is reserved for those wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions yet exhibit an ill-defined mixture of species. This class includes a canopy inhabited by oaks (*Quercus spp.*), cabbage palm (*Sabal palmetto*) and willows (*Salix spp.*) The understory generally consists of giant leather fern (*Acrostichum danaeifolium*), Boston fern (*Nephrolepis exaltata*), swamp fern (*Telmatoblechnum serrulatum*), and wax myrtle (*Morella cerifera*).

6190: Exotic Wetland Hardwoods

This refers to wetlands with a dominance of exotic species. In the project area, the dominant nuisance/exotic species within this wetland is Brazilian pepper (*Schinus terebinthifolius*). Other native species found scattered within this classification include cabbage palm and wax myrtle.

6210: Cypress

This class contains either pure or predominant pond cypress (*Taxodium ascendens*) or bald cypress (*Taxodium distichum*).

6310: Wetland Shrub

This community is associated with topographic depressions and poorly drained soils. Species in this habitat type in the project area include Peruvian primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*) and other low shrubs.

6400: Vegetated Non-Forested Wetlands

This classification is composed of marshes and seasonally flooded basins and meadows.

6410: Freshwater Marshes

The communities included in this category within the project area are characterized by having one or more of species such as sawgrass (*Cladium jamaicensis*), cattail (*Typha spp*.) and maidencane (*Panicum hemitomon*).

6430: Wet Prairies

This classification is composed predominantly of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are dominated by sawgrass, bushy bluestem (*Andropogon glomeratus*) maidencane, and rushes (*Rhynchospora spp*. and *Eleocharis spp.).*

6440: Emergent Aquatic Vegetation

This category of wetland plant species includes both floating vegetation and vegetation which is found either partially or completely above the surface water. Within the study area species observed included maidencane, water lettuce (*Pistia stratiotes*), duck weed (*Lemna spp*.), and water lily (*Nymphaecea*).

6530: Intermittent Ponds

This class includes wetlands that only exist for a portion of the year and are sometimes called seasonal waterbodies. These waterbodies exclusively rely on water received from precipitation, runoff or spring flow.

**SURFACE WATERS AND OTHER SURFACE WATERS**

5100: Streams and Waterways

This category could include rivers, creeks, canals, and other linear water bodies such as conveyance ditches, but typically include excavated ditches and creeks.

5120: Channelized Waterways - Canals

This category also includes rivers, creeks, canals, and other linear water bodies such as conveyance ditches. Canal C41A and the Kissimmee River are the only major waterways within the project limits.

5340: Reservoirs Less than 10 Acres

These are artificial impoundments of water less than 10 acres which are dominant features. They are used for irrigation, flood control, and municipal and rural water supplies.

**UPLANDS, NOT MAINTAINED BY LANDSCAPING AND NOT RECENTLY DISTURBED (THEREFORE CONSIDERED POTENTIAL HABITAT)**

2120: Unimproved Pastures

This category includes cleared land with major stands of trees and brush where native grasses have been allowed to develop. Normally, this land will not be managed with brush control and/or fertilizer application.

2130: Woodland Pastures

This class is defined as forest lands used as pastures. Within the project area, evidence of woodland pastures included the presence of cattle, watering areas, feed bunkers and trails.

3200: Shrub and Brushland

This class is used to describe upland non-agricultural, non-forested lands which contain no evidence of cattle grazing. Within the study area, this class includes saw palmettos (*Serenoa repens*), wax myrtle, Brazilian pepper, and other shrubs and brush. Generally, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other woody scrub plant species as well as short herbs and grasses.

4200: Upland Hardwood Forests

This classification has a crown canopy with at least a 67 percent dominance of hardwood tree species. This is reserved for naturally generated stands of trees. Within the study area, this class includes forest communities inhabited by oaks, Brazilian pepper, sweet gum (*Liquidambar styraciflua*) and wax myrtle.

4220: Brazilian Pepper

This exotic tree species thrives on disturbed soils. It is an aggressive competitor, invading and often taking over a site. For inclusion in this class, canopy cover must be 25 percent or greater with at least 67 percent or greater dominance of the exotic species.

**UPLANDS, LANDSCAPED OR SIGNIFICANTLY DISTURBED**

1100: Fixed Single Family Units (Less than 2 Dwelling Units/Acre)

These areas contain less than two dwelling units per acre, and are fixed, non-mobile homes.

1180: Rural Residential

This area is characterized by a relatively small number of homes per acre.

1220: Mobile Home Units (2-5 Dwelling Units/Acre)

These areas contain two-to-five dwelling units per acre.

1400: Commercial and Services

This class is reserved for areas used for distribution of products and services.

1720: Religious

This area is characterized by churches, synagogues, or other religious entities .

2110: Improved Pastures

This class is defined by lands that have been cleared, tilled, reseeded and periodically improved with brush control and fertilizer application. Within the project area, improved pastures included water ponds, cow trails, troughs and feed bunkers.

2140: Row Crops

Typical row crops found in Florida include corn, tomatoes, potatoes and beans. Rows remain well defined even after the crops have been harvested.

2150: Field Crops

Field crops found within the project area include hay and grasses.

2210: Citrus Groves

This class includes active citrus groves. These groves can be identified by uniformly spaced straight rows of trees, typically arranged inside a large rectangle. Citrus groves found within the study area include orange groves.

2420: Sod Farms

Sod farms must be in the harvest stage for detection. Several sod farms can be found within the project area.

2510: Horse Farms

Horse farms are defined as farms which breed and train horses for sport uses in racing, riding and harness racing.

7400: Disturbed Land

Disturbed lands are upland areas which have been changed by human activities other than mining. Disturbed lands are generally barren, but may have some very sparse vegetation.

7470: Dikes and Levees

Levees are natural or man-made embankments or dikes that run along the sides of canals, channels, lakes and streams. They serve to prevent flooding and confine water resulting in higher and faster water flow. Canal C41A exhibits this classification.

8115: Grass Airports

This class includes private airstrips. These airports have a grass landing strip, rather than paved, differentiating them from the 8113 land use code. These airstrips have a smoother texture than the surrounding land cover and typically range from 1000 to 1500 feet in length. There is a grass airport in River Oak Acres.

8140: Roads and Highways

The primary feature within the project area that falls under this category is existing roadways - either SR 70 or adjacent roads. For the purposes of the land use evaluations, roadway edges, which can include wetlands, surface waters, and natural upland habitats if not regularly mowed and maintained, were excluded from this classification.

8300: Utilities

Generating facilities and water treatment plants including their related facilities are included as part of this class. Within the project area, there is one generating facility.

8310: Electric Power Facilities

This category includes hydropower, thermal, nuclear, gas turbine plants, transformer yards and sub-stations. There is one gas compressor station within the project area.

# Appendix C: Field Photographs

Photo 1. Representative photo of FLUCFCS code 5100, photo taken during the wet season in October 2023.

Photo 2. Representative photo of FLUCFCS code 5100, photo taken during the wet season in October 2023.

Photo 3. Representative photo of FLUCFCS code 6430, photo taken during the wet season in October 2023.

Photo 4. Representative photo of FLUCFCS code 6410, photo taken during the wet season in October 2023.

Photo 5. Representative photo of FLUCFCS code 6310, photo taken during the wet season in October 2023.

Photo 6. Representative photo of FLUCFCS code 6530, photo taken during the wet season in October 2023.

Photo 7. Representative photo of FLUCFCS code 5340, photo taken during the wet season in October 2023.

Photo 8. Representative photo of FLUCFCS code 5340, photo taken during the wet season in October 2023.

Photo 9. Representative photo of FLUCFCS code 6440, photo taken during the wet season in October 2023.

Photo 10. Representative photo of FLUCFCS code 5120, photo taken during the dry season in April 2023.

Photo 11. Representative photo of FLUCFCS 6170, photo taken during the dry season in April 2023.

Photo 12. Representative photo of FLUCFCS 6170, photo taken during the dry season in April 2023.

Photo 13. Representative photo of FLUCFCS 6190, photo taken during the wet season in October 2023

# Appendix D: Division of State Lands Correspondence

# FLORIDA DEPARTMENT OF
# Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

**Ron DeSantis**
Governor

**Jeanette Nuñez**
Lt. Governor

**Shawn Hamilton**
Secretary


October 20, 2023

Dara Jarvis
Scalar Consulting Group
13337 North 56th St
Tampa, FL 33617

RE: Title Determination for C41A Canal & Kissimmee River at State Road 70 W
Worksheet # 129358

Dear Ms. Jarvis:

This letter is in response to your recent inquiry requesting a determination of state owned lands in Section 25 Township 37 South, Range 32 & 33 East; Okeechobee & Highlands County.

Based on records within the Title and Land Records Section, the Board of Trustees of the Internal Improvement Trust Fund holds title to the submerged lands lying below the unaltered ordinary high water line of the Kissimmee River and outside the boundaries of Deed Nos. 18738 and 20068 at the subject site. The site may be subject to Lease No. 4099 to South Florida Water Management District, Easement No. 29173 to South Florida Water Management District and Easement Nos. 41734, 41174, 41175 to Florida Power and Light Company.

The Title & Land Records Section has not conducted the research and analysis necessary to determine the current location of the ordinary high water line of the C41A Canal at the subject site. Therefore, this is not a determination of the boundaries of Board of Trustees owned sovereignty lands. For regulatory permitting purposes only, we recommend proprietary authorization normally required for the use of state-owned lands not be required for the subject site at this time.

The conclusions stated herein are based on a review of records currently available within the Department of Environmental Protection as supplemented, in some cases, by information furnished by the requesting party and do not constitute a legal opinion of title. A permit from the Department of Environmental Protection and other federal, state and local agencies may be required prior to conducting activities.

Should you have any questions regarding this determination, please contact Liz Hastings, Government Operations Consultant, at mail station 108 at the above address or email at liz.hastings@floridadep.gov.

Sincerely,

Karen McMillan for Scott Woolam

Scott Woolam
Chief
Bureau of Survey and Mapping
Division of State Lands

SW/lh
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# Appendix E: Proposed Wetland, Surface Water and Other Surface Water Impacts


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 1 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 2 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet

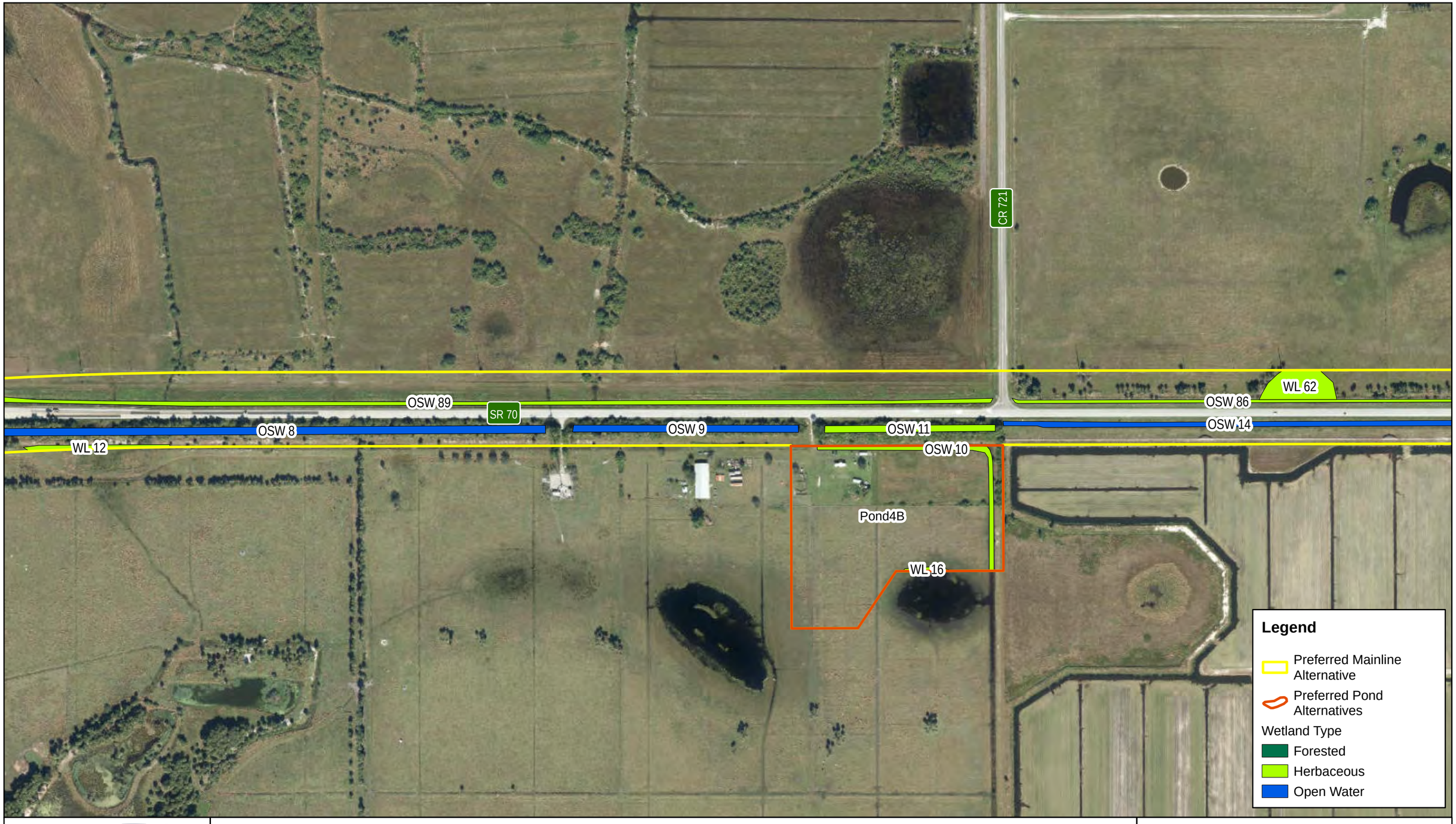

**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 3 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet




**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 4 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 5 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 6 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet

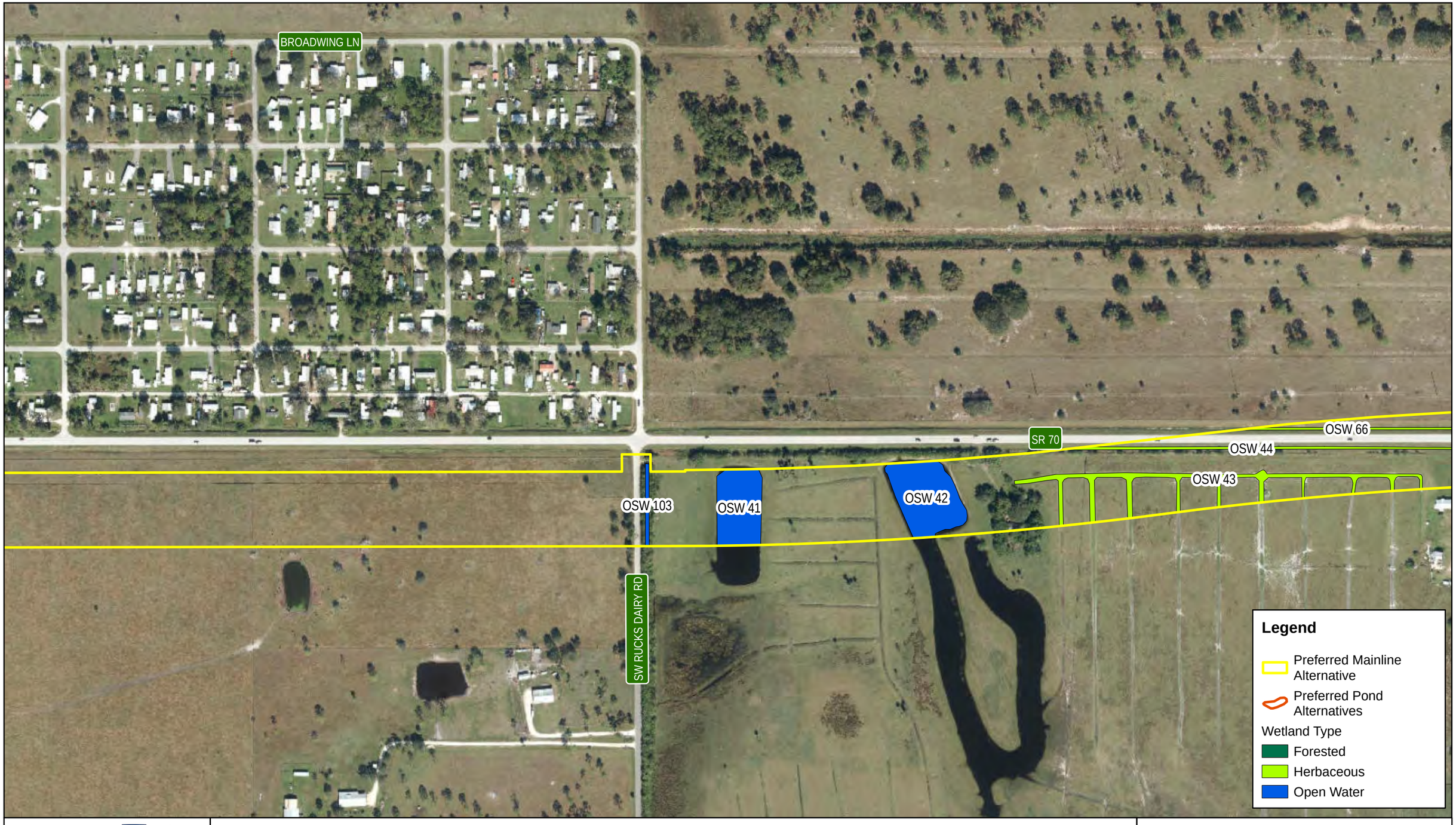

**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 7 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet




**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 8 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet

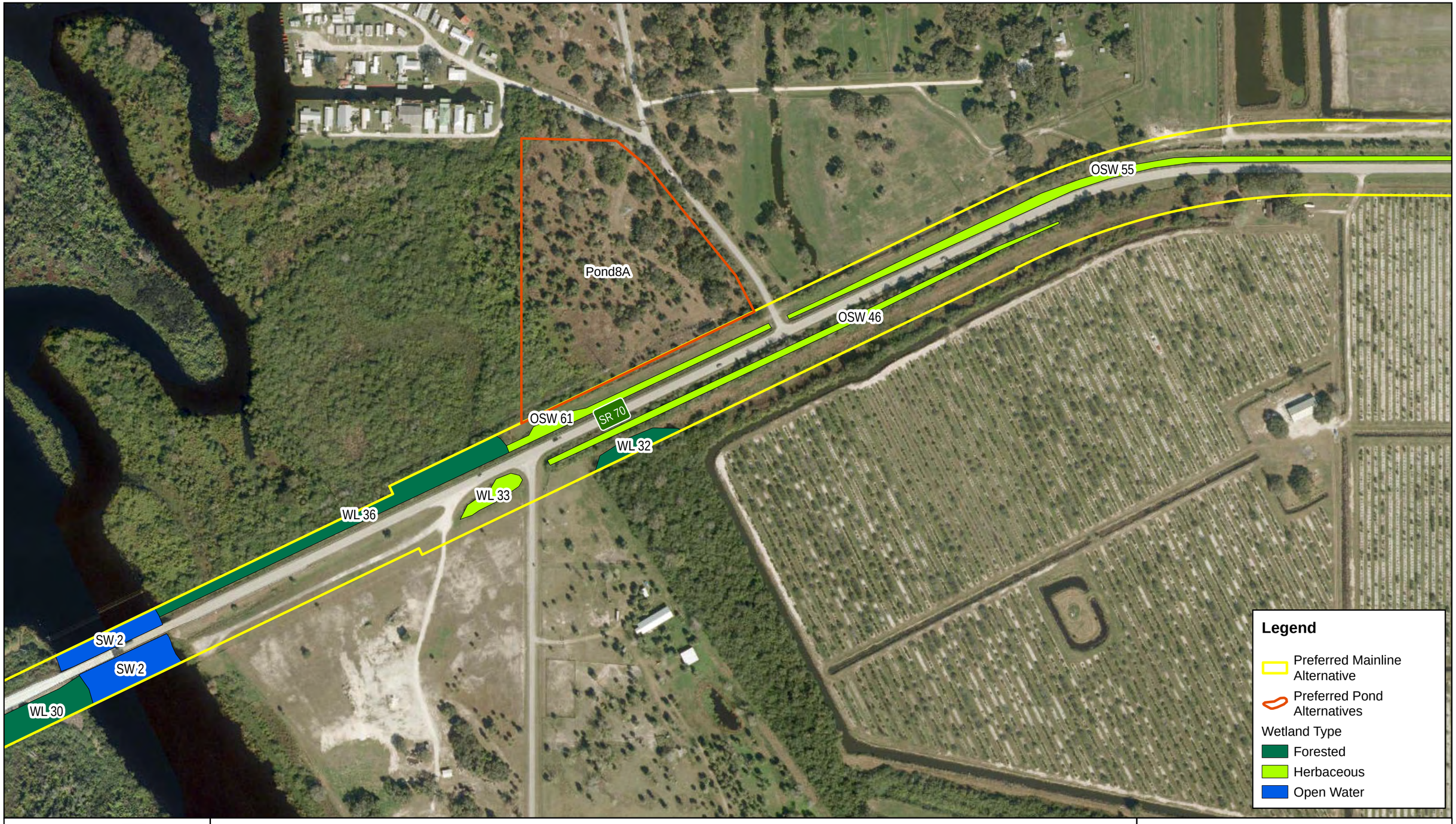

**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 9 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet




**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 10 of 13**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 11 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet


**Proposed Wetland, Surface Water and Other Surface Water Impacts by Preferred Alternative and Ponds**
**Sheet 12 of 12**

FPID No. 450334-1-22-01
SR 70 from CR 721 South to CR 599/128th Avenue
Highlands and Okeechobee Counties

Image Source: ESRI
Image Date: 2023

NORTH

0 400 800 Feet

# Appendix F: UMAM Datasheets

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | OSW-2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 21, 28, 29, 31, 32, 33, 43, 44, 45, 46, 52, 53, 54, 55, 61, 62, 63, 64, 65, 66, 74, 75, 76, 78, 79, 80, 82, 86, 89, 91, 93, 96, 97, 103 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 5100 - Streams and Waterways | Open water and herbaceous systems | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

Historic aerials dated 1944 show likely presence of roadside ditches that are still present. Other surface waters have been recently created to support sod farms and drainage along the project footprint and are therefore not present on the historic aerials.

Assessment area description

Vegetation consists of torpedo grass (*Panicum repens),* big bluestem (*Andropogon gerardii* ), and cattail (*Typhus spp.* ).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | There are many similar features throughout the regional landscape. |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage and conveyance, habitat for fish, reptiles and amphibians. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

Great egret was observed foraging in a roadside ditch.

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | OSW-2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 21, 28, 29, 31, 32, 33, 43, 44, 45, 46, 52, 53, 54, 55, 61, 62, 63, 64, 65, 66, 74, 75, 76, 78, 79, 80, 82, 86, 89, 91, 93, 96, 97, 103 |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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<br><br>w/o pres or current: 3<br>with: 0 | These other surface waters include mostly roadside ditches with some irrigation canals for agricultural purposes.The ditches are mostly connected to culverts, and are dry during the dry season and inundated during the wet season.These waters are located in a rural area surrounded by mostly improved pastures and barren land. |
| .500(6)(b)Water Environment (n/a for uplands)<br><br>w/o pres or current: 5<br>with: 0 | Water level indicators and soil moisture appeared appropriate considering seasonal variation. Hydrologic conditions are affected by the improved pasture drainage and adjacent SR 70 and its associated stormwater management facilities. |
| .500(6)(c)Community structure<br><br>1. Vegetation and/or<br>2. Benthic Community<br><br>w/o pres or current: 3<br>with: 0 | Vegetation during the wet season consists of cattail (*Typha spp.* ), pickerel weed (*Pontederia cordata* ), Brazilian pepper (*Schinus terebinthifolius* ), maidencane (*Panicum hemitomon),* cabbage palm (*Sabal palmetto* ), soft rush (*Juncus effusus* ), and bushy bluestem (*Andropogon glomeratus* ). During the dry season, many of these species die off and bahia grass (*Paspalum notatum* ) encroaches into the ditches. |

| Score = sum of above scores/30 (if uplands, divide by 20) | If preservation as mitigation, | For impact assessment areas |
|---|---|---|
| current or w/o pres: 0.36667<br>with: 0 | Preservation adjustment factor = | FL = delta x acres = |
| | Adjusted mitigation delta = | |

| Delta = [with-current] | If mitigation | For mitigation assessment areas |
|---|---|---|
| -0.366666667 | Time lag (t-factor) = | RFG = delta/(t-factor x risk) = |
| | Risk factor = | |

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | | SW - 1 and 2 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 5120 - Channelized Waterways - Canals | Open water | Impact | |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

The two surface waters belonging to this FLUCCS code represent the Kissimmee River and the C-41-A Canal. Historic aerials dated 1944 show the presence of both of these surface waters.

Assessment area description

The assessment area includes two surface waters both listed as excavated unsolidated bottoms.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| Lake Okeechobee | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage and conveyance, habitat for fish, reptiles and amphibians. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. The Kissimmee River is accessible to and could be inhabited by the West Indian Manatee (FT). |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

## 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | SW-1 and 2 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 | These surface waters include Canal C-41A and the Kissimmee River which run perpendicular to SR 70. These waterways are located in a rural area. The C-41A Canal is partially lined with riprap. Most of the surroundings consist of improved pastures and barren land. |
| .500(6)(b)Water Environment (n/a for uplands) | 3 | 0 | These water bodies are excavated and maintain flowing water year round. These waters are known to contain high levels of phosporus and nitrogen causing eutrophication and harmful algal blooms. Multiple restoration efforts, such at The Kissimmee River Restoration Project, are ongoing in the surrounding area to improve water quality and the affected ecosytems. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | 4 | 0 | There is no vegetation in the systems themselves and no benthic community. On the banks of the river, vegetation consists of cattail (*Typha spp.*), Brazilian pepper (*Schinus terebinthifolia*), slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*), Carolina willow (*Salix caroliniana*) and wax myrtle (*Myrica cerifera*). Brazilian pepper is the dominant species. Benthic conditions appear to be sandy bottom with riprap partially lining the edges of the canal. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.4 | 0 |

| Delta = [with-current] |
|---|
| -0.4 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | OSW - 41, 42, 109 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 5340 - Reservoirs less than 10 acres | Ponds | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

Historic aerials dated 1974 show the presence of majority of the ponds listed. Other ponds have been recently created to support sod farms and cow pastures along the project footprint and are therefore not present on the historic aerials.

Assessment area description

The assessment areas include ponds, which are generally devoid of vegetation or exhibit sparse herbaceous vegetation.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | OSW - 41, 42, 109 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| Scoring Guidance |
|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |

| Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|
| Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | 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: 5 | with: 0 |
| These are ponds in a rural area with nearby conservation lands. Although these areas were previously disturbed, they now appear to generally be inactive and therefore available for use by wildlife. In addition to being near the road, many of these ponds are surrounded by barren land that provide little cover for wildlife, but could serve as potential suitable foraging habitat for wood stork and wading birds. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 4 | with: 0 |
| These ponds are inundated year-round, with varying water levels between wet season and dry season. Water does not appear to flow in or out of most of these systems; they act as rain catchment basins (retention ponds). Therefore, the water is expected to be somewhat stagnant. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 5 | with: 0 |
| Plant cover is minimal as most of the surrounding area is improved pastures which are regularly grazed. SW 109 contains some vegetation along the bank, including bushy bluestem (*Andropogon glomeratus*) and maidencane (*Panicum hemitomon*). | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | |
|---|---|
| current or w/o pres: 0.46667 | with: 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.466666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 32 and 36 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6170 - Mixed Wetland Hardwoods | Forested wetlands | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

Historic aerials dated 1981 show the presence of all wetlands listed. Over time, these wetlands have become more heavily vegetated.

Assessment area description

The assessment area is located in a rural setting with little disturbance. The wetlands are dominated by oaks trees with the presence of other vegetation including sabal palm (*Sabal palmetto*) and the invasive species, Brazilian peppertree (*Schinus terebinthifolia*).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. Nesting and foraging area for birds. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

## 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL- 32 and 36 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| Scoring Guidance |
|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |

| Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|
| Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 6 | with: 0 |
| The assessment areas are forested wetlands in close proximity to the Kissimmee River. Wetland 36 extends beyond the right-of-way into an offsite forested wetland system to the north. Wetland 32 is located within the southern portion of the roadway alignment and borders a large citrus grove. Invasive exotic species are present that may adversely affect the functions provided by the assessment areas. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 4 | with: 0 |
| Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 6 | with: 0 |
| Vegetation includes oaks (*Quercus* spp.), cabbage palm (*Sabal palmetto*) and willows *(Salix* spp.) The understory generally consists of giant leather fern (*Acrostichum danaeifolium*), Boston fern (*Nephrolepis exaltata*), swamp fern (*Telmatoblechnum serrulatum*), and wax myrtle (*Morella cerifera*). | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.53333 | with: 0 |
|---|---|---|

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.533333333 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL- 32 and 36 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 areas are forested wetlands in close proximity to the Kissimmee River. Wetland 36 extends beyond the right-of-way into an offsite forested wetland system to the north. Wetland 32 is located within the southern portion of the roadway alignment and borders a large citrus grove. Invasive exotic species are present that may adversely affect the functions provided by the assessment areas. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. | 6 | 5 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. | 4 | 4 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation includes oaks (*Quercus* spp.), cabbage palm (*Sabal palmetto*) and willows (*Salix* spp.) The understory generally consists of giant leather fern (*Acrostichum danaeifolium*), Boston fern (*Nephrolepis exaltata*), swamp fern (*Telmatoblechnum serrulatum*), and wax myrtle (*Morella cerifera*). In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. | 6 | 5 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.53333 | 0.466667 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.066666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 30 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6190 - Exotic Wetland Hardwoods | Forested wetlands | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

Historic aerials dated 1981 shows the presence of the wetlands listed. Over time, this wetland has become more heavily vegetated.

Assessment area description

The assessment area is located in a rural setting with little disturbance. This wetland is dominated by oaks trees with the presence of other vegetation including sabal palm (*Sabal palmetto*) and the invasive species, Brazilian peppertree (*Schinus terebinthifolia*).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. Nesting and foraging area for birds. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 30 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 | This wetland is located just south of SR 70, adjacent to the Kissimmee River and falls inside a FWC Wildlife Management Area. | 6 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetland receives runoff from SR 70 and is hydrologically connected to the Kissimmee River and therefore may be influenced by its water levels during the wet season. | 4 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | These areas are dominated by Brazilian pepper (*Schinus terebinthifolius*). Other native species found scattered within this classification include cabbage palm (*Sabal palmetto*) and wax myrtle (*Morella cerifera*). | 3 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43333 | 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.433333333 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 30 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 | 6 | 5 | This wetland is located just south of SR 70, adjacent to the Kissimmee River and falls inside a FWC Wildlife Management Area. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. |
| .500(6)(b)Water Environment (n/a for uplands) | 4 | 4 | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetland receives runoff from SR 70 and is hydrologically connected to the Kissimmee River and therefore may be influenced by its water levels during the wet season. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | 3 | 2 | These areas are dominated by Brazilian pepper (*Schinus terebinthifolius*). Other native species found scattered within this classification include cabbage palm (*Sabal palmetto*) and wax myrtle (*Morella cerifera*). In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43333 | 0.366667 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.066666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL- 4, 9, 33, 37, 50 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6310: Wetland Shrub | Herbaceous wetlands | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

The assessment areas include scrub-shrub wetlands found within and slightly outside of the right-of-way. Majority are flanked by the roadway and surrounding improved pastures and barren land.

Assessment area description

Dominant vegetation within the assessment areas include Peruvian primrose willow (Ludwigia peruviana), Carolina willow (Salix caroliniana) and other low shrubs.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. Nesting and foraging area for birds. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

## 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL- 4, 9, 33, 37, 50 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| Scoring Guidance |
|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |

| Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|
| Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | 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<br><br>w/o pres or current: 4<br>with: 0 | The assessment areas are spread throughout the entirety of the project footprint. Most of the wetlands are situated with SR 70 on one side and improved pastures or barren land on the other. These areas currently experience minimal disturbance. | |
| .500(6)(b)Water Environment (n/a for uplands)<br><br>w/o pres or current: 4<br>with: 0 | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. | |
| .500(6)(c)Community structure<br><br>1. Vegetation and/or<br>2. Benthic Community<br><br>w/o pres or current: 4<br>with: 0 | This community is associated with topographic depressions and poorly drained soils. Species in this habitat type in the project area include Peruvian primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*) and other low shrubs. | |

| Score = sum of above scores/30 (if uplands, divide by 20) | |
|---|---|
| current or w/o pres: 0.4 | with: 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.4 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL- 4, 9, 33, 37, 50 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 areas are spread throughout the entirety of the project footprint. Most of the wetlands are situated with SR 70 on one side and improved pastures or barren land on the other. These areas currently experience minimal disturbance. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. | 4 | 3 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. | 4 | 4 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | This community is associated with topographic depressions and poorly drained soils. Species in this habitat type in the project area include Peruvian primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*) and other low shrubs. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. | 4 | 3 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.4 | 0.333333 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.066666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 12 and 24 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6410 - Freshwater Marshes | Herbaceous | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

The assessment areas include minimally disturbed freshwater marshes located mostly outside of the right-of-way where they are surrounded by improved pastures and sod farms.

Assessment area description

The assessment areas are seasonally flooded and are dominated by herbaceous plant species such as cattail (*Typha spp.* ), sawgrass (*Cladium jamaicensis* ) and maidencane (*panicum hemitomon* ).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage and conveyance, habitat for fish, reptiles and amphibians. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. The Kissimmee River is accessible to and could be inhabited by the West Indian Manatee (FT). |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 12 and 24 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| Scoring Guidance |
|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |

| Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|
| Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | 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: 5 | with: 0 | The assessment areas include freshwater marshes located throughout the entirety of the project. Majority are set back from the right-of-way and are adjacent to improved pastures and sod farms. |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 3 | with: 0 | Water level indicators and soil moisture appeared to be appropriate considering seasonal flooding. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 5 | with: 0 | This community is associated with seasonal flooding, poorly drained soils and herbaceous vegetation. Predominant species include sawgrass (*Cladium jamaicensis*), maidencane (*Panicum hemitomon*) and cattail (*Typha spp.*). |

| Score = sum of above scores/30 (if uplands, divide by 20) | |
|---|---|
| current or w/o pres: 0.43333 | with: 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.433333333 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 12 and 24 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 areas include freshwater marshes located throughout the entirety of the project. Majority are set back from the right-of-way and are adjacent to improved pastures and sod farms. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. | 5 | 4 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal flooding. Hydrologic conditions are affected by the adjacent SR 70 and its associated stormwater management facilites (ie. ditches). The wetlands receive runoff from SR 70. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. | 3 | 3 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | This community is associated with seasonal flooding, poorly drained soils and herbaceous vegetation. Predominant species include sawgrass (*Cladium jamaicensis*), maidencane (*Panicum hemitomon*) and cattail (*Typha spp.*). In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. | 5 | 4 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43333 | 0.366667 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.066666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL-1, 10, 16, 48, 62, and 67 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6430: Wet Prairie | Herbaceous wetlands | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

The assessment area includes wet prairies located throughout the project. Majority are set far back from the right-of-way where they are surrounded by improved pastures and barren land.

Assessment area description

Characterized by grassy vegetation on hydric soils, these wetlands are dominated by sawgrass (*Cladium jamaicensis* ), bushy bluestem (*Andropogon glomeratus* ) maidencane (*Panicum hemitomon* ), and rushes (*Rhynchospora spp.* and *Eleocharis spp.* ).

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. Nesting and foraging area for birds. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Marybeth Van't Hul | 7/24/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL-1, 10, 16, 48, 62, and 67 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 | These areas are spread throughout the entirety of the project footprint. Most of the wetlands are surrounded by improved pastures and barren land and currently experience minimal disturbance. | 5 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by stormwater management facilites (ie. ditches) and runoff from nearby irrigation and drainage canals. | 4 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | This community is composed predominantly of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are dominated by sawgrass (*Cladium jamaicense*), bushy bluestem (*Andropogon glomeratus*) maidencane (*Panicum hemitomon*), and rushes (*Rhynchospora* spp. and *Eleocharis* spp.). | 6 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.5 | 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.5 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL-1, 10, 16, 48, 62, and 67 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Marybeth Van't Hul | 7/24/2025 |

| 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 waterfunctions | 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 | These areas are spread throughout the entirety of the project footprint. Most of the wetlands are surrounded by improved pastures and barren land and currently experience minimal disturbance. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. | 5 | 4 |
| .500(6)(b)Water Environment (n/a for uplands) | Water level indicators and soil moisture appeared to be appropriate considering seasonal variation. Hydrologic conditions are affected by stormwater management facilites (ie. ditches) and runoff from nearby irrigation and drainage canals. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. | 4 | 4 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | This community is composed predominantly of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are dominated by sawgrass (*Cladium jamaicense*), bushy bluestem (*Andropogon glomeratus*) maidencane (*Panicum hemitomon*), and rushes (*Rhynchospora* spp. and *Eleocharis* spp.). In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. | 6 | 5 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.5 | 0.433333 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.066666667 |

| 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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 42, 43 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 6530: Intermittent Ponds | Herbaceous wetlands | Impact | Varies |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| South Kissimmee Basin | Kissimmee River and C-41-A Canal Class 3F | N/A |

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

The assessment area includes intermittent ponds located north of SR 70 within unimproved pastures

Assessment area description

Characterized by a shallow system with little grassy vegetation and seasonal standing water.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The Kissimmee River | N/A |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, potential habitat for small freshwater fish, reptiles, and amphibians; potential drinking area for mammals. | N/A |

| 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) |
|---|---|
| Fish, frogs, alligators, and other aquatic species. Potential drinking area for deer, hogs, and other mammals. Nesting and foraging area for birds. | Wood storks (FT) and wading birds (4 species ST) could use these areas for foraging. |

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

N/A

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Dara Jarvis | 8/18/2025 |

**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 |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 42, 43 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (direct) | Dara Jarvis | 7/24/2025 |

| 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 waterfunctions | 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 | These two systems are located on the north side of SR 70 surrounded by unimproved pastures and directly adjacent to the roadway right-of-way. |
| .500(6)(b)Water Environment (n/a for uplands) | 4 | 0 | Hydrologic conditions are affected by stormwater management facilites (ie. ditches) and runoff from nearby irrigation and drainage canals. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | 4 | 0 | This community is composed predominantly of Florida snow (*Richardia scabra*). Species variety is low. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43333 | 0 |

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

| Delta = [with-current] |
|---|
| -0.433333333 |

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

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

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 70 from CR 721 South to CR 599/128th Avenue | N/A | WL - 42, 43 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact (secondary) | Dara Jarvis | 8/18/2025 |

| 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 waterfunctions | 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 | 4 | These two systems are located on the north side of SR 70 surrounded by unimproved pastures and directly adjacent to the roadway right-of-way. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. |
| .500(6)(b)Water Environment (n/a for uplands) | 4 | 4 | Hydrologic conditions are affected by stormwater management facilites (ie. ditches) and runoff from nearby irrigation and drainage canals. In the post-project condition, this score is expected to remain the same because the roadway will be permitted to meet all current water quality standards. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | 4 | 3 | This community is composed predominantly of Florida snow (Richardia scabra). Species variety is low. In the post-project condition, the wetland portion in this assessment area will be immediately adjacent to the newly constructed roadway, as opposed to being buffered. As a result, it may be impacted by trash and nuisance species seed source from traveling vehicles. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43333 | 0.366667 |

| Delta = [with-current] |
|---|
| -0.066666667 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = |

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

# Appendix G: IPaC Species Report

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Florida Ecological Services Field Office
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
Phone: (352) 448-9151 Fax: (772) 562-4288
Email Address: fw4flesregs@fws.gov
https://www.fws.gov/office/florida-ecological-services

In Reply Refer To: 07/23/2025 16:09:04 UTC
Project Code: 2025-0125724
Project Name: SR 70 FPID No. 450334-1

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. **Please include your Project Code, listed at the top of this letter, in all subsequent correspondence regarding this project.** Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Marine Mammals

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Florida Ecological Services Field Office**
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
(352) 448-9151

# PROJECT SUMMARY

Project Code: 2025-0125724
Project Name: SR 70 FPID No. 450334-1
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study for the widening of State Road (SR) 70 in Highlands and Okeechobee County from CR 721 South to CR 599/128th Avenue. This study is approximately 8.6 miles. The purpose of the PD&E Study is to evaluate and document the benefits, costs, and impacts of widening SR 70 from the existing two-lane undivided roadway to a four-lane divided roadway.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@27.2307003,-81.08695210019742,14z


Counties: Highlands and Okeechobee counties, Florida

# ENDANGERED SPECIES ACT SPECIES

There is a total of 29 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Florida Bonneted Bat *Eumops floridanus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/8630 | Endangered |
| Florida Panther *Puma (=Felis) concolor coryi*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/1763<br>General project design guidelines:<br>https://ipac.ecosphere.fws.gov/project/SNRXOZO7MFAVZKVBVIYEUCPX74/documents/generated/7123.pdf | Endangered |
| Puma (=mountain Lion) *Puma (=Felis) concolor (all subsp. except coryi)*<br>Population: FL<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/6049 | Similarity of Appearance (Threatened) |
| West Indian Manatee *Trichechus manatus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.***<br>Species profile: https://ecos.fws.gov/ecp/species/4469<br>General project design guidelines:<br>https://ipac.ecosphere.fws.gov/project/SNRXOZO7MFAVZKVBVIYEUCPX74/documents/generated/7281.pdf | Threatened |

## BIRDS

| NAME | STATUS |
|---|---|
| Crested Caracara (audubon's) [fl Dps] *Caracara plancus audubonii*<br>Population: FL DPS<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8250 | Threatened |
| Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10477 | Threatened |
| Everglade Snail Kite *Rostrhamus sociabilis plumbeus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/7713 | Endangered |
| Florida Grasshopper Sparrow *Ammodramus savannarum floridanus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/32 | Endangered |
| Whooping Crane *Grus americana*<br>Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)<br>No critical habitat has been designated for this species. | Experimental Population, Non-Essential |

| NAME | STATUS |
|---|---|
| Species profile: https://ecos.fws.gov/ecp/species/758 | |
| Wood Stork *Mycteria americana*<br>Population: AL, FL, GA, MS, NC, SC<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8477<br>General project design guidelines:<br>https://ipac.ecosphere.fws.gov/project/SNRXOZO7MFAVZKVBVIYEUCPX74/documents/generated/6954.pdf | Threatened |

## REPTILES

| NAME | STATUS |
|---|---|
| American Alligator *Alligator mississippiensis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/776 | Similarity of Appearance (Threatened) |
| Eastern Indigo Snake *Drymarchon couperi*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/646 | Threatened |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |

## FLOWERING PLANTS

| NAME | STATUS |
|---|---|
| Avon Park Harebells *Crotalaria avonensis*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/7093 | Endangered |
| Carter's Mustard *Warea carteri*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5583 | Endangered |
| Florida Ziziphus *Ziziphus celata*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/2950 | Endangered |
| Garrett's Mint *Dicerandra christmanii*<br>Population: | Endangered |

| NAME | STATUS |
|---|---|
| No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8333 | |
| Highlands Scrub Hypericum *Hypericum cumulicola*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/2940 | Endangered |
| Lewton's Polygala *Polygala lewtonii*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/6688 | Endangered |
| Papery Whitlow-wort *Paronychia chartacea*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/1465 | Threatened |
| Pigeon Wings *Clitoria fragrans*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/991 | Threatened |
| Pygmy Fringe-tree *Chionanthus pygmaeus*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/1084 | Endangered |
| Sandlace *Polygonella myriophylla*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5745 | Endangered |
| Scrub Blazingstar *Liatris ohlingerae*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/864 | Endangered |
| Scrub Mint *Dicerandra frutescens*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/799 | Endangered |
| Short-leaved Rosemary *Conradina brevifolia*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/2929 | Endangered |
| Snakeroot *Eryngium cuneifolium*<br>Population:<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/7487 | Endangered |

| NAME | STATUS |
|---|---|
| Wireweed *Polygonella basiramia* | Endangered |

Population:
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1718

## LICHENS

| NAME | STATUS |
|---|---|
| Florida Perforate Cladonia *Cladonia perforata* | Endangered |

Population:
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7516

## CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*

Species profile: https://ecos.fws.gov/ecp/species/4469

# IPAC USER CONTACT INFORMATION

Agency: Federal Highway Administration
Name: Marybeth Vanthul
Address: 12620 Telecom Dr
City: Temple Terrace
State: FL
Zip: 33637
Email mvanthul@scalarinc.net
Phone: 8137276817

# Appendix H: FNAI Standard Data Report

Florida
Natural Areas
Inventory

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

May 1, 2023

Dara Jarvis
Scalar Consulting Group Inc
13337 North 56th Street
Tampa, FL 33617

Dear Ms. Jarvis,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). At your request we have produced the following report for your project area.

The purpose of this Standard Data Report is to provide objective scientific information on natural resources located in the vicinity of a site of interest, in order to inform those involved in project planning and evaluation. This Report makes no determination of the suitability of a proposed project for this location, or the potential impacts of the project on natural resources in the area.

**Project:** PD&E Study for SR 70

**Date Received:** 4/24/2023

**Location:** Highlands & Okeechobee Counties

## Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in 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.

Federally Listed Species

Our data indicate federally listed species are present on or very near this site, specifically Crested Caracara (*Caracara plancus*) (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

*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. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.*

## 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.

Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

*FNAI habitat models indicate areas, which based on land cover 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.*

CLIP

The enclosed map shows natural resource conservation priorities based on the Critical Lands and Waters Identification Project. CLIP is based on many of the same natural resource data developed for the Florida Forever Conservation Needs Assessment, but provides an overall picture of conservation priorities across different resource categories, including biodiversity, landscapes, surface waters, and aggregated CLIP priorities (that combine the individual resource categories). CLIP is also based primarily on remote sensed data and is not intended to be the definitive authority on natural resources on a site.

For more information on CLIP, visit https://www.fnai.org/services/clip.

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

Please visit www.fnai.org/species-communities/tracking-main 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. **The maps contain sensitive environmental information, please do not distribute or publish without prior consent from FNAI.** FNAI data may not be resold for profit.

Thank you for your use of FNAI services. An invoice will be mailed separately. If I can be of further assistance, please contact me at (850) 224-8207 or at kbrinegar@fnai.fsu.edu.

Sincerely,

Kerri Brinegar

Kerri Brinegar
GIS / Data Services

Encl

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

Florida Natural Areas Inventory

# PD&E Study for SR 70

Site boundaries are approximate.

# Highlands & Okeechobee Counties

**Element Occurrences**
- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

**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
- Roads
- Water

N

0 1 2 4 Miles

**NOTE**
***This map contains environmentally sensitive information. Please do not distribute or publish without prior consent from FNAI. Map should not be interpreted without accompanying documents.***

*Map produced by KAB*
*5/1/2023*

# PD&E Study for SR 70

Site boundaries are approximate.

Highlands & Okeechobee Counties

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Florida
Natural Areas
Inventory

## CLIP v4.0 Resource Priorities

**Biodiversity Resource Category**

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

**Landscape Resource Category**

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

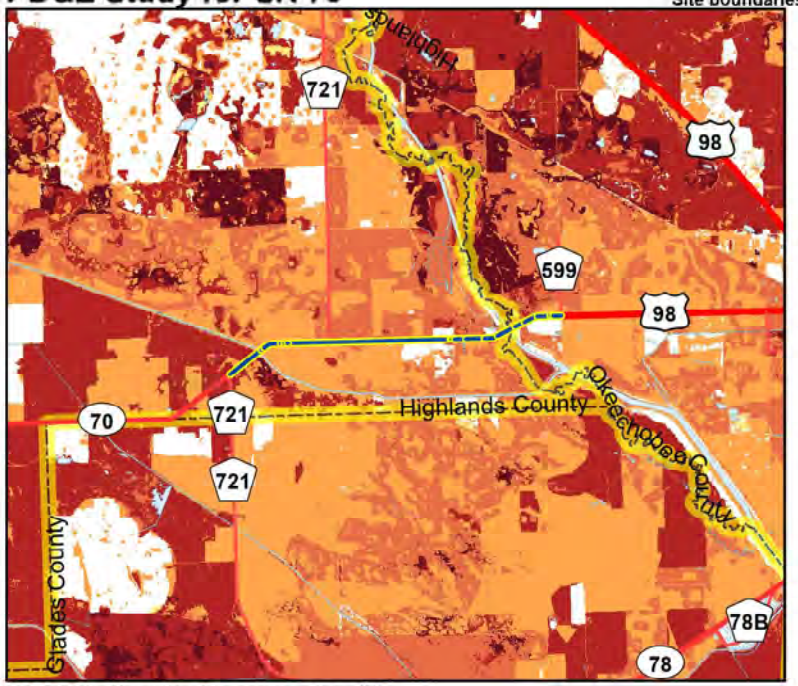
**Surface Water Resource Category**

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

**Aggregated CLIP Priorities**

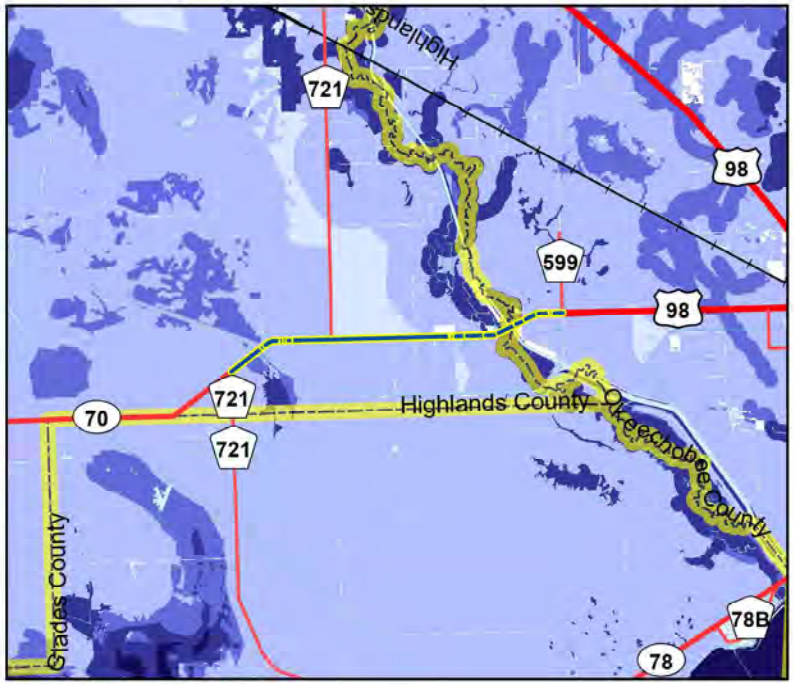
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Site Boundary




CLIP Biodiversity Resource Priorities


CLIP Landscape Resource Priorities




CLIP Surface Water Resource Priorities


CLIP Aggregated Resource Priorities

0 2.5 5 10 15 Miles

***Map should not be interpreted without accompanying documents.***

Critical Lands and Waters Identification Project (CLIP) is a cooperative effort between the FSU Florida Natural Areas Inventory, UF Center for Landscape Conservation Planning, and FL Fish & Wildlife Conservation Commission, with additional funding from FL Dept of Environmental Protection and US Fish & Wildlife Service.

***Map produced by KAB***
***5/1/2023***

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Florida Natural Areas Inventory

# FNAI ELEMENT OCCURRENCE REPORT on or near

## *PD&E Study for SR 70*

| Map Label | Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing | Observation Date | Description | EO Comments |
|---|---|---|---|---|---|---|---|---|---|
| CARAPLAN*101 | *Caracara plancus* | Crested Caracara | G5 | S2 | T | FT | 1978 | No general description given | ACTIVE TERRITORY/BREEDING PAIR WITH KNOWN NESTING; CENTROID MARKS ESTIMATED CENTER OF TERRITORY (MEAN DIAMETER, 5 MI.) |
| CARAPLAN*123 | *Caracara plancus* | Crested Caracara | G5 | S2 | T | FT | 1978 | No general description given | ACTIVE TERRITORY/BREEDING PAIR. CENTROID MARKS ESTIMATED CENTER OF TERRITORY (MEAN DIAMETER 5 MI.) |
| CARAPLAN*189 | *Caracara plancus* | Crested Caracara | G5 | S2 | T | FT | 1989-03-20 | improved pasture; Prairie Hammock | 1989: 03/20 - R. Titus, GFC, observed 2 adults flying over water high NE. Houses </= .1 mi. Cows in pasture. One full adult, one possibly first adult plumage. (U97GFC02). |
| CARAPLAN*87 | *Caracara plancus* | Crested Caracara | G5 | S2 | T | FT | 1978 | No general description given | ACTIVE TERRITORY/BREEDING PAIR WITH KNOWN NESTING; CENTROID MARKS ESTIMATED CENTER OF TERRITORY (MEAN DIAMETER, 5 MI.) |
| DRYMCOUP*269 | *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT | 1970-12-03 | No general description given | INDIGO OBSERVED BY FRED ANTONIA 3 DEC 1970 (MOLER INTERVIEW OF F. ANTONIA, 1982-07-02). |
| HALILEUC* (X)492 | *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N | 1986 | No general description given | Nest status 1999-2003: Inactive - 2003; Unknown/not assessed - 2002, 2001, 2000, 1999; Status 1995-98: Inactive - 1998, 1997, 1996, 1995; (U03FWC01FLUS). Previous data (note different format) NEST: 1995-90: GONE; 1989: UNKNOWN; 1988-87: NO DATA; 1986: PRODUCED 1 YOUNG; 1985: PRODUCED 1 YOUNG; 1984: PRODUCED 1 YOUNG. |
| HALILEUC*725 | *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N | 2003 | No general description given | Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST; 1995: PRODUCED 3 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: ACTIVE, PRODUCED 0 YOUNG; 1992: PRODUCED 3 YOUNG; 1991: PRODUCED 2 YOUNG; 1990: PRODUCED 2 YOUNG. |

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Florida Natural Areas Inventory

# FNAI ELEMENT OCCURRENCE REPORT on or near

***PD&E Study for SR 70***

| Map Label | Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing | Observation Date | Description | EO Comments |
|---|---|---|---|---|---|---|---|---|---|
| HALILEUC*784 | *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N | 2003 | No general description given | Nest status 1999-2003: Active - 2003, 2001, 2000, 1999; Inactive - 2002;Status 1995-98: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST; 1995: PRODUCED 2 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: PRODUCED 2 YOUNG; 1992: PRODUCED 1 YOUNG; 1989-1991: GONE; 1987-1988: INACTIVE; 1986: NO DATA; 1985: OTHER ANIMAL, PRODUCTIVITY UNKNOWN. |

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Florida Natural Areas Inventory

# Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| **Matrix Unit ID: 53677** | | | | | |
| **Likely** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Conradina brevifolia* | short-leaved rosemary | G2Q | S2 | E | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E, PT | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |
| *Warea carteri* | Carter's warea | G1 | S1 | E | E |
| **Matrix Unit ID: 53678** | | | | | |
| **Likely** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Conradina brevifolia* | short-leaved rosemary | G2Q | S2 | E | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E, PT | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |

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Suite 200-C
Tallahassee, FL 32303
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Florida Natural Areas Inventory

# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |
| *Warea carteri* | Carter's warea | G1 | S1 | E | E |

**Matrix Unit ID: 54000**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coelorachis tuberculosa* | Piedmont jointgrass | G3 | S3 | N | T |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

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Suite 200-C
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Florida Natural Areas Inventory

# Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| **Matrix Unit ID: 54320** | | | | | |
| **Likely** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coelorachis tuberculosa* | Piedmont jointgrass | G3 | S3 | N | T |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |
| **Matrix Unit ID: 54638** | | | | | |
| **Likely** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| Mesic flatwoods | | G4 | S4 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coelorachis tuberculosa* | Piedmont jointgrass | G3 | S3 | N | T |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |

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Florida Natural Areas Inventory

# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

**Matrix Unit ID: 54957**

**Documented**

| | | | | | |
|---|---|---|---|---|---|
| *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N |

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| Mesic flatwoods | | G4 | S4 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coelorachis tuberculosa* | Piedmont jointgrass | G3 | S3 | N | T |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |

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*Potential - This site lies within the known or predicted range of the species listed.*

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Florida Natural Areas Inventory

# Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

**Matrix Unit ID: 55276**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Lampropeltis occipitolineata* | South Florida Mole Kingsnake | G2 | S2 | N | N |
| Mesic flatwoods | | G4 | S4 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coelorachis tuberculosa* | Piedmont jointgrass | G3 | S3 | N | T |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E, PT | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

**Matrix Unit ID: 55594**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Lampropeltis occipitolineata* | South Florida Mole Kingsnake | G2 | S2 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |

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Florida Natural Areas Inventory

# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Corynorhinus rafinesquii* | Rafinesque's Big-eared Bat | G3G4 | S1 | N | N |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Sciurus niger niger* | Southeastern Fox Squirrel | G5T5 | S3 | N | N |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

**Matrix Unit ID: 55912**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Corynorhinus rafinesquii* | Rafinesque's Big-eared Bat | G3G4 | S1 | N | N |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

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Florida Natural Areas Inventory

# Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| **Matrix Unit ID: 56227** | | | | | |
| **Likely** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3? | N | N |
| **Potential** | | | | | |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S2? | T | FT |
| *Eumops floridanus* | Florida bonneted bat | G1 | S1 | E | FE |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | NR | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Linum carteri var. smallii* | Small's flax | G2T2 | S2 | N | E |
| *Lithobates capito* | Gopher Frog | G2G3 | S3 | N | N |
| *Matelea floridana* | Florida spiny-pod | G2 | S2 | N | E |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G2 | S2 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Puma concolor coryi* | Florida Panther | G5T1 | S1 | E | FE |
| *Ursus americanus floridanus* | Florida Black Bear | G5T4 | S4 | N | N |

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## Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

## Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

### FNAI GLOBAL ELEMENT RANK

**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 10,000 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.
**GH** = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
**GX** = Believed to be extinct throughout range.
**GXC** = Extirpated from the wild but still known from captivity or cultivation.
**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.
**GU** = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
**GNA** = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
**GNR** = Element not yet ranked (temporary).
**GNRTNR** = Neither the element nor the taxonomic subgroup has yet been ranked.

### FNAI STATE ELEMENT RANK

**S1** = Critically imperiled in Florida 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.
**S2** = Imperiled in Florida 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.
**S3** = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
**S4** = Apparently secure in Florida (may be rare in parts of range).
**S5** = Demonstrably secure in Florida.
**SH** = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
**SX** = Believed to be extirpated throughout Florida.
**SU** = Unrankable; due to a lack of information no rank or range can be assigned.
**SNA** = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
**SNR** = Element not yet ranked (temporary).

**FEDERAL LEGAL STATUS**

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

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.

**C** = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
**E** = Endangered: species in danger of extinction throughout all or a significant portion of its range.
**E, T** = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
**E, PDL** = Species currently listed endangered but has been proposed for delisting.
**E, PT** = Species currently listed endangered but has been proposed for listing as threatened.
**E, XN** = Species currently listed endangered but tracked population is a non-essential experimental population.
**T** = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
**PE** = Species proposed for listing as endangered.
**PS** = - An infraspecific taxon or population has federal status but the entire species does not - status is in only a portion of the species range.
**PT** = Species proposed for listing as threatened.
**SAT** = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
**SC** = Not currently listed, but considered a "species of concern" to USFWS.
**DL** = Delisted.
**UR** = Under review.

**STATE LEGAL STATUS**

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

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

**C** = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
**FE** = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
**FT** = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
**FXN** = Federal listed as an experimental population in Florida
**FT(S/A)** = Federal Threatened due to similarity of appearance
**ST** = State population listed as Threatened 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.
**SSC** = 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. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
**N** = Not currently listed, nor currently being considered for listing.

**Plants:** Definitions derived from Sections 581.011, 581.185 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 see: https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40.

**E** = Endangered: species of plants native to Florida 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; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
**T** = Threatened: 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 number as to cause them to be Endangered.
**CE** = Commercially exploited: species native to the state which are subject to being removed in significant numbers from native habitats in the state and sold or transported for sale.
**N** = Not currently listed, nor currently being considered for listing.

## Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

**A** = Excellent estimated viability
**A?** = Possibly excellent estimated viability
**AB** = Excellent or good estimated viability
**AC** = Excellent, good, or fair estimated viability
**B** = Good estimated viability
**B?** = Possibly good estimated viability
**BC** = Good or fair estimated viability
**BD** = Good, fair, or poor estimated viability
**C** = Fair estimated viability
**C?** = Possibly fair estimated viability
**CD** = Fair or poor estimated viability
**D** = Poor estimated viability
**D?** = Possibly poor estimated viability
**E** = Verified extant (viability not assessed)
**F** = Failed to find
**H** = Historical
**NR** = Not ranked, a placeholder when an EO is not (yet) ranked.
**U** = Unrankable
**X** = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

**H?** = Possibly historical
**F?** = Possibly failed to find
**X?** = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

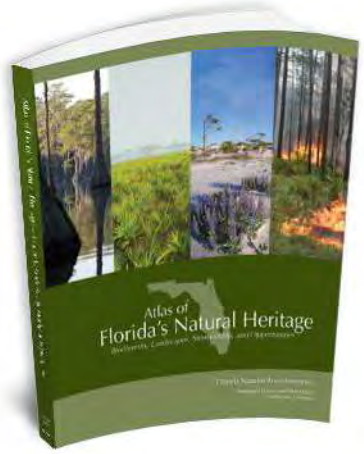
The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

ON SALE NOW

# Atlas of Florida's Natural Heritage

*Biodiversity, Landscapes, Stewardship, and Opportunities*

The Florida Natural Areas Inventory is pleased to announce the publication of the ***Atlas of Florida's Natural Heritage: Biodiversity, Landscapes, Stewardship, and Opportunities***. This high-quality, full-color *Atlas* is sure to become a standard reference for anyone involved in the conservation, management, study, or enjoyment of Florida's rich natural resources. We hope the *Atlas* will inspire, educate, and raise awareness of and interest in biodiversity and conservation issues.

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# Appendix I: Agency Correspondence

| | |
|---|---|
| **From:** | Wrublik, John |
| **To:** | James, Jeffrey W |
| **Cc:** | Turley, David; Caruso, Kristin; Feagle, Autumn "Brooke" |
| **Subject:** | Re: [EXTERNAL] REVIEW: Survey Methodology for Florida Grasshopper Sparrow & Bonneted Bat, SR 70 PD&E from CR 721 to CR 559/128 Avenue, Highlands & Okeechobee Counties |
| **Date:** | Thursday, April 18, 2024 8:54:46 AM |
| **Attachments:** | image001.png |



Jeffrey,

I have the reviewed the document for the SR 70 from County Road 721 to County Road 559 project. I agree that a site-specific survey for the endangered Florida grasshopper sparrow is not needed, and concur with survey methodology proposed for the Florida bonneted bat.

Sincerely,

**John M. Wrublik**
**U.S. Fish and Wildlife Service**
**777 37th Street, Suite D-101**
**Vero Beach, Florida 32960**
**Office: (772) 226-8130**
**email: John_Wrublik@fws.gov**



---

**From:** James, Jeffrey W <Jeffrey.James@dot.state.fl.us>
**Sent:** Wednesday, April 17, 2024 4:34 PM
**To:** Wrublik, John <john_wrublik@fws.gov>
**Cc:** Turley, David <David.Turley@dot.state.fl.us>; Caruso, Kristin <Kristin.Caruso@dot.state.fl.us>; Feagle, Autumn "Brooke" <Brooke.Feagle@dot.state.fl.us>
**Subject:** [EXTERNAL] REVIEW: Survey Methodology for Florida Grasshopper Sparrow & Bonneted Bat, SR 70 PD&E from CR 721 to CR 559/128 Avenue, Highlands & Okeechobee Counties



John – please see the attached Survey Methodology for Florida Grasshopper Sparrow & Bonneted Bat for review.

Thank you in advance for your review. If you have any questions or require additional information, please contact me.

**Jeffrey W. James**

**Environmental Manager**
**Florida Department of Transportation, District 1**
801 North Broadway Avenue
P.O. Box 1249
Bartow, FL 33831-1249
(863) 519-2625
Jeffrey.James@dot.state.fl.us

| | |
|---|---|
| **From:** | Wrublik, John |
| **To:** | Bennett, Jonathon |
| **Cc:** | Turley, David; Kristin Caruso; Dara Jarvis |
| **Subject:** | Re: [EXTERNAL] 450334-1 SR 70 PD&E Study from Southern Leg of CR 721 S to CR 559/128 Avenue ETDM #14491 - Snail Kite and Eastern Indigo Snake Review Request |
| **Date:** | Friday, May 5, 2023 6:54:35 AM |

Jonathan,

Thank you for your email, I would agree that it does not appear that the proposed project will affect suitable nesting habitat for the Everglade snail kite, and a nest survey associated with the project is not recommended by the Service. With respect to the Eastern indigo snake, the Service confirms the record you mentioned that was documented in 1970, and we do not have any records of the species occurring within 0.62 mile of the project site during the last 25 years.

Sincerely,

**John M. Wrublik**
**U.S. Fish and Wildlife Service**
**1339 20th Street**
**Vero Beach, Florida 32960**
**Office: (772) 469-4282**
**Fax: (772) 562-4288**
**email:** John_Wrublik@fws.gov



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**From:** Bennett, Jonathon <Jonathon.Bennett@dot.state.fl.us>
**Sent:** Thursday, May 4, 2023 4:32 PM
**To:** Wrublik, John <john_wrublik@fws.gov>
**Cc:** Turley, David <David.Turley@dot.state.fl.us>; Kristin Caruso <kcaruso@scalarinc.net>; Dara Jarvis <djarvis@scalarinc.net>; Bennett, Jonathon <Jonathon.Bennett@dot.state.fl.us>
**Subject:** [EXTERNAL] 450334-1 SR 70 PD&E Study from Southern Leg of CR 721 S to CR 559/128 Avenue ETDM #14491 - Snail Kite and Eastern Indigo Snake Review Request



John,

The Florida Department of Transportation (FDOT), District One is conducting a Project Development and Environment (PD&E) Study for proposed improvements to State Road (SR) 70 from CR 721 South to CR 599/128th Avenue in Highlands and Okeechobee Counties, a distance of approximately 8.6 miles (see Figure 1). The PD&E study will evaluate the widening of SR 70 from a two-lane undivided roadway to a four-lane divided

roadway with multimodal facilities (i.e., a shared use path) along the project segment. The improvements are intended to provide additional roadway capacity and enhance safety.

The Efficient Transportation Decision Making (ETDM) process began on January 10th, 2023 (ETDM #14491), agency comments have been received, and the summary report is pending. Initial project activities for listed species have included a literature review, county and regional database searches, and a field review for potential habitat areas. The Highlands and Okeechobee County Soil Surveys, South Florida Water Management District (SFWMD) land use/land cover mapping, recent aerial imagery, and regional studies and plans were reviewed to determine habitat types occurring within and adjacent to the project corridor.

Information sources and databases include the following:

- eBird Species Map;
- Florida Natural Areas Inventory (FNAI) – Biodiversity Matrix Report (http://www.fnai.org/biointro.cfm);
- FNAI – Standard Data Report (May 2023);
- FDACS – Notes on Florida's Endangered and Threatened Plants;
- FDOT – Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed. (January 1999);
- FDOT's Advance Notification Package (January 10th, 2023);
- Environmental Screening Tool (EST);
- FWC Official Endangered and Threatened Species List (Updated December 2022);
- SFWMD and U.S. Army Corp of Engineers (USACE) Lake Okeechobee Watershed Restoration Project
- U.S. Department of Agriculture (USDA) Natural Resource Conservation Services (NRCS) – Highlands and Okeechobee County soil surveys (FGDL SSURGO, 2021);
- USFWS National Wetland Inventory (NWI)
- USFWS – https://www.fws.gov/florida/
    - Information for Planning and Consultation (IPaC) (IPaC: Getting Started - Draw on Map (fws.gov));
    - Species Profiles
    - Critical Habitat (CH) for threatened and endangered species; and
    - Consultation Areas (CA) for federally listed species.

Snail kite

The project is located within the USFWS snail kite (*Rostrhamus sociabilis plumbeus*) CA. The species requires habitat consisting of freshwater marshes and shallow vegetated marshes or lake edges where apple snails (*Pomacea paludosa*) are found. While the majority of the corridor has been converted to agricultural land uses, which has resulted in the removal of native vegetation and the lowering of the ground water table, some remaining freshwater marsh was anticipated to remain based on NWI and FLUCFCS data. The closest documented nest is approximately 8 miles southeast of the project, located on the outskirts of Lake Okeechobee. A site review was conducted on April 27, 2023 to inspect potential snail kite habitat within the project area and identify appropriate survey stations. However, based on this survey, suitable foraging and nesting habitat was not observed. The field team initially identified five potential survey areas (Figure 2), but these locations provided little shallow open water features and were dominated by dense vegetation, whether consisting of herbaceous, scrub-shrub, or forested vegetation. The Kissimmee River and C-41A Canal offer unobstructed standing water but the canal banks

are steep affording no littoral zones. Photos of the locations inspected for potential snail kite survey stations are provided in Attachment A. Based on the lack of suitable foraging and nesting habitat, a snail kite species-specific survey is not anticipated for this project.

Eastern indigo snake

This species may inhabit a variety of natural areas including forested uplands and wetlands as well as wet and dry prairies. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. It is documented to have occurred on privately owned land (now owned by Lykes Bros Inc.) approximately 1 mile south of SR 70 in 1970 (see Attachment B); there have been no other recorded observations. Suitable yet suboptimal habitat for the species exists within and adjacent to the project corridor. Therefore, the FDOT will implement the *USFWS Standard Protection Measures for the Eastern Indigo Snake* during construction. Based on the *USFWS Consultation Key for the Eastern Indigo Snake – Revised (2017)*, the project may affect, not likely to adversely affect (A>B>C>D "MANLAA") this species based on preliminary reviews. However, we understand that USFWS has recently been using previously documented observations to guide project determinations of effect. Therefore, we are requesting information from USFWS on the nearest observation and confirmation on the observation reported in 1970.

The FDOT appreciates your involvement with this project and respectfully requests your review and response.

Thank you for your assistance with this project.

**Jonathon A. Bennett**
**Environmental Project Manager**
**ETDM Coordinator**
Florida Department of Transportation|District One
801 North Broadway Avenue|Bartow, Florida 33830
PH: (863) 519-2495 EMAIL: Jonathon.Bennett@dot.state.fl.us
Teams: Chat | Call

# Appendix J: Standard Protection Measures for the Eastern Indigo Snake

# STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

## U.S. Fish and Wildlife Service

May 2024

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

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

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

## STANDARD PROTECTION MEASURES

### BEFORE AND DURING CONSTRUCTION ACTIVITIES:

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

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

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

### POST CONSTRUCTION ACTIVITIES:

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

## USFWS FIELD OFFICE CONTACT INFORMATION

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

# POSTER & PAMPHLET INFORMATION

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

## POSTER CONTENT (ENGLISH):

ATTENTION

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

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

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

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

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

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

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

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

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

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

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

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

in the throat area. They are not typically aggressive.

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

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

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

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

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

## POSTER CONTENT (SPANISH):

ATENCIÓN

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Oficina de Florida: (352) 448-9151

Oficina de Georgia: (706) 613-9493

# Appendix K: Eastern Indigo Snake Consultation Key

# United States Department of the Interior

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

August 1, 2017

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

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

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

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

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

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

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

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

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

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

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

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

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

### Scope of the Key

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

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

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

### Habitat

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

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

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

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

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

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

Even though thermal stress may not be a limiting factor throughout the year in south Florida, eastern indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigo snakes use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumi*) burrows in coastal areas (Layne and Steiner 1996; Wilson and Porras 1983). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges.

**Minimization Measures**

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

**Determinations**

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

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

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

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

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

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

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

B. Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction.....go to C

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

C. The project will impact less than 25 acres of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....go to D

The project will impact 25 acres or more of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....**may affect**

D. The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and/or injured during project activities.....**NLAA**

The project has known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and /or injured.....go to E

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow[1]. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.....**NLAA**[2]

Permit will not be conditioned as outlined above.....**may affect**

**End Key**

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

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

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

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

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

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

Cc:
Corps, Jacksonville, Florida (Dale Beter, Muriel Blaisdell, Ingrid Gilbert, Angela Ryan, Irene Sadowski, Victoria White, Alisa Zarbo)
Service, Athens, Georgia (Michelle Elmore)
Service, Jacksonville, Florida (Annie Dziergowski)
Service, Panama City, Florida (Sean Blomquist)

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