

Natural Resource Evaluation

Bay County, Florida

Prepared For:



Bay County Board of County Commissioners

Submitted By:

AtkinsRéalis

3522 Thomasville Road, 5th Floor

Tallahassee, FL 32309

October 10, 2025

DRAFT
NATURAL RESOURCE EVALUATION REPORT
Philip Griffiths Parkway Phase III

Project Development and Environment Study
From Clara Avenue to Chip Seal Parkway
Bay County, Florida

ETDM #14562
FPID# Not Applicable

This project has been developed without regard to race, color, national origin, age, sex, religion, disability, or family status. This Draft NRE reflects consideration of the PD&E Study and the public involvement activities conducted to date.

Prepared for
Bay County, Florida



By
AtkinsRéalis, Inc.
3522 Thomasville Road, Fifth Floor
Tallahassee, Florida 32309

October 2025



TABLE OF CONTENTS

Executive Summary	1
1. Project Overview	1-1
1.1 Project Description	1-1
1.2 Project Background	1-2
1.3 Project Purpose and Need	1-3
1.4 Project Location	1-3
1.5 Alignment Alternatives	1-4
1.6 Stormwater Management Facilities	1-5
1.7 Purpose of Report	1-5
2. Existing Environmental Conditions	2-1
2.1 Existing Land Use	2-1
2.2 Natural and Biological Features	2-2
2.3 Upland Communities	2-2
2.4 Wetland and Other Surface Water Communities	2-3
2.5 Soils	2-5
3. Protected Species and Habitat	3-1
3.1 Methodology	3-1
3.2 Previous Agency Coordination	3-3
3.3 Federally-Listed Faunal Species	3-4
3.3.1 Red-cockaded Woodpecker	3-4
3.3.2 Eastern Black Rail	3-5
3.3.3 Alligator Snapping Turtle	3-5
3.3.4 Eastern Indigo Snake	3-6
3.3.5 Reticulated Flatwoods Salamander	3-6
3.3.6 Tricolored Bat	3-6
3.3.7 Monarch Butterfly	3-7
3.4 State-Listed Faunal Species	3-8
3.4.1 Gopher Tortoise	3-8
3.5 Other Protected Faunal Species	3-8
3.5.1 Bald Eagle	3-8
3.5.2 Florida Black Bear	3-9
3.5.3 Migratory birds	3-9
3.6 Federal and State Protected Plant Species	3-9
3.6.1 Telephus Spurge	3-10
3.6.2 Godfrey's Butterwort	3-10
3.6.3 White Birds-in-a-nest	3-10
3.6.4 Perforate Reindeer Lichen	3-11
3.6.5 Cooley's Meadowrue	3-11
3.6.6 Summary of Effects on Plant Species	3-11
3.7 Federal Designated Critical Habitat	3-14



4.	Wetland and OSW Evaluation	4-1
4.1	Methodology	4-1
4.2	Impact Evaluation	4-1
4.3	Avoidance, Minimization, and Mitigation	4-3
	4.3.1 Breakfast Point Mitigation Bank.....	4-4
	4.3.2 Roadway Design Through the BPMB	4-5
	4.3.3 Mitigation.....	4-5
4.4	Wetland Functional Analysis	4-6
4.5	Indirect and Cumulative Effects.....	4-7
5.	Construction Protection Measures	5-8
6.	Anticipated Permits.....	6-8
7.	Conclusions and Commitments.....	7-1
7.1	Protected Species and Habitat.....	7-1
7.2	Wetland and OSW	7-4
7.3	Implementation Measures	7-4
7.4	Commitments.....	7-5
7.5	Next Steps	7-6
8.	References	8-1



TABLES

- Table ES-1 – Effect Determinations for Protected Species
- Table ES 2 – Wetland Impacts from Proposed Philip Griffiths Parkway, Phase III
- Table 2-1 – Existing Land Use within the Proposed Project Area
- Table 2-2 – Soils in the Project Area
- Table 3-1 – Potentially Occurring Listed Wildlife Species
- Table 3-2 – Potentially Occurring Listed Plant Species
- Table 4-1 – Potential Wetland and Surface Water Impacts Within the BPMB
- Table 4-2 – Potential Wetland and Surface Water Impacts Outside of the BPMB
- Table 4-3 – Potential Impacts from the Proposed Stormwater Ponds
- Table 4-4 – Preserved BPMB Lands South of Roadway
- Table 4-5 – BPMB UMAM Summary
- Table 4-6 – BPMB Mitigation Credits Affected
- Table 7-1 – Potential Protected Species Status, Involvement, and Effect Determination
- Table 7-2 – Wetland Impacts from Proposed Philip Griffiths Parkway, Phase III

FIGURES

- Figure 1-1 – Typical Section
- Figure 1-2 – Project Alignment Map

APPENDICES

- **Appendix A**
- Figure 1 – Project Location Map
- Figure 2 – Project Quadrangle Map
- **Appendix B**
- Figure 3 – NWFWMF FLUCFCS Map
- Figure 4 – National Wetlands Inventory (NWI) Map
- Figure 5 – Natural Resources Conservation Service (NRCS) Soils Maps
- **Appendix C**
- Figure 6 – Wetlands Location Map
- Figure 7 – Conservation Easements Map
- Figure 8 – Mitigation Bank Map
- Figure 9 – Telephus Spurge Managed Areas Map
- **Appendix D**
- FNAI Biodiversity Matrix Report
- USFWS IPaC Database Report
- **Appendix E** – Project Wetland and Other Surface Water Photos



- **Appendix F** – USFWS Standard Protection Measures for the Eastern Indigo Snake
- **Appendix G** – Eastern Indigo Snake Programmatic Effect Determination Key
- **Appendix H** – UMAM Data Sheets from BPMB Permit



Executive Summary

Bay County is proposing a new roadway called Philip Griffiths Sr. Parkway, Phase III, from State Road (SR) 30A (US Highway 98) to Chip Seal Parkway to bypass Panama City Beach Parkway (US Highway 98) in Panama City Beach, Bay County, Florida. The purpose of this project is to meet mobility, safety, first-responder access, transportation resiliency and storm evacuation needs of the local community.

The Philip Griffiths Sr. (PGS) Parkway, Phase III project is a proposed new controlled access 2-lane road with a shared use path to be located inland of SR 30A/US 98 (Panama City Beach Parkway) between Clara Avenue and Chip Seal Parkway north of Panama City Beach in Bay County, Florida. Bay County is preparing a Project Environmental Impact Report (PEIR) to evaluate the potential impacts of the proposed PGS Parkway, Phase III project on the social, cultural, natural, and physical environment of the study area. The analyses of the project's impacts on the study area environmental features are being documented in technical reports. This technical report summarizes the natural resources potentially affected by the project. The "study area" encompasses all alternatives, whereas the "project area" includes each separate alternative and potential direct impacts listed in the tables.

This Natural Resource Evaluation (NRE) report evaluates the current ecological conditions, anticipated impacts to protected species, wetlands and essential fish habitat (EFH) as a result of the project, and mitigation and permitting requirements. Based on evaluation of 42 state and federal listed species, the project will have "no effect" on 9 federal listed species and "no effect anticipated" on 10 state-listed species. The project will have "no adverse effect" anticipated on 13 state-listed species and "may affect but is not likely to adversely affect" (MANLAA) 5 federal-listed species (**Table ES-1**). In addition, the project will impact approximately 77 acres of wetlands (**Table ES-2**). Most of these impacts will occur within the BPMB, including approximately 40 acres within an existing conservation easement. Of the three Build Alternatives evaluated, all have similar direct impacts on wetlands and species; however, the preferred alignment (M1) offers the greatest opportunity to retain and manage contiguous conservation lands. The anticipated impacts and mitigation meet the requirements of multiple state and federal criteria, to be assured during design and permitting of the preferred alignment through the U.S. Army Corps of Engineers, Florida Department of Environmental Protection, and Northwest Florida Water Management District. The study area does not include estuarine or marine habitats; therefore, the project has no involvement with EFH.

Table ES -1 Listed Species With Potential Effects from Proposed Philip Griffiths Parkway, Phase III

Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence	Effect Determination
<i>Drymarchon couperi</i>	Eastern Indigo Snake	FT	FT	Low	MANLAA



Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence	Effect Determination
<i>Gopherus polyphemus</i>	Gopher Tortoise	-	ST	High	No Adverse Effect Anticipated
<i>Thalictrum cooley</i>	Cooley's Meadowrue	FE	FE	Moderate	MANLAA
<i>Euphorbia telephioides</i>	Telephus spurge	FT	FT	High	MANLAA
<i>Pinguicula ionantha</i>	Godfrey's Butterwort	FT	FT	Moderate	MANLAA
<i>Macbridea alba</i>	White-Birds-in-a-Nest	FT	FT	Moderate	MANLAA
<i>Gentiana pennelliana</i>	Wiregrass Gentian		SE	Moderate	No Adverse Effect Anticipated
<i>Linum westii</i>	West's Flax		SE	Moderate	No Adverse Effect Anticipated
<i>Litsea aestivalis</i>	Pondspice		SE	Low	No Adverse Effect Anticipated
<i>Pinguicula primuliflora</i>	Primrose-flowered Butterwort		SE	Moderate	No Adverse Effect Anticipated
<i>Platanthera integra</i>	Yellow Fringeless Orchid		SE	Moderate	No Adverse Effect Anticipated
<i>Rhexia parviflora</i>	Small-flowered Meadowbeauty		SE	Low	No Adverse Effect Anticipated
<i>Ruellia noctiflora</i>	Night-flowering Wild Petunia		SE	Moderate	No Adverse Effect Anticipated
<i>Tiedemannia filiformis</i> <i>ssp. greenmanii</i>	Giant Water Cowbane		SE	High	No Adverse Effect Anticipated
<i>Andropogon arctatus</i>	Pinewoods Bluestem		ST	Moderate	No Adverse Effect Anticipated
<i>Asclepias viridula</i>	Southern Milkweed		ST	Moderate	No Adverse Effect Anticipated
<i>Calamovilfa curtissii</i>	Curtiss' Sandgrass		ST	Moderate	No Adverse Effect Anticipated
<i>Physostegia godfreyi</i>	Apalachicola Dragon-head		ST	Moderate	No Adverse Effect Anticipated



Table ES-2 Wetland Impacts from Proposed Philip Griffiths Parkway, Phase III

FLUCFCS Description	FLUCFCS Code	Acreage within Alt M1 Project Area	Acreage within Alt M2 Project Area	Acreage within Alt M3 Project Area
Stormwater Pond	530	0.83	0.53	0.53
Stream and Lake Swamp (Bottomland)	615	0.01	0.01	0.01
Cypress	621	1.16	1.16	1.16
Hydric Pine Flatwoods	643	39.02	29.55	29.97
Wetland Forested Mixed/Cypress Mixed Forest	630	27.91	18.93	18.44
Wetland Scrub	631	0.4	0.4	0.4
Wet Prairie/Palmetto Prairie	643	3.23	15.46	11.5
Mesic Flatwoods*	414	5.37	11.03	15.27
TOTAL IMPACTS (acres)		77.93	77.07	77.28

*Although mesic flatwoods are an upland community, this community within the BPMB is assigned as wetland impact due to generating wetland credits in the state and federal mitigation bank permits.



1. Project Overview

1.1 Project Description

Bay County is proposing a new roadway called Philip Griffiths Sr. Parkway, Phase III, from State Road (SR) 30A (US Highway 98) to Chip Seal Parkway to bypass Panama City Beach Parkway (US Highway 98) in Panama City Beach, Bay County, Florida. A location map depicting the evaluated alignments is provided in Section 1.4 below, and a larger scale location map is found in **Appendix A, Figure 1**. Bay County is currently engaged in preliminary engineering evaluation and design for the preferred alignment.

Throughout the report, the area within the existing and/or proposed right-of-way (ROW) where construction impacts will occur is referred to as the “proposed project.” This consists of the area within a 200-foot buffer extending from the centerline of the proposed Philip Griffiths Sr. Parkway and a minimum 50-foot buffer around the stormwater management facilities (SMFs).

The project starts in the City of Panama City Beach at the intersection of SR 30A (US 98) and Clara Avenue. The project travels directly north along Clara Avenue for approximately one mile before turning east/southeast through undeveloped forested lands for approximately four miles before connecting to an existing roundabout on Chip Seal Parkway. In addition, the project includes two connections south along a new alignment at Alf Coleman Road and at Moylan Road, making the entire project length approximately 5.10 miles. The majority of the new roadway would be outside the urban area boundaries of the City of Panama City Beach in Bay County. The project area is primarily undeveloped agricultural/forest/conservation land, just north of various residential, commercial, and public land uses.

This primarily east-west facility would provide a two-lane (major collector) roadway with 11-foot travel lanes, four to five-foot paved shoulders, curb and gutter, and a 10 to 12-foot shared-use path for most of the project length. The estimated ROW width for the proposed project, including side slopes tying down to the existing grade, is 200 feet. The ROW is proposed to include extra width to accommodate several new utility lines for the City of Panama City Beach, to provide critical redundancy to the City’s water and wastewater utility network. Construction of three off-site ponds (SMFs) is also included in the proposed improvement.

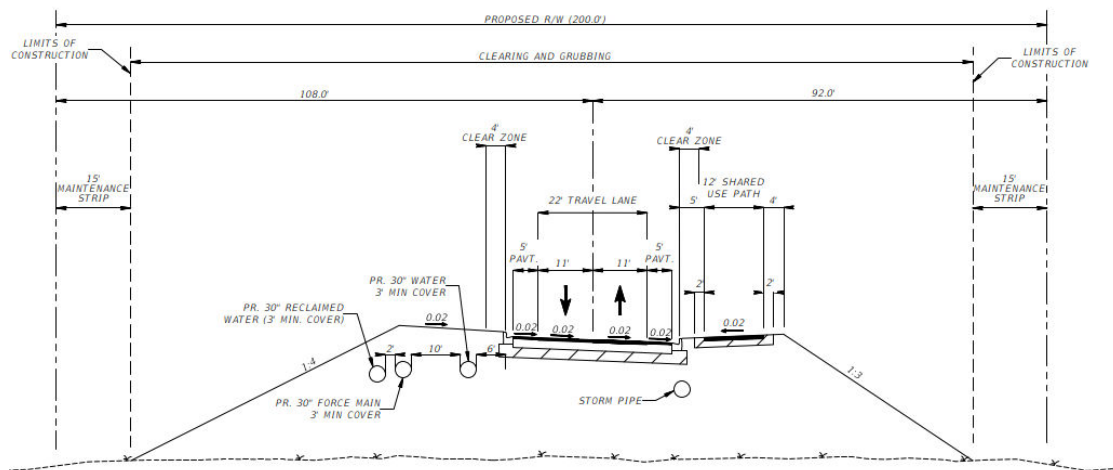


Figure 1-1 Typical Section

1.2 Project Background

A Project Development and Environment (PD&E) Study is being prepared as a Project Environmental Impact Report to evaluate the proposed Philip Griffiths Sr. Parkway Phase III from SR 30A (US 98) to Chip Seal Parkway in Panama City Beach, Bay County, a distance of about 5.10 miles. The proposed construction consists of creating a two-lane rural roadway from SR 30A (US 98) to Chip Seal Parkway.

The proposed improvements for the Philip Griffiths Sr. Parkway Phase III roadway are identified in the 2045 Bay County Transportation Planning Organization's (TPO) Long Range Transportation Plan (LRTP) adopted July 16, 2021. It is identified as A-49 Bay Parkway Phase 3 (Back Beach Bypass) and has funded phases of PD&E (\$3,000,000) in the years 2026-2030 and Design (\$8,000,000) in the years of 2031-2035.

There is a fourth segment Philip Griffiths Sr. Parkway identified in the Bay County LRTP. That segment will be a separate project from Philip Griffiths Sr. Parkway Phase III. The fourth segment would connect Phase II (which ends at Nautilus Street) to Phase III (which begins at Clara Avenue) via a four-lane elevated segment of US 98.

Several federal and state agencies provided comments to Bay County via the FDOT Environmental Transportation Decision Making (ETDM) tool (ETDM #14562). The U.S. Army Corps of Engineers (USACE) indicated an "Issue Resolution" degree of effect, while the US Environmental Protection Agency (USEPA) and Northwest Florida Water Management District (NFWFMD) indicated "Substantial" degree of effect. For all three agencies, these effect determinations focused on anticipated direct and indirect effects on wetlands and surface waters, particularly within the state and federal authorized Breakfast Point Mitigation Bank (BPMB) transected by the project. The NFWFMD also commented on fragmentation of the surrounding wetlands and wildlife usage. These agencies requested that impacts and mitigation be fully evaluated in this PD&E study to address their ETDM comments and degree of effect determinations.



1.3 Project Purpose and Need

The purpose of the PGS Parkway Phase III is to improve mobility in the study area by providing an alternative to US 98 (SR 30A/Panama City Beach Parkway) for local traffic; to enhance vehicular and pedestrian connectivity to J.R. Arnold High School, A. Gary Walsingham Academy, the Panama City Beach Publix Sports Park, and the Breakfast Point neighborhood; and to address safety concerns on US 98 (SR 30A/Panama City Beach Parkway) within the study limits by reducing congestion.

A secondary purpose is to enable risk reduction and resiliency of the transportation network by providing an alternate route that is constructed above the storm surge elevation in the coastal high hazard area.

Area needs to be addressed include provision of an additional link within the transportation network to provide an alternative to currently congested routes; accommodation of existing traffic and future transportation demand on the study area road network; improvement in safety on existing roads, and provision of a reliable alternate route for emergency responders.

1.4 Project Location

The proposed project is located in Panama City Beach, Bay County, Florida. The project is within Township 3 South, Range 15 West, Sections 19, 29, and 30 and Township 3 South, Range 16 West, Sections 22, 23 and 24 (**Project Quadrangle Map, Appendix A, Figure 2**) and comprises approximately 5.10 miles from SR 30A (US 98) to Chip Seal Parkway. The project corridor begins at approximately latitude 30.2059 and longitude -85.835454 and ends at latitude 30.197079 and longitude -85.772852. Three alignment alternatives known as M1, M2 and M3 are evaluated in this report. See **Figure 1-2** below and larger scale Figures in the Appendices.

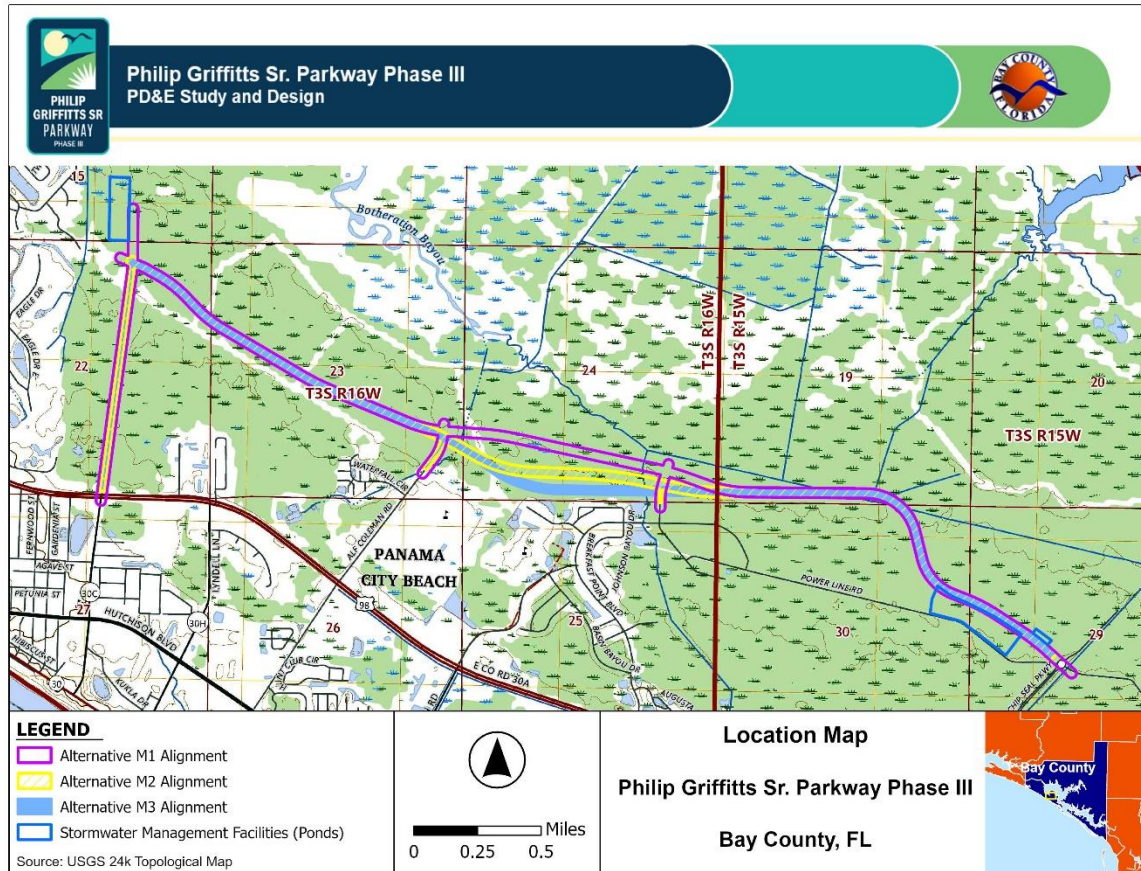


Figure 1-2 Location Map

1.5 Alignment Alternatives

The PD&E study includes evaluation of one No Build alternative and three Build Alternative alignments. These four alternatives are described below, with each alternative analyzed with respect to the project purpose and the study area needs.

The No Build Alternative includes the planned widening of US 98 (SR 30A/Panama City Beach Parkway) from four lanes to six lanes; signalization at US 98/Panama City Beach Parkway and Allison Avenue; and construction of north leg at US 98 (SR 30A/Panama City Beach Parkway) and Moylan Road. These projects are all planned or underway. In the No Build Alternative, multiple segments of US 98 (SR 30A/Panama City Beach Parkway) will continue to operate with Level of Service F, despite the widening and operational improvements. This Level of Service fails to meet the project purpose and study area needs. Further widening of US 98 (SR 30A/Panama City Beach Parkway) is not feasible due to extensive adjoining commercial land uses. Other existing transportation corridors – SR 392A (Middle Beach Rd/Hutchinson Boulevard) and SR 30 (Front Beach Rd) – are located closer to the coastline of the Gulf with greater exposure to storm surge, with improvements to those corridors therefore failing to meet the project purpose. The No Build Alternative does not meet the purpose and need of the project and is therefore not



further considered in this Natural Resources Evaluation (NRE) analysis.

The Build Alternatives include three alignments (M1, M2 and M3), all of which utilize the same Typical Section (**Figure 1-1**) and pond sites and have similar overall lengths. M1 is the furthest north, M3 the furthest south, and M2 in the middle. Of these three alignments, M1 is the preferred alternative based primarily on evaluation of natural resources, in particular due to compatibility with management of the BPMB for natural habitat, wildlife connectivity and the federally protected telephus spurge (*Euphorbia telephoides*).

1.6 Stormwater Management Facilities

Stormwater treatment and retention requirements for this project require the construction of multiple stormwater management facilities (SMFs). With extensive review of criteria for this project, as well as consideration of the important ecological communities within the BPMB, the SMFs proposed for this project are all located in areas outside of the BPMB. Further, these SMF sites are located on sites with predominantly upland, planted pine communities. The expanded Homewood Suites Pond and East Pond are on parcels bordered by the Panama City Beach Publix Sports Park on one side and Powerline Road on the other, while the West Pond is proposed on an adjacent parcel outside the western edge of the BPMB. These SMF sites remain the same for each of the alignment alternatives.

1.7 Purpose of Report

This NRE report documents existing wildlife resources and habitat types found within the project study area for potential occurrences of and effects to federally and state-protected plant and animal species and their habitat in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended; the Fish and Wildlife Conservation Act; the Migratory Bird Treaty Act (MBTA); Chapter 5B-40: *Preservation of Native Flora of Florida*, Florida Administrative Code (FAC); Chapter 68A-27: *Rules Relating to Endangered or Threatened Species* (FAC); and the *Protected Species and Habitat* chapter of the FDOT PD&E Manual.

This report also documents the potential impacts to wetlands and other surface waters (OSWs) from the proposed project in accordance with Presidential Executive Order (EO) 11990 entitled "Protection of Wetlands," United States Department of Transportation (USDOT) Order 5660.1A, "Preservation of the Nation's Wetlands," and the *Wetlands and Other Surface Waters* chapter of the FDOT PD&E Manual.

The 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 requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1996. The analysis of EFH assesses waters and substrate necessary to fish for spawning, breeding, feeding, and development to maturity.

There are no estuarine or marine waters in the study area that would provide EFH. Therefore, there will be no involvement with EFH for the proposed project.



2. Existing Environmental Conditions

2.1 Existing Land Use

The NFWFMD land use database and current aerial images were utilized to make a preliminary assessment of the existing land use within the Project Study Area. The FDOT Florida Land Use, Cover and Forms Classification System (FLUCFCS) Map based on these data is provided in **Appendix B, Figure 3**.

Field reviews were conducted in January and September 2024, to verify potential habitat and land use types within the project study area.

Table 2-1 provides a summary of the existing land use within the proposed project area based on the NFWFMD data.

Table 2-1 Existing Land Use within the Proposed Project Area for Philip Griffiths Parkway

Land Use Type	FLUCFCS Code	Acreage within Alt M1 Project Area	Acreage within Alt M2 Project Area	Acreage within Alt M3 Project Area
Palmetto Prairie	321	2.8	0	0
Pine-Mesic Oak (Flatwoods)	414	66.67	63.15	67.34
Stormwater Pond	530	0.83	0.53	0.53
Stream and Lake Swamp (Bottomland)	615	0.01	0.01	0.01
Cypress	621	2.89	1.16	1.16
Hydric Pine Flatwoods	625	43.81	36.1	36.52
Wetland Forested Mixed	630	27.22	18.93	18.44
Wetland Scrub	631	0.4	0.4	0.4
Wet Prairie	643	7.9	15.46	11.5
Disturbed Land	740	19.71	9.08	9.08
Roadway	814	1.12	1.21	1.32
TOTAL		173.36	146.03	146.3

The land uses within the M1 project area consist of approximately 47 percent wetland habitats (Bottomland, Cypress, Hydric Pine Flatwoods, Wetland Forested Mixed, Wetland Shrub, Wet Prairie), 40 percent undeveloped uplands (Palmetto Prairie, Flatwoods) and 12 percent developed lands (Disturbed Land, Roadway, Stormwater Pond).

The land uses within the M2 project area consist of approximately 49 percent wetland habitats, 43 percent undeveloped uplands and 7 percent developed lands.



The land uses within the M3 project area consist of approximately 47 percent wetland habitats, 46 percent undeveloped uplands, and 7 percent developed lands.

2.2 Natural and Biological Features

A variety of resources—including the U.S. Geological Survey (USGS) Quadrangle Map (**Appendix A, Figure 2**), NFWMD FLUCFCS data (**Appendix B, Figure 3**), National Wetlands Inventory (NWI) maps (**Appendix B, Figure 4**), Natural Resources Conservation Service (NRCS) Soil Surveys for Bay County (**Appendix B, Figure 5**), and aerial photographs—were used to identify the wetland and upland communities that occur within the project study area and within the proposed project area. Descriptions of the natural communities within the project study area are provided below.

2.3 Upland Communities

There were several natural upland communities identified in the project study area. Undeveloped upland areas in the project study area that are also considered suitable for wildlife use included Palmetto Prairie (FLUCFCS 310) and Mesic Flatwoods (FLUCFCS 414). Upland communities without suitable habitat for wildlife include Disturbed Land (FLUCFCS 740) and Roadway (FLUCFCS – 814); as non-natural communities, these are not further described here.

Palmetto Prairie (FLUCFCS 310)

Palmetto prairie (FLUCFCS – 310) includes upland prairie grass communities which occur on non-hydric soils but may be occasionally inundated by water. These grasslands are generally treeless with a variety of vegetation types dominated by grasses, sedges, rushes and other herbs including wire grasses with some saw palmetto (*Serenoa repens*) present. This community is within soils mapped as Leon Sand, 0 to 2 percent slopes (non-hydric) and were saturated at the time of surveys. Vegetation also includes wax myrtle (*Morella cerifera*), gallberry (*Ilex glabra*), shiny blueberry (*Vaccinium myrsinites*), broomsedge (*Andropogon virginicus*), dock (*Rumex* spp.), bracken fern (*Pteridium aquilinum*) and wiregrass (*Aristida* spp.). Habitat usage by wildlife may be utilized by species that are adapted to dry prairie habitat such as gopher tortoises or indigo snake. Palmetto prairie occurs only within the project area of Alt M1 (2.8 acres, or 2% of the project area).

Pine-Mesic Oak (Flatwoods) (FLUCFCS 414)

Mesic flatwoods (FLUCFCS – 414) occur on moist sites in which slash pine (*Pinus ellottii*), longleaf pine (*Pinus palustris*) and loblolly pine (*Pinus taeda*) grow in strong association with a wide variety of mesic oaks and other hardwood species. This community is within soils mapped as Leon Sand, 0 to 2 percent slopes (non-hydric) and were dry at the time of surveys. Other species includes water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), hickories (*Carya* spp.), and sweetgum (*Liquidambar styraciflua*). Gallberry, wax myrtle, and saw palmetto are among the common understory species. Other species include rusty lyonia (*Lyonia ferruginea*), sweetpepper bush (*Clethra alnifolia*), large-leaf gallberry (*Ilex coriacea*), cyrilla (*Cyrilla racimiflora*), yaupon holly (*Ilex vomitoria*) and saltbush (*Baccharis halimifolia*). Habitat usage by wildlife may be utilized by species that are adapted to mesic flatwoods habitat such as gopher tortoises or eastern indigo snake. Pine-mesic oak habitat occurs in all three alternatives and is the predominant undeveloped upland habitat in the study areas (approximately 38, 43 and 46



percent, respectively, in Alternatives M1, M2 and M3).

2.4 Wetland and Other Surface Water Communities

Wetlands were identified within the proposed project area located within and immediately adjacent to the project study area. One other surface water (OSW) identified within the project study area included an existing SMF. The SMF is not a natural community, but is included here for the purposes of habitat evaluation. The wetlands were ground-truthed in the field in January 2024 and September 2024 and are described below. Numerous wetlands were identified in the project study area. Wetland boundaries located within the project study area are provided on the Wetlands Location Map in **Appendix C, Figure 6**.

Descriptions of Wetlands

The existing conditions of the wetlands within the project study area were assessed using Geographic Information System (GIS) data resources and field verification. A total of six wetland communities occur within the project study area. These systems all occur within the St. Andrew's Bay basin (Hydrological Unit Code (HUC) 03140101). The locations of the wetlands are shown on the Wetland Location Map provided in **Appendix C, Figure 6**. Photographs of the wetlands are provided in **Appendix E**.

The wetland communities are composed of Stream and Lake Swamp (Bottomland) (FLUCFCS 615), Cypress (621), Hydric Pine Flatwoods (FLUCFCS 625), Wetland Forested Mixed (FLUCFCS 630), Wetland Scrub-Shrub (631), and Wet Prairie (FLUCFCS 643). These wetlands are further described in the section below.

Stream and Lake Swamp (Bottomland) (FLUCFCS 615)

This community, often referred to as bottomland or stream hardwoods, is usually found on but not restricted to river, creek and lake flood plain or overflow areas. This category has a wide variety of predominantly hardwood species. Associated species include bald cypress (*Taxodium distichum*), slash pine, loblolly pine and spruce pine (*Pinus glabra*). A bottomland community underlain by Pottsborg-Pottsborg, wet, sand, 0 to 2 percent slope soils is mapped just west of the sports complex in the eastern portion of the project area. This mapped community has been altered via timber management activities. Stream and Lake Swamp comprises less than 0.01% of the project area, which is the same for all three alignments in this location.

Cypress (FLUCFCS 621)

This community is composed of pure or predominant bald cypress. Within the project area, cypress communities have a dominant understory of black titi (*Cliftonia monophylla*). These communities are underlain by Pamlico-Dorovan complex soils and appear as narrow northwest-southeast strands. Cypress comprises 2 percent, 1 percent and 1 percent of alignments M1, M2 and M3 respectively.

Hydric Pine Flatwoods (FLUCFCS 625)

This community is a densely vegetated hydric pine flatwoods community (FLUCFCS – 625) located throughout the project study area. These communities are within soils mapped as Pamlico-Dorovan complex (hydric), Rutlege sand, 0 to 2 percent slopes (hydric), and Pottsborg-



Pottsburg wet sand (0 to 2 percent slopes, hydric) and were partially inundated at the time of surveys. This wetland is dominated by slash pine with an understory of black titi. Other species include scattered sweet bay magnolia (*Magnolia virginiana*), cyrilla, St. John's wort, caric sedge, horned beakrush (*Rhynchospora corniculata*) and laurel catbrier (*Smilax laurifolia*). Hydric pine flatwoods communities comprise approximately 25 percent of the project area for each alignment.

Wetland Forested Mixed (FLUCFCS 630)

The wetland forested mixed communities are located at the northern end of Clara Avenue along the powerline easement. These communities are within soils mapped as Pamlico-Dorovan complex (hydric) and were inundated at the time of surveys. These wetlands are dominated by bald cypress and black gum (*Nyssa biflora*) with minor components of sweet bay magnolia, myrtle holly (*Ilex myrtifolia*), black titi (*Cliftonia monophylla*), St. John's wort, caric sedge, horned beakrush and laurel catbrier. Wetland forested mixed communities comprise approximately 16, 13 and 13 percent of alignments M1, M2 and M3, respectively.

Wetland Scrub-Shrub (FLUCFCS 631)

The wetland scrub-shrub is a wetland community associated with topographic depressions and poorly-drained soil. These communities are within soils mapped as Pamlico-Dorovan complex (hydric) and were inundated at the time of surveys. Associated species include pond cypress (*Taxodium ascendens*), swamp tupelo, Carolina willow (*Salix caroliniana*), and other low scrub with no dominant species. This wetland is dominated by a low cover of shrubs and herbaceous species including sweet bay magnolia, black titi, wiregrass, broomsedge, caric sedge, horned beakrush and laurel greenbrier. This area within the project study area has been clear-cut, burned and allowed to revegetate naturally, providing suitable habitat for listed species. Wetland scrub-shrub communities comprise less than 1 percent of each alignment.

Wet Prairie (FLUCFCS 643)

The wet prairie community is an extensive wetland system which traverses all three alignments just north of J.R. Arnold High School and Breakfast Point subdivision. This wetland system is within soils mapped as Pottsburg-Pottsburg wet sand (0 to 2 percent slopes, hydric). Vegetation observed includes slash pine and sweet bay magnolia saplings, black titi, black willow (*Salix nigra*), fetterbush (*Lyonia lucida*), wax myrtle, highbush blueberry (*Vaccinium corymbosum*), dwarf huckleberry (*Gaylussacia dumosa*), caric sedge, and laurel greenbrier. There is suitable habitat for listed species due to the variety of vegetation and open canopy. The wet prairie system comprises approximately 5, 11 and 8 percent of alignments M1, M2 and M3, respectively.

Descriptions of Other Surface Waters

The existing conditions of the OSWs within the project study area were assessed using Geographic Information System (GIS) data resources and field verification. A total of one OSW occurs within the study area. This stormwater pond occurs on the east side of the study area adjacent to Chip Beal Parkway and provides stormwater treatment and attenuation for the Publix Sports Park. As a constructed stormwater pond, this site is not jurisdictional waters of the state or waters of the U.S.



Reservoir (Stormwater Pond) (FLUCFCS 530)

The reservoir occurs as a stormwater treatment pond in the project study area. This stormwater pond was constructed as part of the Publix Sports Park. The pond is within soils mapped as Pamlico-Dorvan complex (hydric). Vegetation observed along the pond banks includes black titi, slash pine, cyrilla, wax myrtle, giant cane (*Arundinaria gigantea*), torpedograss (*Panicum repens*), broomsedge (*Andropogon virginicus*) and beakrushes (*Rhynchospora* spp.). The existing OSW is not considered suitable habitat for listed wading birds due to the depth of the pond, the high nuisance coverage and steeply incised banks.

Photographs of the OSW are provided in **Appendix E**.

2.5 Soils

Soils within the project study area were evaluated using the NRCS *Soil Survey of Bay County* and the GIS data. The soil types found within the project study area are provided below in **Table 2-2** and a soils map can be found in **Appendix B, Figure 5**.

The prevalent soil types within the Alignment M1 area are Pottsborg-Pottsborg wet sand, 0 to 2 percent slopes (36%); Pamlico-Dorvan complex slopes (33%), Leon fine sand, 0 to 2 percent slopes (19%); and Rutledge sand, 0 to 2% slopes (12%).

The prevalent soil types within the Alignment M2 area are Pottsborg-Pottsborg wet sand, 0 to 2 percent slopes (43%); Pamlico-Dorvan complex slopes (23%); Leon fine sand, 0 to 2 percent slopes (18%), and Rutledge sand, 0 to 2% slopes (16%).

The prevalent soil types within the Alignment M3 area are Pottsborg-Pottsborg wet sand, 0 to 2 percent slopes (44%); Pamlico-Dorvan complex slopes (22%); Leon fine sand, 0 to 2 percent slopes (20%), and Rutledge sand, 0 to 2% slopes (13%).

Table 2-2 Soils in the Proposed Project

Map Soil Unit	Soil Description	Hydric	Acreage within Alt M1 Project Area	Acreage within Alt M2 Project Area	Acreage within Alt M3 Project Area
13	Leon fine sand, 0-2% slopes	NO	33.62	26.25	29.63
22	Pamlico-Dorvan complex	YES	56.72	34.05	32.69
29	Rutledge sand, 0-2% slopes	YES	21.06	23.04	18.95
30	Pottsborg-Pottsborg, wet, sand, 0-2% slopes	YES	61.91	62.69	65.03
42	Resota fine sand, 0-5% slopes	NO	0.05	0.00	0.00
TOTAL			173.36	146.03	146.30



3. Protected Species and Habitat

3.1 Methodology

The project study area was assessed for the presence of suitable habitat for federally-listed and state-listed species and US Fish and Wildlife Service (USFWS) Critical Habitat in accordance with 50 Code of Federal Regulations (CFR) Part 402 of the ESA of 1973, as amended; Chapter 5B-40: *Preservation of Native Flora of Florida*, (FAC); Chapter 68A-27: *Rules Relating to Endangered or Threatened Species* (FAC); the MBTA of 1918; and the *Protected Species and Habitat* chapter of the FDOT PD&E Manual.

The project study area was evaluated for potential federally-listed and state-listed species as well as other protected species that may exist within the study area. The following resources were utilized for this assessment:

- USFWS GIS Databases
- FDOT FLUCFCS, 3rd edition 1999
- NFWMD Land Use Data (2022)
- Aerial derived photographs (2022)
- Florida Natural Areas Inventory (FNAI), Bay County, Florida
- USFWS Information for Planning and Consultation (IPaC)

The evaluated species for the project study area are discussed below. The list of potential species was preliminarily identified with a data search of the FNAI biodiversity matrix in April 2025 (**Appendix D**) and the USFWS IPaC database in July 2025 (**Appendix D**). Additional species were reviewed based on agency input during ETDM. The species with the potential to occur in the project study area based on habitat types present are listed in **Table 3-1** below. The likelihood of occurrence is included in the narratives that follow, rated as low, moderate, high, or none.

The ratings are defined as follows:

- **NONE** – indicates that the species is known to occur in Bay County, no suitable habitat is present in the project study area and/or immediately adjacent areas, and/or the species is precluded from the project study area based on its habits or life history.
- **LOW** – indicates that the species is known to occur in Bay County, suitable habitat is not present or is limited in the project study area and/or immediately adjacent areas, and/or the species is unlikely based on what is known about its habits or life history.
- **MODERATE** – indicates the species is known to occur in Bay County, suitable habitat for that species is present in the project study area and/or immediately adjacent areas, but the species has not been observed in past studies, past or current field surveys, or documented on the database. Species with a moderate rating may require Standard Construction Precautions during construction or additional surveys in design or construction. Standard Construction Precautions anticipated to be implemented for the project are provided in **Appendix F**.
- **HIGH** – indicates the species occurs in Bay County, is suspected within the project study area based on known ranges and existence of sufficient preferred habitat in the



proposed project study area and/or immediately adjacent areas and has been previously observed or documented in the vicinity.

Table 3-1 Potentially Occurring Listed Wildlife Species in Philip Griffiths Parkway, Phase III

Scientific Name	Common Name	Federal Status	State Status	Habitat	Suitable Habitat in Project Study Area
BIRDS					
<i>Dryobates borealis</i>	Red-cockaded Woodpecker	FE	FE	Open mature pine woodlands with a diversity of grass, forb, and shrub species.	No
<i>Charadrius melodus</i>	Piping Plover	FT	FT	Open sandy beaches, tidal mudflats, sandflats.	No
<i>Laterallus jamaicensis ssp. jamaicensis</i>	Eastern Black Rail	FT	FT	Freshwater or saltwater marshes with dense vegetative cover	No
<i>Sterna antillarum</i>	Least Tern	-	ST	Coastal areas throughout Florida, including beaches, lagoons, bays, and estuaries. Increasingly, this species uses artificial nesting sites, including gravel rooftops, dredge spoil islands or other dredged material deposits, construction sites, causeways, and mining lands	No
<i>Haliaeetus leucocephalus</i>	Bald Eagle	MBTA+	-	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	Yes
REPTILES and AMPHIBIANS					
<i>Ambystoma bishopi</i>	Reticulated flatwoods salamander	FE	FE	Breeding ponds and their immediate boundary/ecotone	No
<i>Drymarchon couperi</i>	Eastern Indigo Snake	FT	FT	Various upland and some wetland habitats, associated with gopher tortoise burrows	Yes
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	PT	ST	Large rivers (deeper water), streams, canals, lakes, swamps in structures like tree root masses, stumps and submerged trees.	Yes
<i>Gopherus polyphemus</i>	Gopher Tortoise	-	ST	Xeric upland habitats, roadside grassed areas adjacent to natural habitats	Yes



Scientific Name	Common Name	Federal Status	State Status	Habitat	Suitable Habitat in Project Study Area
MAMMALS					
<i>Peromyscus polionotus allopheys</i>	Choctawhatchee Beach Mouse	FE	FE	Primary, secondary, and tertiary sand dunes with a moderate cover of grasses and forbs.	No
<i>Perimyotis subflavus</i>	Tricolored Bat	PE	-	Roosts in mature open hardwood forests, caves and manmade structures. Forages over open agricultural fields and streams.	Yes
<i>Trichechus manatus</i>	West Indian Manatee	FT	FT	Rivers, bays, canals, estuaries and coastal areas moving freely between fresh, saline and brackish waters.	No
<i>Ursus americanus floridanus</i>	Florida Black Bear	-	*	Terrestrial, pine flatwoods, sand pine scrub, cypress swamps.	Yes
FISH					
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	FT	FT	Gulf of Mexico and associated estuaries. Spawns in most major coastal rivers with limestone outcrops.	No
INSECTS					
<i>Danaus plexippus</i>	Monarch Butterfly	PT	-	Fields, meadows, pastures, roadsides, parks, gardens, utility rights-of-way, conservation lands, agricultural margins, managed landscapes, natural areas.	Yes

FE – Federally-Designated Endangered; FT – Federally-Designated Threatened; PE-Proposed Endangered; PT – Proposed Threatened; ST – State-Designated Threatened; MBTA- Migratory Bird Treaty Act; + - also protected under the Bald and Golden Eagle Protection Act (BGEPA); *protected under the Florida Black Bear Conservation Rule (Rule 68A-1.004, FAC); FWC – Florida Fish and Wildlife Conservation Commission.

3.2 Previous Agency Coordination

Agencies reviewed the project area through ETDM #14562 and provided comments between May and July of 2024. The USFWS listed the following species that have the potential to occur in the project study area: West Indian manatee (*Trichechus manatus*), Eastern black rail (*Laterallus jamaicensis jamaicensis*), tricolored bat (*Perimyotis subflavus*), Eastern indigo snake (*Drymarchon corais couperi*), reticulated flatwoods salamander (*Ambystoma bishopi*), red-cockaded woodpecker (*Dryobates borealis*), alligator snapping turtle (*Macrochelys temminckii*), monarch butterfly (*Danaus plexippus*), Godfrey's butterwort (*Pinguicula ionantha*), telephus spurge (*Euphorbia telephioides*), and white birds-in-a-nest (*Macbridea alba*). ETDM comments



also requested evaluation of migratory birds and bald eagles (*Haliaeetus leucocephalus*). The Endangered Species Evaluation concluded that habitat existed to support telephus spurge as this species has been documented within the project study area.

Bay County evaluated comments from the USFWS, Florida Fish and Wildlife Conservation Commission (FWC), and Florida Department of Agriculture and Consumer Services (FDACS), and recommended a Degree of Effect (DOE) of Moderate for protected species. Based on the preferred alternative, the proposed project is expected to result in minimal to moderate involvement with wildlife and habitat resources. Bay County has committed to consultation with the USFWS if federally listed species may be affected by this project. Consultation is anticipated as part of the current PD&E study.

Key ETDM comments referencing listed species included:

- The USACE is also aware that the proposed alignment includes areas that may support endangered species protected under the Endangered Species Act, including telephus spurge, which is small perennial herb listed as threatened by the USFWS. This herb has a limited distribution, and it is only found in 5 coastal counties (Bay, Franklin, Gulf, Wakulla, Walton) of the Florida Panhandle. Telephus spurge is documented within the project study area.
- The proposed project is within the USFWS West Indian manatee consultation area and the USFWS telephus spurge current range. The USFWS red-cockaded woodpecker consultation area does not include the project site, and it was not included on the USFWS IPaC report; however, this species was considered due to the ETDM comments.

3.3 Federally-Listed Faunal Species

In November 2010, the FWC established an imperiled species rule which states that all species listed by the USFWS and National Marine Fisheries Service (NMFS) that occur in Florida are also included on the Florida Endangered and Threatened Species List as Federally-designated Endangered, Federally-designated Threatened, Federally-designated Due to Similarity of Appearance, or Federally-designated Non-Essential Experimental population species. Thus, all federally-listed species evaluated below are also state-listed species protected by the FWC. The federally listed species that were indicated by the USFWS or FNAI databases to potentially occur in the project study area are evaluated below.

Five federal listed species that were included on the FNAI biodiversity index but which require shoreline or aquatic habitat (West Indian manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*), gulf sturgeon (*Acipenser oxyrinchus desotoi*), Choctawhatchee beach mouse (*Peromyscus polionotus allopheys*), leatherback sea turtle (*Dermochelys coriacea*)) were evaluated as “**No effect**” due to absence of this habitat type within or adjacent to the project. These species were not included on the USFWS IPaC report as potentially occurring in the project area.

3.3.1 Red-cockaded Woodpecker

The red-cockaded woodpecker (RCW) (*Picoides borealis*) is a federally listed endangered



species and is protected by the Migratory Bird Treaty Act (MBTA). This species' habitat consists of pine flatwoods in which it utilizes mature pines, with a preference for longleaf pines. In order for the pine forest to provide suitable habitat for the RCW, the system must be fire-maintained.

The project area consists of a variety of forested habitats, including flatwoods with pine trees. However, due to prior use for timber, mature pines suitable for RCW are not present within the project area. No observations of the RCW have been recorded within the project area. Although listed as potentially occurring within the FNAI biodiversity matrix unit, the RCW was not included on the USFWS IPaC report and is not within the USFWS consultation area for RCW. Because of a lack of suitable habitat, no records of historical occurrence, and no observations during field reviews, the probability of occurrence for this species within the project area is "none." Considering these factors, the project will have **"no effect"** on the red-cockaded woodpecker.

3.3.2 Eastern Black Rail

The eastern black rail (*Laterallus jamaicensis jamaicensis*) is federally listed as threatened. This species can be found in salt and brackish marshes as well as densely vegetated upper tidal marshes along the Gulf coast from Florida to Texas. The eastern black rail has been documented in inland marshes of the Florida panhandle. The eastern black rail's preferred habitat is within grasses of marshes that have dense, emergent cover.

A review of the eBird database (<https://ebird.org/home>) indicated no observations of the eastern black rail in the project study area, and none were observed during field reviews. The project study area does not have areas of marsh with dense, emergent grasses that would provide suitable habitat for the rail. Because the project study area lacks suitable habitat for the species, the probability of occurrence of the species is considered "none". Therefore, the proposed project will have **"no effect"** on the eastern black rail.

3.3.3 Alligator Snapping Turtle

The alligator snapping turtle (*Macrochelys temminckii*) is proposed for federal listing as threatened. Alligator snapping turtles utilize deep rivers and their tributaries. This species can also be found utilizing backwater swamps, overflow lakes, impoundments and main channels. Snapping turtles are present year-round but are rarely observed because of secretive, bottom dwelling habits. Female snapping turtles nest on riverbanks from late April through mid-May with young emerging in August and September.

Potential habitat (basin/backwater swamps) was identified in the project study area, therefore, there is a potential to affect alligator snapping turtle habitat. However, this habitat type is present within only 0.01 acre of the project area, and there were no alligator snapping turtles observed during the field reviews conducted in January or September 2024. The probability of occurrence of alligator snapping turtle is considered "low" based on the limited suitable habitat that will be impacted. If the alligator snapping turtle is listed by the USFWS to Threatened or Endangered and the project may affect the species, Bay County commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.



3.3.4 Eastern Indigo Snake

Eastern indigo snakes (*Drymarchon couperi*) are federally-listed as threatened. The eastern indigo snake was included in the FNAI biodiversity matrix and on the IPaC list of potentially occurring federally listed species for the project study area. The eastern indigo snake occurs in a wide variety of habitats, including forested uplands, dry prairies, and wetlands. They are known to use gopher tortoise burrows or other holes and cavities as refugia.

No eastern indigo snakes were observed during field surveys. However, limited suitable habitat for this species occurs within and adjacent to the project study area. The project study area is mostly within forested wetlands with less than 25 acres of xeric habitat. To assure the protection of this species during construction, Bay County will implement the most recent USFWS *Standard Protection Measures for the Eastern Indigo Snake* (**Appendix F**). If an indigo snake is encountered, the snake will be allowed to vacate the area prior to additional manipulation in the area. Holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned manipulation of the site, and no work will commence until the snake has vacated the vicinity of the proposed work. The probability of occurrence for the eastern indigo snake is considered to be “low”. The *Eastern Indigo Snake Programmatic Effect Determination Key* (revised August 2013) (**Appendix G**) was utilized to make the effect determination for this species. Based on the key, the proposed improvements “**may affect, but not likely to adversely affect**” the eastern indigo snake. (A->B->C->D->E->MANLAA).

3.3.5 Reticulated Flatwoods Salamander

Reticulated flatwoods salamander (*Ambystoma bishopi*) is a federally-listed endangered species. Although the IPaC report for the project study area does not list reticulated flatwoods salamander, this species was considered due to ETDM comments. This species primarily inhabits mesic flatwoods, wet flatwoods, wet prairies with wiregrass groundcover, and scattered wetlands dominated by cypress or black gum. The range includes areas along the coast of Panama City Beach and further west but does not include this project. Wetlands which contained potential reticulated flatwoods salamander habitat within the project study area were surveyed in January and September 2024 but were found to be unsuitable habitat due to lack of wiregrass present and dominance of the shrub component in every potential habitat. The probability of occurrence for the reticulated flatwoods salamander is therefore considered to be “none”. Based on the project location outside of USFWS mapped range of this species and the absence of suitable habitat, the proposed project will have “**no effect**” on the reticulated flatwoods salamander.

3.3.6 Tricolored Bat

The tricolored bat (*Perimyotis subflavus*) is currently proposed for listing as a threatened species by the USFWS. The tricolored bat was included on the IPaC list of potentially occurring federally listed species for the project study area. The once common species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be



found in Spanish moss, pine trees, and occasionally human structures. No tricolored bats were observed during field surveys. However, limited suitable habitat for this species occurs within and adjacent to the project study area. The probability of occurrence for the tricolored bat is considered to be “moderate.”

The anticipated effect determination is “**may affect but not likely to adversely affect.**” As the species is currently a proposed species for listing and not yet officially listed, 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 construction and the project is within the consultation area, Bay County commits to following the FDOT Tricolored Bat Consultation Guidance (January 2025). As the timeline for construction is better defined, Bay County will adhere to the applicable commitments below:

4. Upon listing of the tricolored bat, if the project contains suitable habitat and requires tree trimming and/or clearing, Bay County will not conduct tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) and when bats may be in torpor (when temperatures are below 45 degrees Fahrenheit).

5. Upon listing of the tricolored bat, if the project contains suitable habitat and Bay County needs to trim or clear trees or perform work on bridges/culverts during the maternity season and/or when the temperature is below 45 degrees Fahrenheit, then Bay County will survey the project area for evidence of the tricolored bat. The Indiana Bat and Northern Long-eared Bat Survey Guidance (USFWS), appendix J acoustic survey protocol in the year-round range (mist netting is not being conducted in Florida at this time), will be used for areas with tree trimming/clearing. For bridges and culverts, the Indiana Bat and Northern Long-eared Bat Survey Guidance, Assessing Bridges and Culverts for Bats, will be used.

a. If the surveys result in no tricolored bats detected, then Bay County can proceed with the project activities. Negative results from bridge/culvert surveys are valid for 2 years. Negative results for acoustic surveys are valid for 5 years. However, negative results for either survey may be invalidated if additional tricolored bat survey data is submitted to FWS showing presence of the species within the vicinity of the project area. Additional survey work by Bay County, or application of the avoidance and minimization measures noted in #4, may be required if updated detections are reported, and may result in reinitiation of consultation with FWS.

b. If the surveys result in positive detections of the tricolored bat, Bay County will implement conservation measures such as: not conducting tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) when pups are not volant and not able to escape disturbance; similarly avoid tree trimming/clearing activities when the temperatures are below 45 degrees Fahrenheit when bats may be in torpor and unresponsive to disturbance.

3.3.7 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is currently proposed for listing as a threatened species by the USFWS. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.), and larvae emerge after two to five days. Swamp milkweed (*Asclepias incarnata*) is a microhabitat requirement for this species to both deposit eggs and as



a larval nutrition source. Swamp milkweed is typically found in wetland habitats, including wet ditches. However, the potential for occurrence of the monarch butterfly is considered low based on the limited suitable habitat that will be impacted. No monarch butterfly individuals were observed during field surveys and limited suitable habitat for this species occurs within and adjacent to the project study area. The probability of occurrence for the monarch butterfly is considered to be “low.”

If the monarch butterfly is listed by the USFWS as Threatened or Endangered and the project may affect the species, Bay County commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.

3.4 State-Listed Faunal Species

All federally designated species are considered protected by the state of Florida. Faunal species which are not federally-listed but are state-listed with the potential to occur in the project study area are described below.

3.4.1 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is a state-listed threatened species. The gopher tortoise prefers xeric areas with sandy soils and open canopy with low groundcover. They are also found in grassed or unvegetated roadsides. No gopher tortoise burrows were observed within the project study area; however, a 100% gopher tortoise survey was not conducted. The probability of occurrence is considered to be “low” due to minimal suitable habitat. Prior to construction, Bay County will conduct the appropriate gopher tortoise survey, coordinate with the FWC to permit and relocate gopher tortoises located in the proposed project area if needed, and provide compensation as required through that permitting process. With the appropriate permitting and relocation effort, there is **no adverse effect anticipated** to the gopher tortoise as a result of the proposed project, including the associated SMF sites.

3.5 Other Protected Faunal Species

3.5.1 Bald Eagle

Although the bald eagle (*Haliaeetus leucocephalus*) is no longer federally-listed and afforded protection by the ESA, protection for the species is provided through the Migratory Birds Program per the MBTA and Bald and Golden Eagle Protection Act (BGEPA). Bald eagles are also no longer state-listed. Bald eagles most commonly inhabit areas near the coast, bays, rivers, lakes or other open bodies of water. They nest in tall trees, typically live pines, which usually have open views to their surroundings. Eagles are also known to utilize artificial structures and other types of tall trees for nesting. There are no documented nests within 660 feet of the study area according to the FWC eagle nest locator, Audubon Florida Eagle Watch database or the eBird database. No nests were identified within the project study area during field reviews. However, three (3) historic nests occur >2,500 feet north of the proposed project (FWC nest #3380, #3381 and #3384). These historic nesting sites are not within 660 feet of the proposed project, and nests have not been documented within the project study area. However, surveys should be conducted for the bald eagle to assure that none have moved into the project area prior to construction.

The USFWS determined that bald eagle nesting activities are not adversely affected by



construction activities greater than 660 feet away from the nest. As outlined in the USFWS's Bald Eagle Monitoring Guidelines (2007), monitoring of construction and nesting activities is therefore no longer warranted for projects involving construction beyond 660 feet of an active bald eagle nest during nesting season. Nesting season in Florida is from October 1 through May 15, although nesting may occur earlier or later than this period, especially in areas of South Florida. The USFWS Monitoring Guidelines will be followed if any nests are observed within the project's limits of construction; however, currently, no nesting trees or other potential nesting sites are located within 660 feet of the project study area limits.

3.5.2 Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) was delisted from the State Endangered and Threatened Species List on August 23, 2012. However, the species remains protected under the FWC's *Florida Black Bear Conservation Rule* (Rule 68A-1.004, FAC) which makes it illegal to possess, injure, shoot, wound, trap, collect or sell Florida black bears or their parts except as authorized by FWC rule or permit.

The FWC Interactive Public Bear Map (<https://myfwc.maps.arcgis.com>) was reviewed in January 2024. No roadway mortality, nuisance bears or telemetry data was found within the project study area. The closest record of bears in the vicinity of the proposed project were two mortality incidents, one in 2018 along US Highway 98 at Clara Rd. and one in 2023 at US Highway 98 and Chip Seal Parkway 1-2 miles south of the project study area. The proposed project is located within the frequent range of the East Panhandle Bear Management Unit (BMU). Based on the undeveloped nature of the project study area and the high probability of occurrence of the Florida black bear in the project study area, the Florida black bear is anticipated to occur in or be affected by the proposed project. Design of the PGS Phase III project will incorporate bridged wildlife crossings and flow-ways to protect wildlife corridors, with the crossings designed to accommodate black bears in order to avoid adverse impacts. In addition, FDOT Special Provision SP0070104-1 will be included in the construction measures for this project to minimize human-bear conflicts during construction. This special provision states, "The Department has determined that Florida black bears (*Ursus americanus floridanus*) occur in the project area. Unless stored overnight in a sealed, manufacturer-labeled bear-resistant container or in a locked metal container, remove garbage and food debris from the construction site daily to eliminate possible sources of food that could encourage and attract bears. Human bear conflicts are to be reported to the FWC Hotline at 1-888-404-3922."

3.5.3 Migratory birds

The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior, USFWS. Migratory birds nesting territory occurs within the project study area, however no mapped or observed rookeries occur within the project study area. Any potential impacts to migratory birds will be addressed through coordination with the USFWS.

3.6 Federal and State Protected Plant Species

Federally listed plant species are anticipated to occur based on the FNAI biodiversity matrix, USFWS IPaC database, and USFWS distribution and range data. These species include telephus spurge (*Euphorbia telephoides*), Cooley's meadowrue (*Thalictrum cooleyi*), perforate reindeer



lichen (*Cladonia perforata*), white birds-in-a-nest (*Macbridea alba*) and Godfrey's butterwort (*Pinguicula ionantha*). Twenty-eight (28) state-listed plant species, listed by the Florida Department of Agricultural and Consumer Services (FDACS), were identified on the FNAI biodiversity matrix with the potential to occur within Bay County. The federal-listed plant species potentially occurring in the proposed project and their associated habitats are described below, with further summary of these species as well as state-listed plant species in **Table 3-2**.

3.6.1 Telephus Spurge

Telephus spurge (*Euphorbia telephioides*) is federally-listed as threatened. Telephus spurge is found in longleaf pine savanna, scrubby and mesic flatwoods, and coastal scrub on low sand ridges near the Gulf of Mexico. However, information for the BPMB indicates that a portion of the BPMB within the project study area is managed for telephus spurge based on previous observation (see **Appendix C – Figure 9**). Potential habitat was identified in this managed area. Therefore, there is a potential to affect the telephus spurge. Although there were no telephus spurge individuals observed during a general ecological field review conducted in January or species-specific survey in September 2024 for telephus spurge during the flowering season, the probability of occurrence of telephus spurge is considered “high” based on the previous siting and ongoing management for this species’ habitat. This ongoing management for telephus spurge includes prescribed burning of historic flatwoods every 2-3 years which should maintain an open flatwoods habitat. Build alternative M3 would bifurcate an area within the BPMB managed for telephus spurge, while build alternative M2 would impact the edge of that area while also severing it from adjoining potential habitat (see **Appendix C, Figure 9**). The preferred alternative (M1) minimizes impacts to the area managed for telephus spurge and adjoining lands, while also preserving the remaining acres as an intact, 43-acre polygon south of the M1 alignment. An additional flowering-season survey will be completed in April during design, with reinitiation of consultation with USFWS in the event that this species is identified within the area of proposed disturbance. With the implementation of this alignment and commitment, the proposed project **“may affect but is not likely to adversely affect”** the telephus spurge.

3.6.2 Godfrey's Butterwort

Godfrey's butterwort (*Pinguicula ionantha*) is federally-listed as endangered. Godfrey's butterwort is found on seepage slopes, bogs and transition zones between flatwoods, wet prairies and cypress stringers. This species is also found in roadside ditches and in depressions in wet pine flatwoods and wet prairies, where it is most likely found in shallow standing water.

Potential habitat (wet prairies) was identified in the project study area, therefore, there is a potential to affect Godfrey's butterwort. There were no Godfrey's butterwort individuals observed during the field reviews conducted in January or September 2024, and no previously reported occurrences within the project study area. The probability of the occurrence of Godfrey's butterwort is considered “moderate,” and an additional survey will be completed during design. In the event this species is discovered during this survey, consultation with USFWS will be reinitiated. Therefore, the project **“may affect but is not likely to adversely affect”** Godfrey's butterwort.

3.6.3 White Birds-in-a-nest

White birds-in-a-nest (*Macbridea alba*) is federally-listed as endangered. White birds-in-a-nest is



found in grassy seepage bogs on gentle slopes at the edge of forested or shrubby wetlands. In addition, this species is found on savannas, and mesic flatwoods with longleaf pine and runner oak. This species is restricted to the Gulf coastal lowlands near the mouth of the Apalachicola River in the Florida panhandle.

Potential habitat (mesic flatwoods) was identified in the project study area, therefore, there is a potential to affect white birds-in-a-nest. There were no white birds-in-a-nest individuals observed during the field reviews conducted in January or September 2024, and there are no previously reported occurrences within the project study area. The probability of occurrence of white birds-in-a-nest is considered “moderate” based on project location within the known range of this species and potential habitat. An additional survey will be completed during design. In the event this species is discovered during this survey, consultation with USFWS will be reinitiated. Therefore, the proposed project **“may affect but is not likely to adversely affect”** white birds-in-a-nest.

3.6.4 Perforate Reindeer Lichen

Perforate reindeer lichen (*Cladonia perforata*) is federally-listed as endangered. Perforate reindeer lichen is found on rosemary scrub communities along the Florida panhandle coast, Lake Wales Ridge, Atlantic coastal ridge and in Manatee County.

No potential habitat (rosemary scrub) was identified in the project study area; therefore, there is no potential to affect perforate reindeer lichen. There were no perforate reindeer lichen individuals observed during the field reviews conducted in January or September 2024, and there are no previously reported occurrences within the project study area. The project is anticipated to have **“no effect”** on perforate reindeer lichen.

3.6.5 Cooley’s Meadowrue

Cooley’s meadowrue (*Thalictrum cooleyi*) is federally-listed as endangered. Cooley’s meadowrue is found on wet prairies, wet flatwoods, seepage slopes over basic soils. In addition, this species occurs in utility rights-of-way through former flatwoods in Florida.

Potential habitat (wet prairie) was identified in the project study area. However, the preferred alternative will impact only 7.9 acres of wet prairie, avoiding larger contiguous areas of this habitat. There were no Cooley’s meadowrue individuals observed during the field reviews conducted in January or September 2024, and there are no previously reported occurrences within the project study area. The probability of occurrence of Cooley’s meadowrue within the preferred alternative is considered “moderate” based on project location within the known range of this species and potential habitat. An additional survey will be completed during design. In the event this species is discovered during this survey, consultation with USFWS will be reinitiated. The project **“may affect but is not likely to adversely affect”** Cooley’s meadowrue.

3.6.6 Summary of Effects on Plant Species

The proposed project has potential habitat for five (5) federal and twenty-one (21) state-listed plant species identified as potentially occurring in vicinity of the project (**Table 3-2**). However, no listed plant species were observed in the field reviews conducted for the project in January and



September 2024, and none have been recorded within or near the project study area other than telephus spurge. Telephus spurge is the only federally-listed plant documented within the project study area; however, the preferred alternative largely avoids the potential habitat for this area. With additional species-specific surveys and commitment to reinstate USFWS consultation if the federal listed species are discovered, the project is anticipated to “**may affect but is not likely to adversely affect**” federally-listed plant species.

For state-listed species with moderate or high probability of occurrence within the project site, Bay County will conduct species-specific surveys prior to construction. If state-listed species are observed, Bay County will coordinate with the FDACS and Florida Native Plant Society or similar organization to facilitate the relocation of protected plants within the project footprint. For these species with low probability of occurrence, **no adverse effect** is anticipated. Ten (10) state-listed species with no suitable habitat or low probability of occurrence are anticipated to have **no effect** from the proposed project.

Table 3-2 Potentially Occurring Listed Plant Species in Vicinity of Proposed Project

Plant Species	Federal Status*	State Status*	Habitat	Suitable Habitat in Project Study Area
Perforate Reindeer Lichen (<i>Cladonia perforata</i>)	FE	FE	Rosemary scrub along the Gulf Coast, Lake Wales Ridge, Atlantic Coastal Ridge and Manatee County.	No
Cooley’s Meadowrue (<i>Thalictrum cooleyi</i>)	FE	FE	Wet prairies, wet flatwoods, seepage slopes over basic soils.	Yes
Telephus Spurge (<i>Euphorbia telephioides</i>)	FT	FT	Longleaf pine savannas, scrubby and mesic flatwoods and coastal scrub on low sand ridges.	Yes
Godfrey’s Butterwort (<i>Pinguicula ionantha</i>)	FT	FT	Seepage slopes, bogs, transition zones between flatwoods/wet prairies and cypress stringers.	Yes
White-Birds-in-a-Nest (<i>Macbridea alba</i>)	FT	FT	Coastal pinelands, wet savannas, seeps, bogs and mesic flatwoods.	Yes
Godfrey’s Goldenaster (<i>Chrysopsis godfreyi</i>)	-	SE	Back dunes and along sandy paths through coastal scrub.	No
Cruise’s Goldenaster (<i>Chrysopsis gossypina</i> ssp. <i>cruiseana</i>)	-	SE	Stable coastal dunes.	No
Wiregrass Gentian (<i>Gentiana pennelliana</i>)	-	SE	Open wiregrass-dominated wet prairies, wet flatwoods and slash pine plantations.	Yes
West’s Flax (<i>Linum westii</i>)	-	SE	Wet flatwoods, depression ponds and margins of pond cypress swamps in open sun areas.	Yes



Plant Species	Federal Status*	State Status*	Habitat	Suitable Habitat in Project Study Area
Pondspice (<i>Litsea aestivalis</i>)	-	SE	Peaty soils on the edges of baygalls, flatwood ponds, depression marshes and cypress domes.	Yes
Primrose-flowered Butterwort (<i>Pinguicula primuliflora</i>)	-	SE	Seepage slopes, bogs, transition zones between flatwoods/wet prairies and cypress stringers.	Yes
Yellow Fringeless Orchid (<i>Platanthera integra</i>)	-	SE	Open wet prairies, wet flatwoods, bogs, seepage slopes, wet pine barrens and peaty depressions.	Yes
Small-flowered Meadowbeauty (<i>Rhexia parviflora</i>)	-	SE	Seepage slopes, margins of dome swamps, depression marshes and evergreen shrub ponds.	Yes
Florida Flame Azalea (<i>Rhododendron austrinum</i>)	-	SE	Upland hardwood forests, slope forests and rises within floodplains and bottomland forests.	No
Night-flowering Wild Petunia (<i>Ruellia noctiflora</i>)	-	SE	Wet flatwoods, seepage slopes and hydric hammocks.	Yes
Mock Pennyroyal (<i>Stachydeoma graveolens</i>)	-	SE	Sandhills, upland pine, and drier areas in pine-palmetto-wiregrass flatwoods.	No
Giant Water Cowbane (<i>Tiedemannia filiformis</i> ssp. <i>Greenmanii</i>)	-	SE	Marshes, cypress ponds, and wet flatwoods; and in ditches with water.	Yes
Quillwort Yellow-eyed Grass (<i>Xyris isoetifolia</i>)	-	SE	Margins of karst ponds, sinkhole lakes, sandhill upland lakes, seepage slopes, bogs and wet prairies.	No
Pinewoods Bluestem (<i>Andropogon arctatus</i>)	-	ST	Dry to wet flatwoods and sand pine scrub	Yes
Southern Milkweed (<i>Asclepias viridula</i>)	-	ST	Wet flatwoods, prairies, seepage slopes and pitcherplant bogs.	Yes
Curtiss' Sandgrass (<i>Calamovilfa curtissii</i>)	-	ST	Flatwoods and edges of dome swamps.	Yes
Gulf Coast Lupine (<i>Lupinus westianus</i>)	-	ST	Coastal sand pine scrub, beach dunes, coastal grasslands, coastal scrub, sandhills, exposed and active sand dunes, sandy disturbed areas, roadsides.	No
Apalachicola Dragon-head (<i>Physostegia godfreyi</i>)	-	ST	Wet flatwoods, longleaf pine/wiregrass savannas, bogs and swamps.	Yes



Plant Species	Federal Status*	State Status*	Habitat	Suitable Habitat in Project Study Area
Large-leaved Jointweed (<i>Polygonella macrophylla</i>)	-	ST	Along the edges of coastal scrub oaks, scrubby flatwoods and natural communities in sandy areas with plenty of sunlight.	No
Panhandle Meadowbeauty (<i>Rhexia salicifolia</i>)	-	ST	Sunny margins of depression ponds, flatwoods ponds and sandhill upland lakes.	No
Harper's Yellow-eyed Grass (<i>Xyris scabrifolia</i>)	-	ST	Hillside seepage bogs.	No

FE – Federally-Designated Endangered; FT – Federally-Designated Threatened; SE = State-Listed Endangered; ST = State-Listed Threatened

3.7 Federal Designated Critical Habitat

The study area was assessed for Critical Habitat designated by Congress in 50 CFR 424.12. Review of the USFWS's available GIS data indicates there is no Critical Habitat within the project study area or surrounding areas; therefore, the proposed project will not result in the destruction or adverse modification of Critical Habitat.



4. Wetland and OSW Evaluation

4.1 Methodology

Pursuant to Presidential Executive Order 11990 entitled *Protection of Wetlands*, (May 1977), the USDOT has developed a policy, *Preservation of the Nation's Wetlands* (USDOT Order 5660.1A), dated August 24, 1978, which requires all federally-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as the *Wetlands and Other Surface Waters* chapter of the FDOT PD&E Manual, the project study area was evaluated for potential impacts to wetlands and surface waters.

Wetland or OSW boundaries were approximated in both a desktop and field evaluation in conformance with the federal and state criteria promulgated in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2* (USACE 2010), and the *Florida Wetlands Delineation Manual* (Gilbert et. al 1995). Background research conducted to identify the wetland communities occurring within the project study area included review of the USFWS NWI (USFWS 2024) (**Appendix B, Figure 4**), FLUCFCS data from the NFWFMD (NFWFMD 2024) (**Appendix B, Figure 3**), Soils Survey Geographic (SSURGO) Database for Florida (NRCS 2024) (**Appendix B, Figure 5**), aerial photography interpretation (2024), and data from the publicly available permitting records of the BPMB. Data verification was conducted during field reconnaissance surveys performed in January and September 2024.

Dominant vegetative strata, plant species, hydrologic indicators, and soil characteristics were assessed and documented. Numerous wetlands were identified in the project study area. Wetland communities were given designations based upon their status, hydrology, and soils. Other surface waters (OSW) and other excavated linear features that maintain a hydrologic regime capable of supporting wetland vegetation were recorded for the purposes of this report.

Maps depicting wetlands and surface water features occurring within the project study area are provided in **Appendix C, Figure 6**, and photos are available in **Appendix E**.

4.2 Impact Evaluation

A Wetland Evaluation was conducted as part of this preliminary review. Within the project study area are several wetland systems which are included in **Table 4-1** below. The new corridor would impact several types of wetlands and small unnamed tributaries associated with Bothereation Bayou in West Bay. The largest portion of these impacts (approximately 54 acres) would occur within BPMB, which is a state and federally authorized, privately owned mitigation bank established to provide compensatory mitigation for unavoidable wetland impacts within the approved mitigation service area (MSA). The MSA for BPMB consists of most of the St Andrew-St Joseph Bays basin (Hydrological Unit Code (HUC) 03140101).

The state and federal permits for BPMB include the federal mitigation bank instrument (MBI) issued by an interagency review team led by the USACE and state mitigation bank permit issued by the Florida Department of Environmental Protection (FDEP). These permits allow for a phased implementation and recognize four discrete phases of the BPMB (Phase 1-4). The portions of the



alternative and preferred alignments within BPMB are located within Phases 1 and 4. Phase 1 of the BPMB is currently operational, and credits generated from the recordation of a conservation easement over this portion of the bank have been sold to offset unavoidable wetland impacts associated with other permitted projects. Construction of PGS Parkway Phase III would therefore require modifying the state and federal permits, acquiring portions of the conservation easement and providing compensatory mitigation to offset the impacts that were previously mitigated in Phase 1 of the BPMB.

Potential impacts associated with construction of PGS Parkway Phase III through the BPMB would also require mitigation for direct and indirect (secondary) impacts to wetlands within and adjacent to the roadway, in addition to wetland impacts located outside of the BPMB.

A summary of the wetland and OSW permanent impacts for the proposed project is provided in Tables 4-1 and 4-2. These impacts are differentiated into impacts within the BPMB (Table 4-1) and impacts outside of the BPMB (Table 4-2) in order to aid review and evaluation of the proposed project in relation to agencies' ETDM comments. For the purposes of this initial analysis, the full 200-foot study area is assumed to be impacted.

Table 4-1 Potential Wetland and Surface Water Impacts (Acres) Within the BPMB

Ecological Community	Community Type	Alt M1	Alt M2	Alt M3
Cypress Mixed Forest	Forested	27.91	18.93	18.44
Mesic Flatwoods*	Forested	5.37	11.03	15.27
Hydric Pine Flatwoods	Forested	17.68	8.21	8.63
Palmetto Prairie	Non-Forested	2.80	15.03	11.07
Sub-Total Within BPMB		53.76	53.20	53.41

*Although mesic flatwoods are an upland community, this community within the BPMB is assigned as wetland impact due to generating wetland credits in the state and federal mitigation bank permits

Table 4-2 Potential Wetland and Surface Water Impacts (Acres) Outside of the BPMB

Ecological Community	Community Type	M1	M2	M3
Basin Swamp (Bottomland)	Forested	0.01	0.01	0.01
Cypress	Forested	1.16	1.16	1.16
Hydric Pine Flatwoods	Forested	21.34	21.34	21.34
Mixed Scrub-Shrub Wetland	Forested	0.40	0.40	0.40
Pond	Non-Forested	0.53	0.53	0.53
Wet Prairie	Non-Forested	0.43	0.43	0.43
Sub-Total Outside of BPMB		23.87	23.87	23.87
Total Within and Outside of BPMB		77.63	77.07	77.28

The current evaluation identified one wetland community type within the proposed stormwater ponds study area (West Pond, East Pond, and Homewood Suites Pond), all of which are located



outside of BPMB. A summary of the anticipated wetland impacts for the proposed stormwater ponds is provided in **Table 4-3**.

**Table 4-3 Potential Impacts from the Griffiths Parkway Phase III
Proposed Stormwater Ponds**

Wetland ID	FLUCFCS	West Pond	East Pond	Homewood Suites Pond
Hydric Pine Flatwoods	625	0.65	5.51	0.71
TOTAL IMPACTS (acres)		0.65	5.51	0.71

4.3 Avoidance, Minimization, and Mitigation

Pursuant to Executive Order 11990, *Protection of Wetlands*, federal actions should avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoid direct or indirect impacts in wetlands wherever there is a practicable alternative. The proposed project includes construction of a two-lane facility with associated SMF sites, as well as additional area required for Panama City Beach utilities. The surrounding study area is primarily undeveloped, comprised mostly of wet coniferous plantation habitat (FLUCFCS 441) within the BPMB. Wetlands and other habitat suitable for wildlife use or as habitat for protected plant species is present throughout the study area.

As noted in the Alignment Alternatives section of this report, Bay County has evaluated multiple alignment alternatives in order to avoid and minimize impacts to these resources.

Unavoidable wetland impacts resulting from construction of the proposed roadway will occur as a result of the proposed project. Transportation safety standards for side slopes, additional lanes and widths, and stormwater treatment requirements necessitate these potential impacts. Impacts to wetlands are unavoidable for the proposed project due to the presence of the wetlands within the existing and proposed ROW for all feasible alternatives, including the preferred alternative (M1).

The total wetland and surface water impacts are nearly identical for each of the three Build Alternatives, as summarized in the wetland impact summary **Tables 4-1** through **4-3**. Considerations other than impacts to wetlands and surface waters within BPMB were therefore necessary to determine the least environmentally damaging practical alternative (LEDPA) as requested by the USEPA. Of particular concern to commenting agencies were the effects on wetland mitigation credits authorized for the BPMB based on the recorded conservation easement, especially the opportunity “to retain land or water areas [that comprise Phase 1 and 2 of the BPMB] in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife” (USACE), and indirect effects by “fragmentation of the surrounding wetlands” and on wildlife usage (NFWFMD). Just as with wetlands, the area of impact to conservation easements within the BPMB (**Appendix C – Figures 7 and 8**) is similar for each of these alignments: 41.47 ac for Alt M1, 39.65 ac for Alt M2 and 39.59 ac for Alt M3.



4.3.1 Breakfast Point Mitigation Bank

Regulatory agency comments in ETDM as well as at a preliminary meeting inquired how the BPMB would be managed consistent with its purpose as a wetland mitigation bank after construction of PGS Phase III through the southern portion of the mitigation bank. Although this question is best addressed by the mitigation bank sponsor, Bay County has reviewed the BPMB permits, management plan and other authorized mitigation banks in Florida in order to evaluate potential options for ongoing management. These findings are summarized below:

- At over 5,000 acres, the BPMB is one of the largest private mitigation banks in Florida. After removing approximately 53 acres from BPMB to accommodate PGS Parkway Phase III, BPMB would still be one of the largest mitigation banks in the state with robust opportunities for restoring wetland functions and wildlife habitat benefiting the regional watershed.
- Prescribed burning, a key component of the BPMB mitigation plan, will remain viable after completion of the roadway construction. Multiple other mitigation banks in Florida incorporate prescribed burning in close proximity to roadways, with burn units and fire management plans designed to minimize risk of wildfire. Several of these mitigation banks are immediately adjacent to or are bifurcated by state and/or interstate highways that cannot be easily closed. As a local roadway within their jurisdiction, Bay County has committed to collaborate with BPMB to close the portion of PGS Parkway traversing the mitigation bank during prescribed burns, thereby providing the same or greater assurance of ongoing successful management of BPMB as in other permitted mitigation banks.
- Mitigation banks as well as state conservation lands often incorporate bridged wildlife crossings and hydrological flow-ways under roadways to preserve ecological and hydrological connectivity. Bay County has committed to incorporate wildlife crossings and hydrological connections as an integral component of the roadway design. This is particularly viable for alignment M1 due to the larger and wider area preserved south of the roadway.

One of the key elements of the BPMB mitigation plan is managing an area in the southwestern corner of Phase 1 as a palmetto prairie community to promote telephus spurge habitat. The management and preservation of this area as an intact palmetto prairie also benefits multiple other wildlife species. The two alignments closest to the southern boundary of BPMB would bifurcate this area (**Figure 3-1**), resulting in the loss of much of this relatively scarce community type (15.03 and 11.07 acres of loss for M2 and M3 respectively), altering this feature of the BPMB wetland mitigation management plan. The two southern alignments would also pose substantial challenges for managing the remaining land within BPMB south of the alignment, further degrading the wetland mitigation plan in this portion of the BPMB. Alignment M1 largely bypasses the contiguous area of palmetto prairie and telephus spurge managed area, resulting in the loss of just 2.80 acres of the northern tip of the palmetto prairie community while preserving the remaining acres as an intact, 43-acre polygon south of the M1 alignment (see **Table 4-4**). This alignment also assures preservation of a nearly 100-acre parcel containing this key habitat, enabling ongoing management compatible with the BPMB mitigation plan.

The avoidance and preservation of contiguous wetlands to the east of this area via alignment M1

also provides greater opportunities for continuation of other ongoing ecological management activities within the BPMB Phase 1 area protected via conservation easement, including fire management, exotic vegetation control, hydrological restoration, and protection of wildlife corridors. As summarized in Table 4-4, alignment M1 preserves an area south of the alignment that is more than twice as large and twice as wide as the narrow, difficult-to-manage lands south of alignments M2 and M3. The remnant area south of alignment M1 is of sufficient size to continue managing and is more compatible with the purposes of the conservation easement and BPMB wetland mitigation plan than in alignments M2 or M3.

Table 4-4 Preserved BPMB Lands South of Roadway

Ecological Community	M1	M2	M3
Cypress Depression	1.11	0	0
Cypress Mixed Forest	13.49	5.74	5.55
Mesic Flatwoods	35	26.24	13.01
Road	1.15	0.33	0.16
Wet Flatwoods	4.97	1.03	0.84
Wet Prairie/Wet Flatwoods	42.94	13.28	4.12
Total Acres Preserved	98.66	46.62	23.68
Widest Preserved Corridor (ft)	1200	560	310

Alignment M1, the preferred alternative, therefore is also the LEDPA due to greater preservation and management of valuable habitat, wetland mitigation and continued connectivity to the BPMB. It is the intention of Bay County to coordinate the continued protection and management of this land via a conservation easement and mitigation management plan based on the existing approved management plan for BPMB.

4.3.2 Roadway Design Through the BPMB

Further minimization of impacts to the wetland mitigation purposes of the BPMB will occur through design of Phillip Griffiths Parkway within the BPMB. This will include wildlife crossings, flow-ways and a plan for adapting to ongoing controlled burning at the BPMB. Evaluation of wildlife crossing opportunities will be performed in accordance with *FDOT Wildlife Crossing Guidelines* (2018), with additional considerations of bridges and culvert locations that best preserve key flow-ways and management corridors for compatibility with the BPMB. In addition, Bay County will coordinate with BPMB to identify locations and measures for temporarily closing all access to the roadway during prescribed burns in accordance with the management plan for BPMB and the conservation lands south of the roadway.

4.3.3 Mitigation

Compensatory mitigation will be required due to the unavoidable impacts to wetlands and wetland mitigation areas. Mitigation will include purchase of private mitigation credits from the BPMB, and ongoing restoration and enhancement of conservation lands within the lands south of the roadway alignment. Mitigation requirements are summarized in Section 4.4 below.



4.4 Wetland Functional Analysis

In February 2004, the FDEP adopted 373.414 (18) Florida Statute (FS) into rule via 62-345 (FAC) to develop and adopt a statewide Uniform Mitigation Assessment Methodology (UMAM) to determine the amount of mitigation required to offset impacts to wetlands and OSWs. UMAM is a standardized procedure for assessing the functions (expressed as a percentage compared to a natural, undisturbed wetland) provided by wetlands and OSWs, and the amount those functions are reduced or lost by a proposed impact. The amount the functions are reduced or lost is referred to as Functional Loss (FL). The UMAM methodology is also used to quantify the amount of mitigation necessary to offset the FL of the impact. This can be expressed in acres or as credits from a mitigation bank or regional mitigation provider.

UMAM is applied by the utilization of an assessment matrix, which analyzes three variables for wetlands and surface waters (i.e., indicators of wetland/OSWs function):

- Location and Landscape
- Water Environment
- Vegetative Community Structure

Each variable yields an overall UMAM score for a wetland ranging from 0 to 10 based on the level of functions to fish and wildlife. For purposes of providing guidance, the UMAM rule includes descriptions for four general categories of scores: Optimal (10), Moderate (7), Minimal (4), and Not Present (0). The sum of the values for all three parameters is then divided by the total possible (30), to yield a functional loss (FL) per acre of impact. The FL per acre, when multiplied by the acres of impact, results in the total FL to be offset via the purchase of mitigation credit to assure no net loss of wetland functions and values. Areas of open water habitat such as Streams and Waterways (5100) and ditches are considered Surface Waters or OSWs. Mitigation may be required for surface water impacts but generally is not required to offset the loss of OSWs (ditches and SMFs) as these are typically replaced in-kind.

State and federal mitigation teams have already evaluated UMAM assessments completed by the BPMB. Due to the location of this roadway within the BPMB and adjoining similar lands, the assessment of mitigation requirements for this project utilized the UMAM forms for BPMB (**Appendix H**) to estimate the mitigation requirements for this project. The impacts to pre-mitigation values of communities was applied throughout the 200-foot project study area for each alignment plus ponds (**Table 4-5**), while mitigation to offset the additional value generated through mitigation activities was calculated solely to the portion of each 200-foot alignment within the BPMB (**Table 4-6**). This assures that mitigation for all impacts is addressed pursuant to state and federal permitting requirements and agency comments in ETDM.



Table 4-5 BPMB UMAM Summary

BPMB Community Type	PGS Community Type	UMAM FL/ac	M1 (Ac)	M2 (Ac)	M3 (Ac)	M1 (FL)	M2 (FL)	M3 (FL)
Cypress Mixed	Cypress/Cypress Mixed Forest	0.73	27.91	18.93	18.44	20.37	13.82	13.46
Coastal Basin Marsh	Pond/Mixed Scrub-Shrub Wetland/Basin Swamp	0.80	5.37	11.03	15.27	4.30	8.82	12.22
Wet Flatwoods - Planted	Wet Prairie/Wet Flatwoods/Hydric Pine Flatwoods	0.60	17.68	8.21	8.63	10.61	4.93	5.18
Coastal Flatwoods - Planted	n/a	0.67	0	0	0	0.00	0.00	0.00
Mesic Flatwoods - Planted	Mesic Flatwoods/Palmetto Prairie	0.55	2.8	15.03	11.07	1.54	8.27	6.09
Total			53.76	53.20	53.41	36.82	35.84	36.95

Table 4-6 BPMB Mitigation Credits Affected

Community Type	UMAM RFG per acre	Acres Within BPMB			Credits Generated by BPMB		
		M1	M2	M3	M1 (Credits)	M2 (Credits)	M3 (Credits)
Cypress Mixed Forest	0.167	27.91	18.93	18.44	4.66	3.16	3.08
Mesic Flatwoods	0.224	5.37	11.03	15.27	1.20	2.47	3.42
Wet Flatwoods	0.192	17.68	8.21	8.63	3.39	1.58	1.66
Palmetto Prairie	0.224	2.80	15.03	11.07	0.63	3.37	2.48
Total		53.76	53.20	53.41	9.89	10.58	10.64

Based on these estimates, Alignment M1 will require compensatory mitigation for a total of 46.71 UMAM credits. This mitigation will be obtained primarily through the purchase of mitigation bank credits, supplemented with other permittee-responsible mitigation as needed and appropriate.

4.5 Indirect and Cumulative Effects

Indirect impacts are caused by the proposed project but occur later in time or farther removed in distance but are still reasonably foreseeable. The proposed Griffiths Parkway is a new roadway. Therefore, the project may stimulate growth or other development in the area but will provide more efficient and safe transportation. There are numerous wetlands adjacent to the proposed project that will be indirectly impacted. Best Management Practices (BMPs) will be utilized to reduce or avoid indirect impacts from construction activities to offsite wetlands, OSWs, or properties. In addition to direct impacts, indirect (secondary) impacts will also be evaluated and



mitigated during design and permitting.

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The project is a proposed new road and will impact wetlands in the study area. However, all impacts will be offset via compensatory mitigation within the same basin. With mitigation fully offsetting all impacts within the same basin, no net indirect or cumulative effects are anticipated from this project.

5. Construction Protection Measures

Protective construction measures will be utilized for the eastern indigo snake and human-bear interaction, and surveys with associated permitting and relocation as needed will avoid adverse effect to the gopher tortoise and its commensals. The Environmental Resource Permit (ERP) application to the NFWFMD will include all necessary details to assure the project meets sediment and erosion control criteria, including FDOT Standard Specifications for Road and Bridge construction Specifications 120-5 (Disposal of Surplus and Unsuitable Material) & 104-3 (Control of Contractor's Operations Which May Result in Water Pollution). The selected contractor will also be required to submit erosion and sediment control plans as part of their National Pollutant Discharge Elimination System (NPDES) permit application to the FDEP prior to construction commencement.

6. Anticipated Permits

The USACE, the NFWFMD and the FDEP regulate wetlands and surface waters within the study area. Other agencies, including the USFWS, NMFS, USEPA, and the FWC, review and comment on the wetland permit applications as appropriate. In addition, the FDEP, through a delegation from USEPA, regulates stormwater discharges from the construction sites. It is currently anticipated that the following permits will be required for this project.

PERMITS

CWA Section 404 "Dredge and Fill" Permit
Environmental Resource Permit (ERP)
Mitigation Bank Instrument (MBI) Modification
Mitigation Bank Permit Modification
National Pollutant Discharge Elimination
System (NPDES) Permit

ISSUING AGENCY

USACE
NFWFMD
USACE/Interagency Review Team
FDEP
FDEP



7. Conclusions and Commitments

7.1 Protected Species and Habitat

The project study area was assessed for the presence of federally- and state-listed species as well as other protected species and USFWS Critical Habitat. The forty-two (42) species considered to potentially occur in the study area are listed below with their probability of involvement and the effect determination for each. Species with no probability of occurrence within the project area are rated as “No Effect” for nine (9) federal species and “No Effect Anticipated” for ten (10) state species. By preserving the lands managed by BPMB for telephus spurge and other species, while also committing to wildlife crossings and coordination on prescribed burns, the preferred alternative (M1) best minimizes potential adverse effects to protected species and their habitat.

Protective measures and commitments are proposed for species with the potential to occur within the project site, including standard construction measures (e.g. eastern indigo snake), additional surveys (protected plants) and either re-initiation of consultation or further coordination if these listed species are discovered during design or construction. As a result, the effect determinations for these species are “may affect but not likely to adversely affect” (MANLAA) for five (5) federal species and “no adverse effect anticipated” for thirteen (13) state species. Species that are either proposed for listing (e.g., tri-colored bat) or are protected via other laws (e.g., bald eagle) are also protected via commitments and/or protective measures. A summary of these species is provided in **Table 7-1**.

This project contains no critical habitat or EFH.

**Table 7-1 Potential Protected Species Status, Involvement, and Effect Determination
Summary - Philip Griffiths Parkway, Phase III**

Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence	Effect Determination
Birds					
<i>Picoides borealis</i>	Red-cockaded Woodpecker	FE	FE	None	No Effect
<i>Charadrius melodus</i>	Piping Plover	FT	FT	None	No Effect
<i>Laterallus jamaicensis ssp. jamaicensis</i>	Eastern Black Rail	FT	FT	None	No Effect
<i>Sterna antillarum</i>	Least Tern	-	ST	None	No Effect Anticipated
<i>Haliaeetus leucocephalus</i>	Bald Eagle	MBTA+	--	Moderate	-
Reptiles and Amphibians					
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	FE	FE	None	No Effect



Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence	Effect Determination
<i>Ambystoma bishopi</i>	Reticulated flatwoods salamander	FE	FE	None	No Effect
<i>Drymarchon couperi</i>	Eastern Indigo Snake	FT	FT	Low	MANLAA
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	PT	-	Low	Not Applicable
<i>Gopherus polyphemus</i>	Gopher Tortoise	-	ST	Low	No Adverse Effect Anticipated
Mammals					
<i>Peromyscus polionotus allophrys</i>	Choctawhatchee Beach Mouse	FE	FE	None	No Effect
<i>Perimyotis subflavus</i>	Tricolored Bat	PE	-	Moderate	Not Applicable
<i>Trichechus manatus</i>	West Indian Manatee	FT	FT	None	No Effect
<i>Ursus americanus floridanus</i>	Florida Black Bear	-	*	High	-
Fish					
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	T	FT	None	No Effect
Insects					
<i>Danaus plexippus</i>	Monarch Butterfly	PT	-	Low	Not Applicable
Plants					
<i>Cladonia perforata</i>	Perforate Reindeer Lichen	FE	FE	None	No Effect
<i>Thalictrum cooley</i>	Cooley's Meadowrue	FE	FE	Moderate	MANLAA
<i>Euphorbia telephioides</i>	Telephus spurge	FT	FT	High	MANLAA
<i>Pinguicula ionantha</i>	Godfrey's Butterwort	FT	FT	Moderate	MANLAA
<i>Macbridea alba</i>	White-Birds-in-a-Nest	FT	FT	Moderate	MANLAA
<i>Chrysopsis godfreyi</i>	Godfrey's Goldenaster		SE	None	No Effect Anticipated
<i>Chrysopsis gossypina ssp. cruiseana</i>	Cruise's Goldenaster		SE	None	No Effect Anticipated
<i>Gentiana pennelliana</i>	Wiregrass Gentian		SE	Moderate	No Adverse Effect Anticipated



Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence	Effect Determination
<i>Linum westii</i>	West's Flax		SE	Moderate	No Adverse Effect Anticipated
<i>Litsea aestivalis</i>	Pondspice		SE	Low	No Adverse Effect Anticipated
<i>Pinguicula primuliflora</i>	Primrose-flowered butterwort		SE	Moderate	No Adverse Effect Anticipated
<i>Platanthera integra</i>	Yellow Fringeless Orchid		SE	Moderate	No Adverse Effect Anticipated
<i>Rhexia parviflora</i>	Small-flowered Meadowbeauty		SE	Low	No Adverse Effect Anticipated
<i>Rhododendron austrinum</i>	Florida Flame Azalea		SE	None	No Effect Anticipated
<i>Ruellia noctiflora</i>	Night-flowering Wild Petunia		SE	Moderate	No Adverse Effect Anticipated
<i>Stachydeoma graveolens</i>	Mock Pennyroyal		SE	None	No Effect Anticipated
<i>Tiedemannia filiformis ssp. greenmanii</i>	Giant Water Cowbane		SE	High	No Adverse Effect Anticipated
<i>Xyris isoetifolia</i>	Quillwort Yellow-eyed Grass		SE	None	No Effect Anticipated
<i>Andropogon arctatus</i>	Pinewoods Bluestem		ST	Moderate	No Adverse Effect Anticipated
<i>Asclepias viridula</i>	Southern Milkweed		ST	Moderate	No Adverse Effect Anticipated
<i>Calamovilfa curtissii</i>	Curtiss' Sandgrass		ST	Moderate	No Adverse Effect Anticipated
<i>Lupinus westianus</i>	Gulf Coast Lupine		ST	None	No Effect Anticipated
<i>Physostegia godfreyi</i>	Apalachicola Dragon-head		ST	Moderate	No Adverse Effect Anticipated
<i>Polygonella macrophylla</i>	Large-leaved Jointweed		ST	None	No Effect Anticipated
<i>Rhexia salicifolia</i>	Panhandle Meadowbeauty		ST	None	No Effect Anticipated
<i>Xyris scabrifolia</i>	Harper's Yellow-eyed Grass		ST	None	No Effect Anticipated

Migratory Bird Treaty Act (MBTA); +Bald and Golden Eagle Protection Act (BGEPA); FE – Federally-Designated Endangered; FT – Federally-Designated Threatened; PE – Proposed Endangered; PT – Proposed Threatened ; ST – State-Designated Threatened; MANLAA – May Affect, Not Likely to Adversely Affect; *protected under the Florida Black Bear Conservation Rule (Rule 68A-1.004, FAC)



7.2 Wetland and OSW

Numerous wetlands were identified in the proposed project study area and SMF sites. One OSW was identified as an existing SMF that will be altered but not permanently impacted. The anticipated impacts to wetlands and required mitigation are provided below as **Table 7-2**. Mitigation includes offsetting the impacts to wetland functional values, as well as mitigation credits that have been generated and sold as part of the BPMB.

Each evaluated alternative results in approximately the same functional loss. However, the preferred alternative (M1) preserves an area within the BPMB that is managed for protected species (particularly telephus spurge) and provides greater opportunities for wildlife connections, prescribed burns and other mitigation activities of the BPMB, while other alternatives would bifurcate the managed area and restrict the opportunity to continue managing conservation lands south of the alignments.

Table 7-2 Wetland Impacts from Proposed Philip Griffiths Parkway, Phase III

FLUCFCS Description	FLUCFCS Code	Acreage within Alt M1 Project Area	Acreage within Alt M2 Project Area	Acreage within Alt M3 Project Area
Stormwater Pond	530	0.83	0.53	0.53
Stream and Lake Swamp (Bottomland)	615	0.01	0.01	0.01
Cypress	621	1.16	1.16	1.16
Hydric Pine Flatwoods	643	39.02	29.55	29.97
Wetland Forested Mixed/Cypress Mixed Forest	630	27.91	18.93	18.44
Wetland Scrub	631	0.4	0.4	0.4
Wet Prairie/Palmetto Prairie	643	3.23	15.46	11.5
Mesic Flatwoods*	414	5.37	11.03	15.27
TOTAL IMPACTS (acres)		77.93	77.07	77.28
Mitigation Required (UMAM)		46.71	46.42	47.59

*Although mesic flatwoods are an upland community, this community within the BPMB is assigned as wetland impact due to generating wetland credits in the state and federal mitigation bank permits.

7.3 Implementation Measures

- Bay County will conduct a survey for gopher tortoises and coordinate with the FWC as appropriate based on the survey. Should gopher tortoise burrows be located within the proposed improvement, Bay County will coordinate with the FWC to obtain necessary permits and to relocate tortoises as required.
- The contractor selected for construction of this project will implement erosion and sediment controls and other BMPs throughout construction to prevent adverse impacts to



adjacent water resources and properties, in accordance with the anticipated ERP and NPDES permits and FDOT specifications, including FDOT Standard Specifications 120-5 (Disposal of Surplus and Unsuitable Material) and 104-3 (Control of Contractor's Operations Which May Result in Water Pollution).

- FDOT Special Provision SP0070104-1 (Bears) will be included in the construction measures for this project to minimize human-bear conflicts during construction.
- The contractor will 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.
- Provision of a mitigation plan for impacts to the Breakfast Point Mitigation Bank that provides a net ecological benefit.
- Surveys to update locations of bald eagle nest sites will be conducted prior to construction and proper coordination will occur with the USFWS if it is determined a bald eagle nest is within 660 feet or less of the proposed improvement.

7.4 Commitments

- Bay County will provide compensatory mitigation to offset the wetland mitigation credits generated within the portion of the BPMB impacted directly and indirectly by this project. This is in addition to mitigation for wetland impacts to areas not utilized for mitigation purposes.
- Bay County will purchase and remove conservation easements underlying the right-of-way necessary for this project.
- Bay County will adhere to the Florida Black Bear Conservation Rule 68A-4.009, Florida Administrative Code (F.A.C.) and adhere to FDOT Special Provision SP0070104-1, which will be included in the construction measures for this project to minimize human-bear conflicts during construction.
- Bay County will adhere to the Eastern Indigo Snake Standard Protection Measures (2024) during construction.
- If the alligator snapping turtle is listed by the USFWS to threatened or endangered and the project may affect the species, Bay County commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.
- If the monarch butterfly is listed by the USFWS as threatened or endangered and the project may affect the species, Bay County commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.
- Species-specific surveys for Cooley's meadowrue, telephus spurge, Godfrey's butterwort, and white birds-in-a-nest will be completed during the best survey season for each species during design. In the event federal-listed plant species are discovered during the surveys, consultation with USFWS will be reinitiated.
- A survey for state-listed plant species including wiregrass gentian, West's flax, primrose-flowered butterwort, yellow fringeless orchid, night-flowering wild petunia,



pinewoods bluestem, southern milkweed, giant water cowbane, and Apalachicola dragon-head will be performed during the design phase and coordination with FWC/FDACS will occur if impacts to the species are anticipated.

- Upon listing of the tricolored bat, if the project contains suitable habitat and requires tree trimming and/or clearing, Bay County will not conduct tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) and when bats may be in torpor (when temperatures are below 45 degrees Fahrenheit). In addition, if the project contains suitable habitat and Bay County needs to trim or clear trees or perform work on bridges/culverts during the maternity season and/or when the temperature is below 45 degrees Fahrenheit, then Bay County will survey the project area for evidence of the tricolored bat. The Indiana Bat and Northern Long-Eared Bat Survey Guidance (USFWS) acoustic survey protocol in the year-round range (mist netting is not being conducted in Florida at this time) will be used for areas with tree trimming/clearing. For bridges and culverts, the Indiana Bat and Northern Long-Eared Bat Survey Guidance, Appendix K, Assessing Bridges and Culverts for Bats, will be used. If the tricolored bat surveys result in no tricolored bats being detected, then Bay County can proceed with the project activities. Negative results from bridge/culvert surveys are valid for 2 years. Negative results for acoustic surveys are valid for 5 years. However, negative results for either survey may be invalidated if additional tricolored bat survey data is submitted to FWS showing presence of the species within the vicinity of the project area. Additional survey work by Bay County, or application of the avoidance and minimization measures noted in the implementation measure above, may be required if updated detections are reported, and may result in reinitiation of consultation with USFWS. If the tricolored bat surveys result in positive detections of the tricolored bat, Bay County will implement conservation measures such as not conducting tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) when pups are not volant and not able to escape disturbance; similarly avoid tree trimming/clearing activities when the temperatures are below 45 degrees Fahrenheit when bats may be in torpor and unresponsive to disturbance
- Design of the PGS Phase III project will incorporate culverted or bridged wildlife crossings and flow-ways to protect wildlife corridors and hydrological connections key to the ecological functions of the BPMB as identified in the permits and associated management plans for this mitigation bank.
- Bay County will coordinate with the BPMB to implement road closures during prescribed burns in the areas of the BPMB that would pose a smoke hazard to safe vehicular travel.

7.5 Next Steps

This NRE report will be evaluated by the FDOT as a collaborating agency with Bay County, after which the report will be distributed to the USACE, USFWS, FDEP, NFWFMD and FWC for review and determination whether this report satisfies each agency's criteria in accordance with state and federal statutory and regulatory requirements. This document will also be utilized as an evaluation document for the purposes of design and permitting with the USACE, NFWFMD and FDEP.



8. References

Audubon Florida. 2021. Audubon Florida EagleWatch Nest App. Audubon Center for Birds of Prey. Maitland, Florida. <https://cbop.audubon.org/conservation/about-eaglewatch-program/>. Last access January 2024.

Cowardin, L.M., Carter, V., Golet, F.C., and LaRoe, E.T. 1979. *Classification of Deepwater Habitats of the United States, FWS/OBS-79/31*. US Fish and Wildlife Service. Washington, D.C.

eBird. 2020. eBird: An outline database of bird distribution and abundance (Web Application). eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: <http://www.ebird.org>. Last accessed January 2024.

Florida Association of Environmental Soil Scientists. 2007. *Hydric Soils of Florida Handbook*, 4th Edition, Gainesville, FL.

Florida Department of Transportation. January 1999. *Florida Land Use, Cover and Forms Classification System*. Surveying and Mapping Thematic Mapping Section. Tallahassee, Florida. 91 pp. (GIS data from SWFWMD)

Florida Department of Transportation. January 2024. *Project Development and Environment Manual* (PD&E Manual) Part 2, Chapters 9, 16, and 17.

Florida Department of Transportation. 2018. *Wildlife Crossing Guidelines*.

Florida Fish and Wildlife Conservation Commission. December 2018. *Florida's Endangered and Threatened Species*. Florida Fish and Wildlife Conservation Commission. Tallahassee, Florida.

Florida Fish and Wildlife Conservation Commission. Wildlife and Habitat Databases. <http://geodata.myfwc.com/>

Florida Natural Areas Inventory and Florida Department of Natural Resources, 1990. *Guide to the Natural Communities of*. Tallahassee, FL.

Gilbert, K. M., J. D. Tobe, R. W. Cantrell, M. E. Sweeley, and J. R. Cooper. 1995. *The Florida Wetlands Delineation Manual*.

Natural Resource Conservation Service. 2015. *Soils Survey Geographic (SSURGO) Database for Florida*. January 2024. U.S. Department of Agriculture, Natural Resources Conservation Service. Gainesville, Florida.

Northwest Florida Water Management District. 2024. GIS Land Use Mapping. Located at <https://data-nwfwmd.opendata.arcgis.com/>.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. U.S. Army Corps of Engineers, Engineer Research and Development Center. Vicksburg, Mississippi.



U.S. Army Corps of Engineers (Jacksonville District). 1987. *Corps of Engineers' Wetlands*

Delineation Manual, Technical Report Y-87-10. U.S. Army Corps of Engineers. Jacksonville, Florida. 319 pp.

U.S. Department of Agriculture. *Soil Survey of Bay County, Florida*. Soil Conservation Service. January 2024.

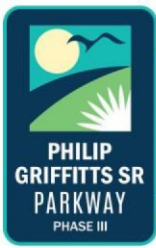
U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC). Accessed online January 2024.

U.S. Fish and Wildlife Service. North Florida Ecological Services Office. Wood Stork Nesting Colonies Maps. <https://www.fws.gov/verobeach/ListedSpeciesBirds.html>

U.S. Fish and Wildlife Service. 2017. *National Wetlands Inventory Polygons in Florida – Surface Waters and Wetlands (Version 2)*. October 1, 2017. U. S. Fish and Wildlife Service. Washington, D. C.

Wunderlin, R. P. 1982. *Guide to the Vascular Plants of Central Florida*. University Presses of Florida. Gainesville, Florida.

Wunderlin, R. P., B. F. Hansen, A. R. Franck, and F. B. Essig. 2016. Atlas of Florida Plants. <http://florida.plantatlas.usf.edu> [S. M. Landry and K. N. Campbell (application development), USF Water Institute.] Institute for Systemic Botany, University of South Florida. Tampa, Florida.

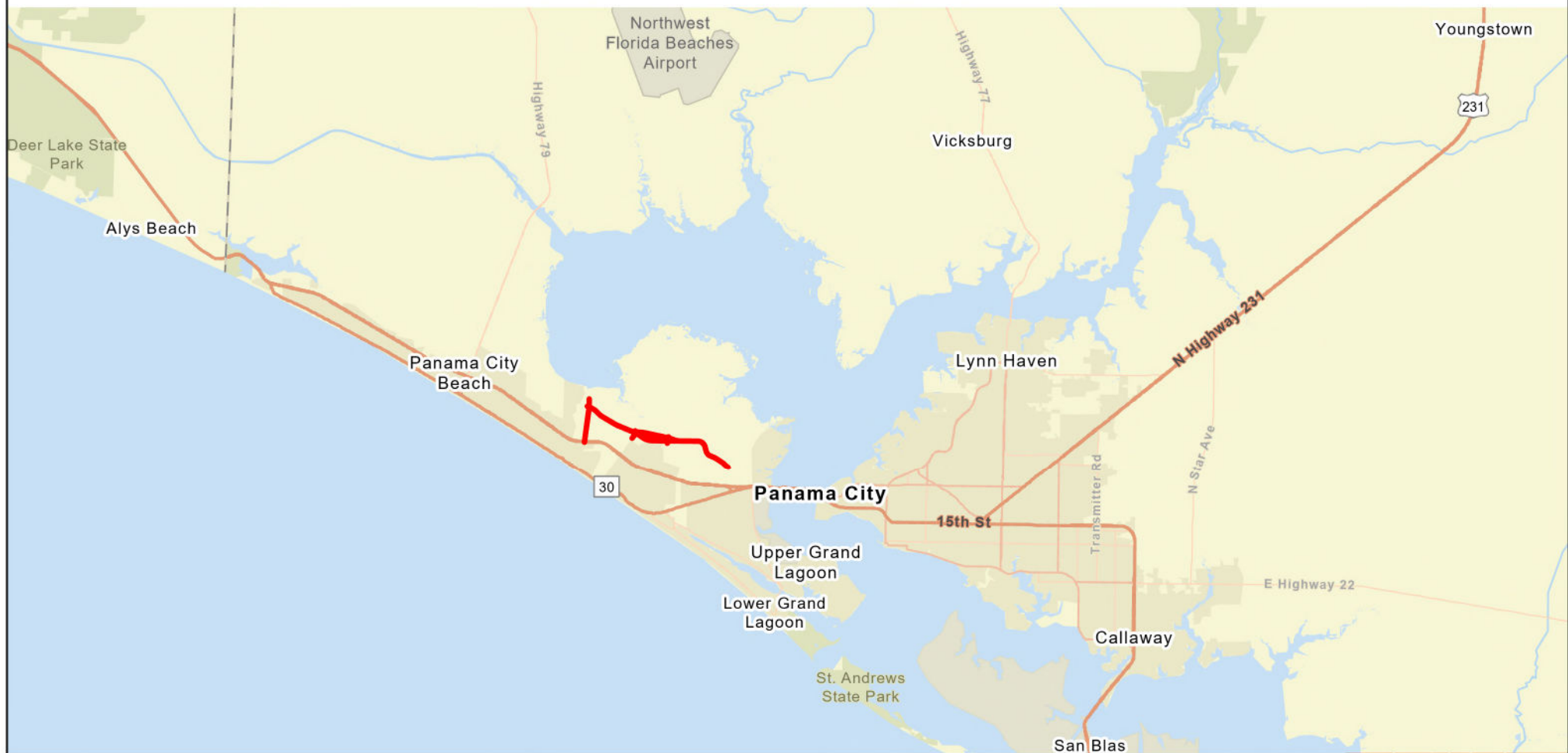


Appendix A

- Figure 1 – Project Location Map
- Figure 2 – Project Quadrangle Map



Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

 Project Study Area



0 2.5 5 Miles

FIGURE 1 - Project Location Map

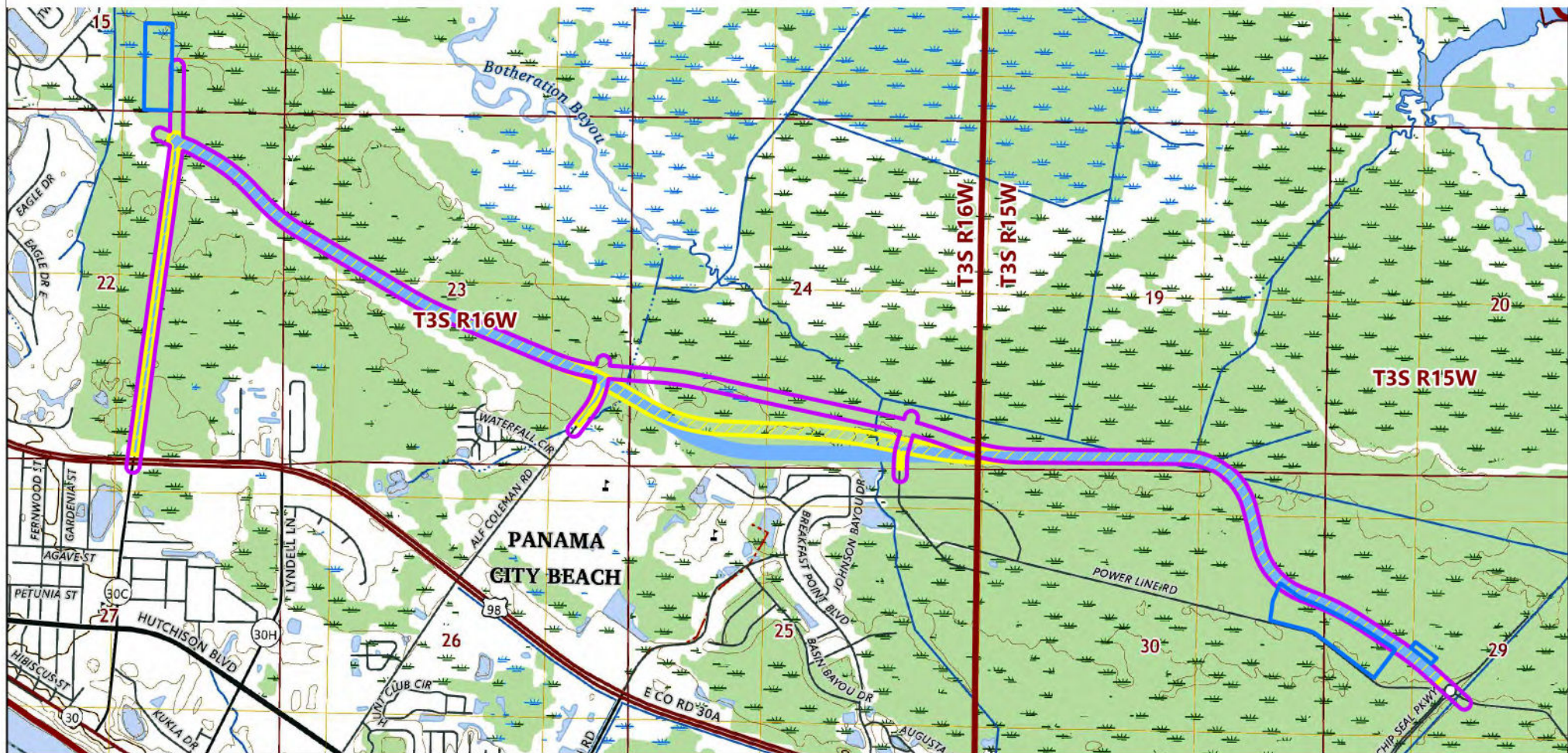
Philip Griffiths Sr. Parkway Phase III

Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- Stormwater Management Facilities (Ponds)

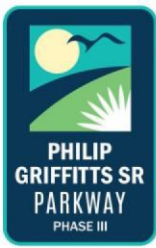
Source: USGS 24k Topological Map



0 0.25 0.5 Miles

**FIGURE 2 - Project
Quadrangle Map**
Philip Griffiths Sr. Parkway Phase III
Bay County, FL



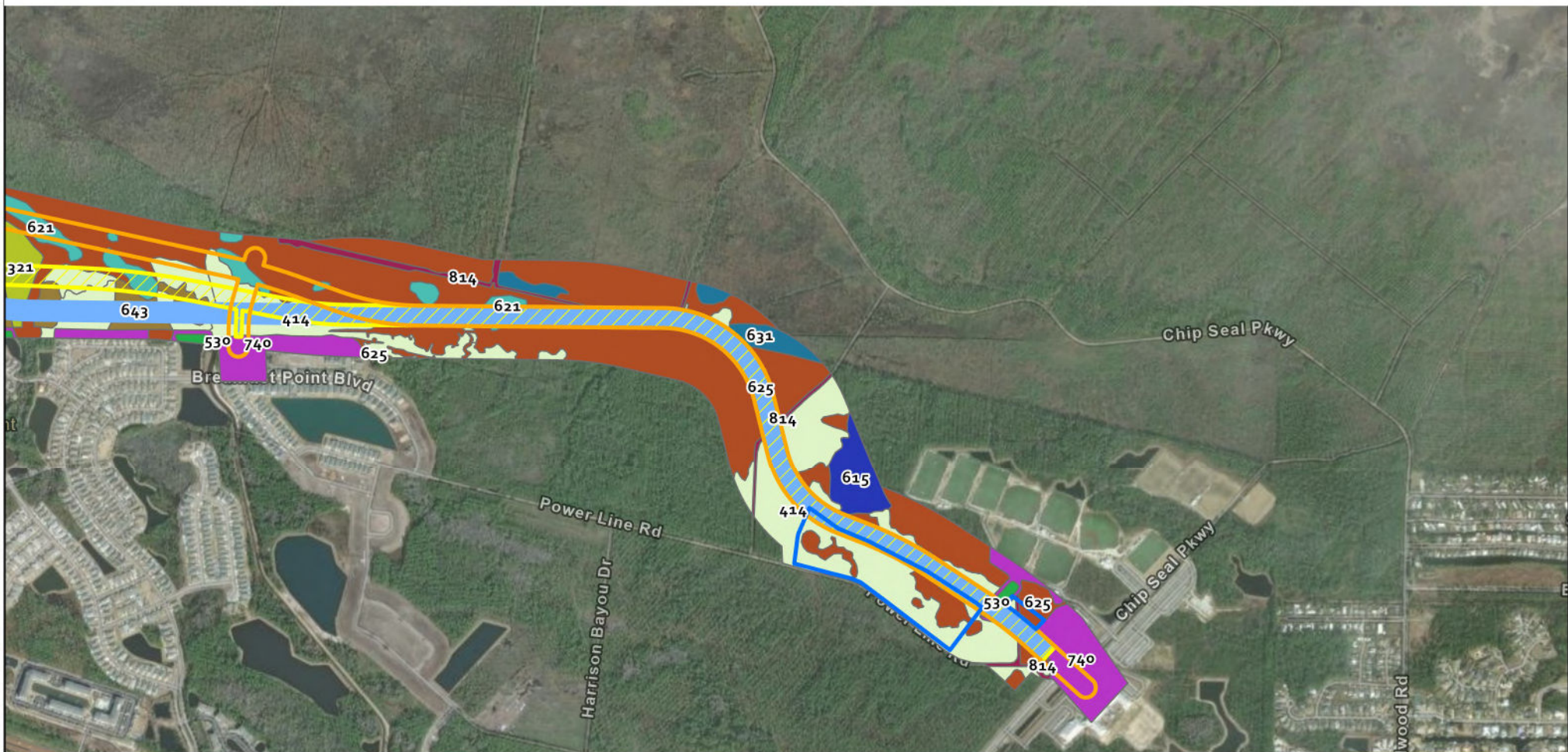


Appendix B

- Figure 3 – NFWMD FLUCFCS Map
- Figure 4 – National Wetlands Inventory (NWI) Map
- Figure 5 – Natural Resources Conservation Service (NRCS) Soils Maps



Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- SMFs (Ponds)

FLUCFCS Landcover

- Cypress - 621
- Disturbed Land - 740
- Hydric Pine Flatwoods - 625
- Palmetto Prairie - 321
- Pine - Mesic Oak (Flatwoods) - 414
- Roadway - 814
- Stormwater Pond - 530
- Stream and Lake Swamps (Bottomland) - 615
- Wet Prairie - 643
- Wetland Scrub - 631

Source: ESRI Imagery Basemap, NWFWMD FLUCFCS Landcover



0 1,000 2,000 Feet

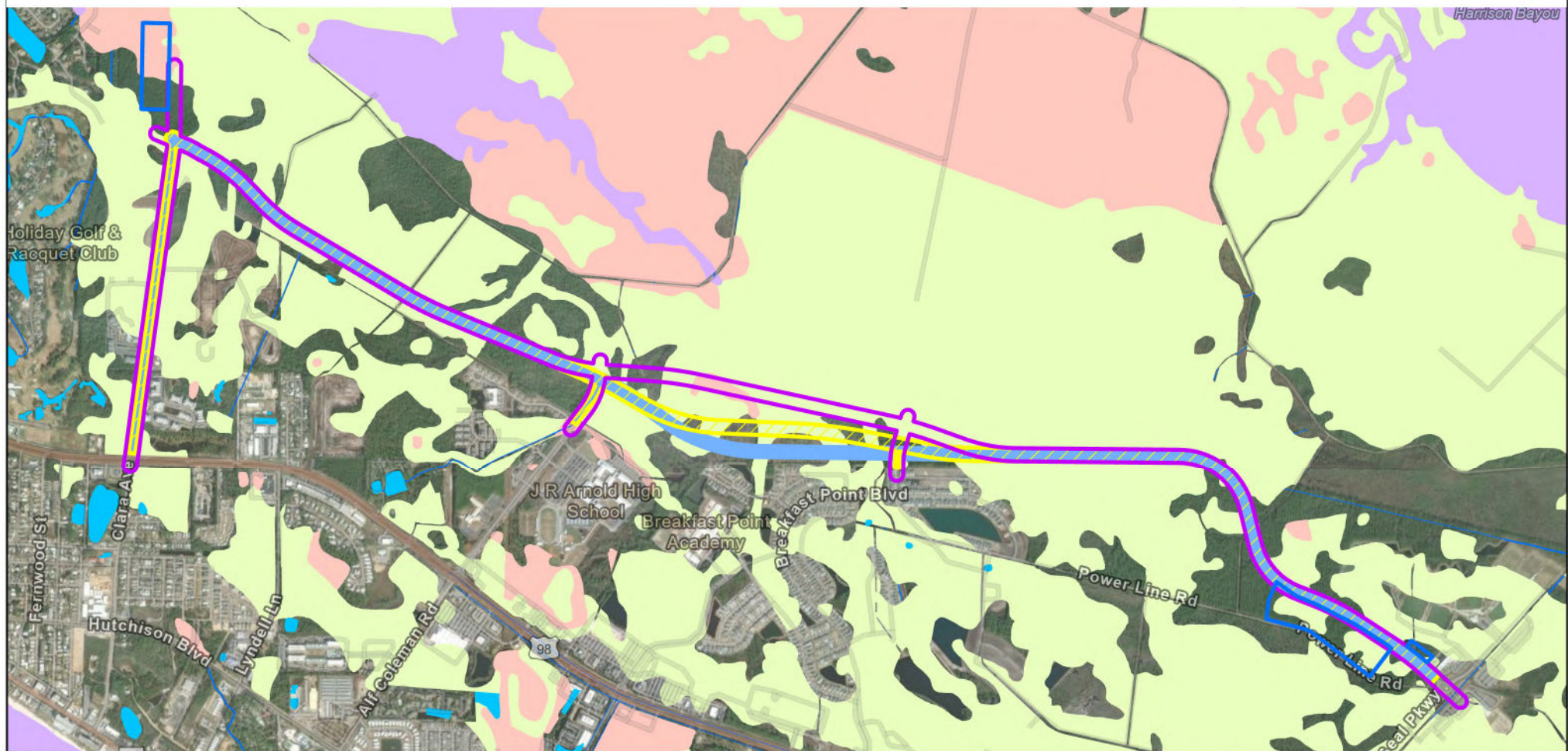
FIGURE 3-2 - NWFWMD FLUCFCS Map

Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Estuarine and Marine
- Freshwater Pond
- Riverine

- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- SMFs (Ponds)

Source: ESRI Imagery Basemap, USFWS NWI



0 0.25 0.5 Miles

**FIGURE 4 - National Wetlands
Inventory (NWI) Map**
Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- | | |
|------------------|--------------------------|
| Hydric Soils | Alternative M1 Alignment |
| Non-Hydric Soils | Alternative M2 Alignment |
| | Alternative M3 Alignment |
| | SMFs (Ponds) |

Source: ESRI Imagery Basemap, USDA NRCS SSURGO Soils



0 1,000 2,000 Feet

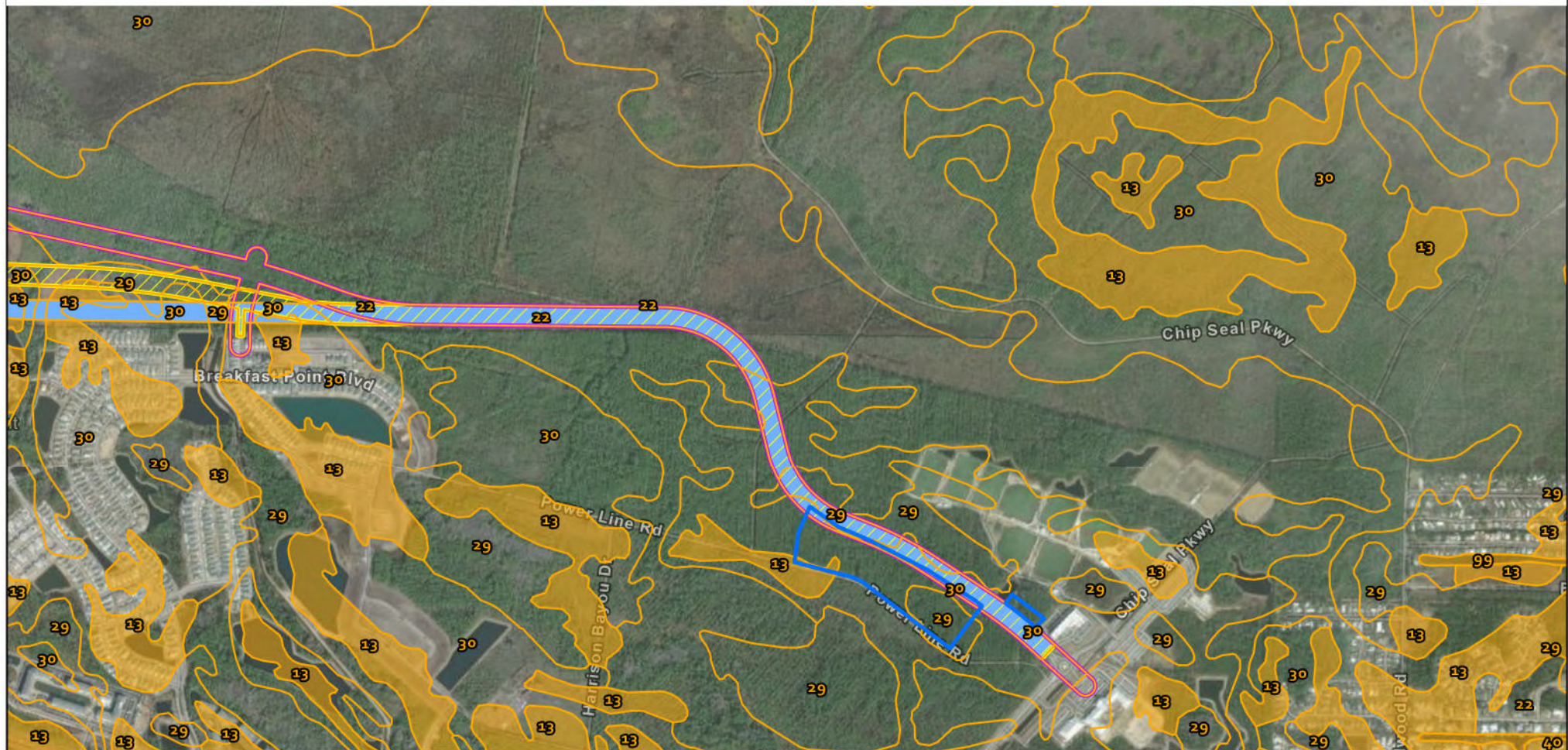
FIGURE 5-1 - Natural Resources Conservation Service (NRCS) Soils Maps

Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- | | |
|------------------|--------------------------|
| Hydric Soils | Alternative M1 Alignment |
| Non-Hydric Soils | Alternative M2 Alignment |
| | Alternative M3 Alignment |
| | SMFs (Ponds) |

Source: ESRI Imagery Basemap, USDA NRCS SSURGO Soils

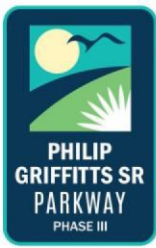


0 1,000 2,000 Feet

FIGURE 5-2 - Natural Resources Conservation Service (NRCS) Soils Maps

Philip Griffiths Sr. Parkway Phase III
Bay County, FL



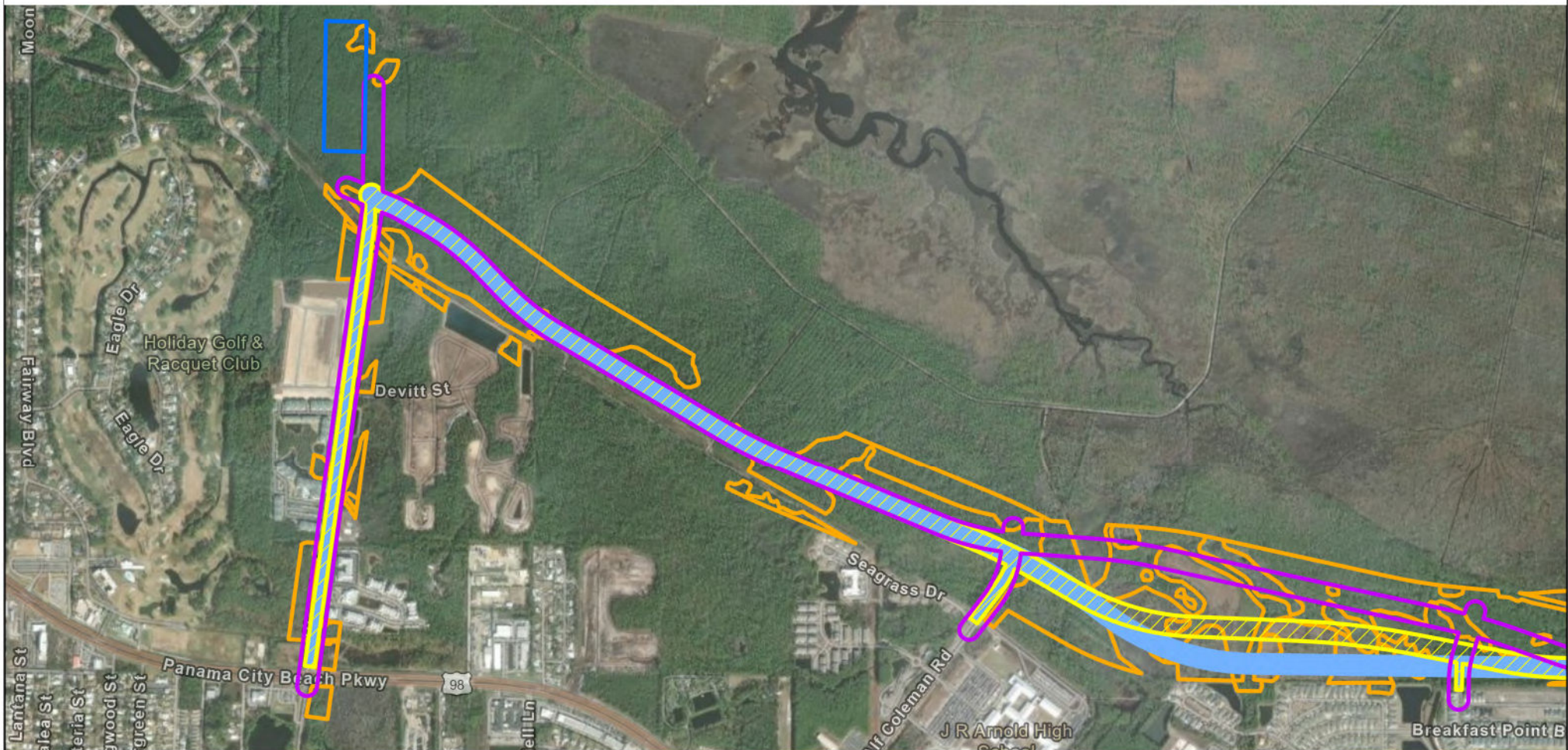


Appendix C

- Figure 6 – Wetlands Location Map
- Figure 7 – Conservation Easements Map
- Figure 8 – Mitigation Bank Map
- Figure 9 – Telephus Spurge Managed Areas Map



Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- SMFs (Ponds)
- Wetlands

Source: ESRI Imagery Basemap, AtkinsRealis field delineation January and September 2024



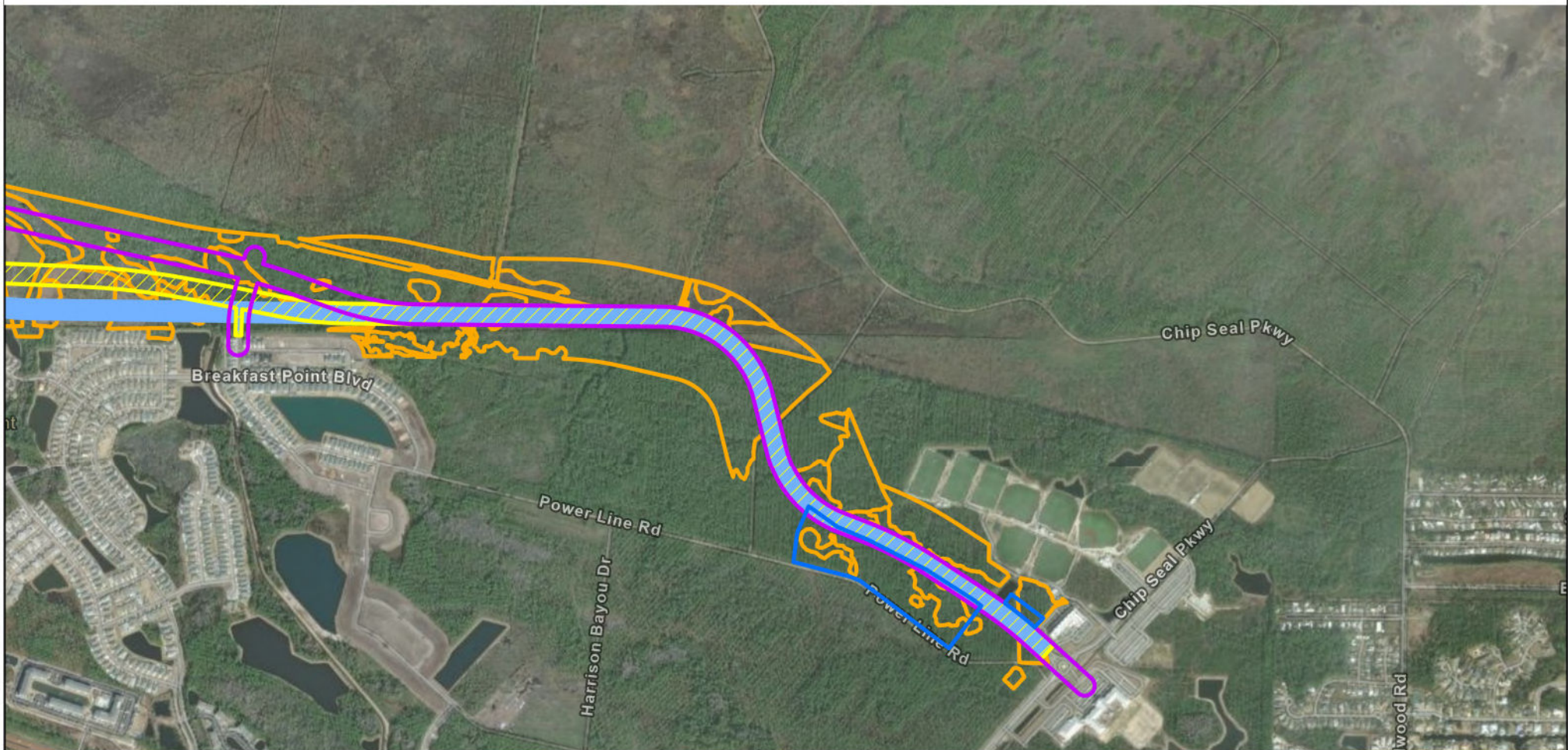
0 1,000 2,000 Feet

**FIGURE 6-1 - Wetlands
Location Map**
Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- SMFs (Ponds)
- Wetlands

Source: ESRI Imagery Basemap, AtkinsRealis field delineation January and September 2024



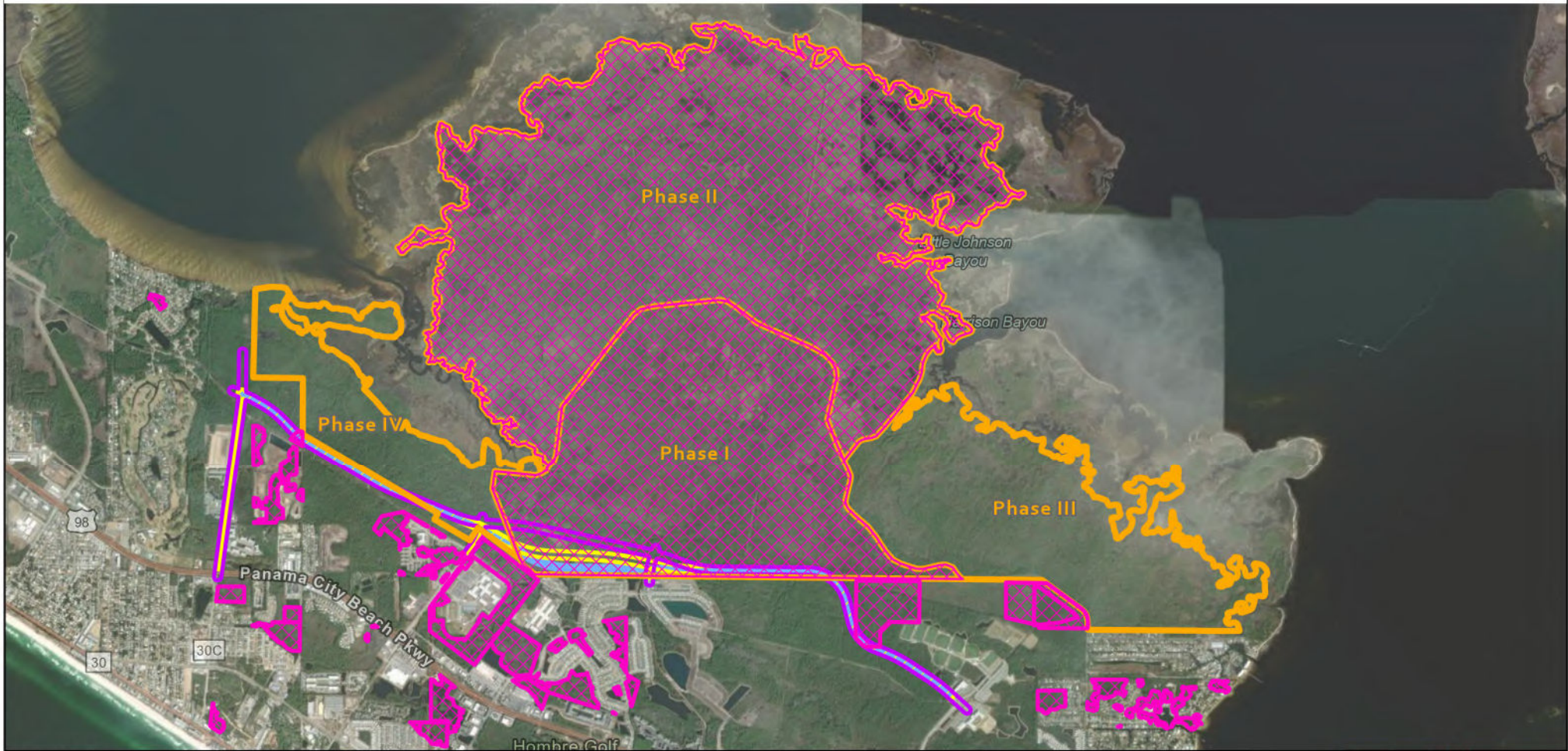
0 1,000 2,000 Feet

**FIGURE 6-2 - Wetlands
Location Map**
Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Conservation Easements
- Mitigation Bank
- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment

Source: ESRI Imagery Basemap, FL SOLARIS CLEAR CEs



0 0.5 1 Miles

FIGURE 7 - Conservation Easements

Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Breakfast Point Mitigation Bank
- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment

Source: ESRI Imagery Basemap



0 0.5 1 Miles

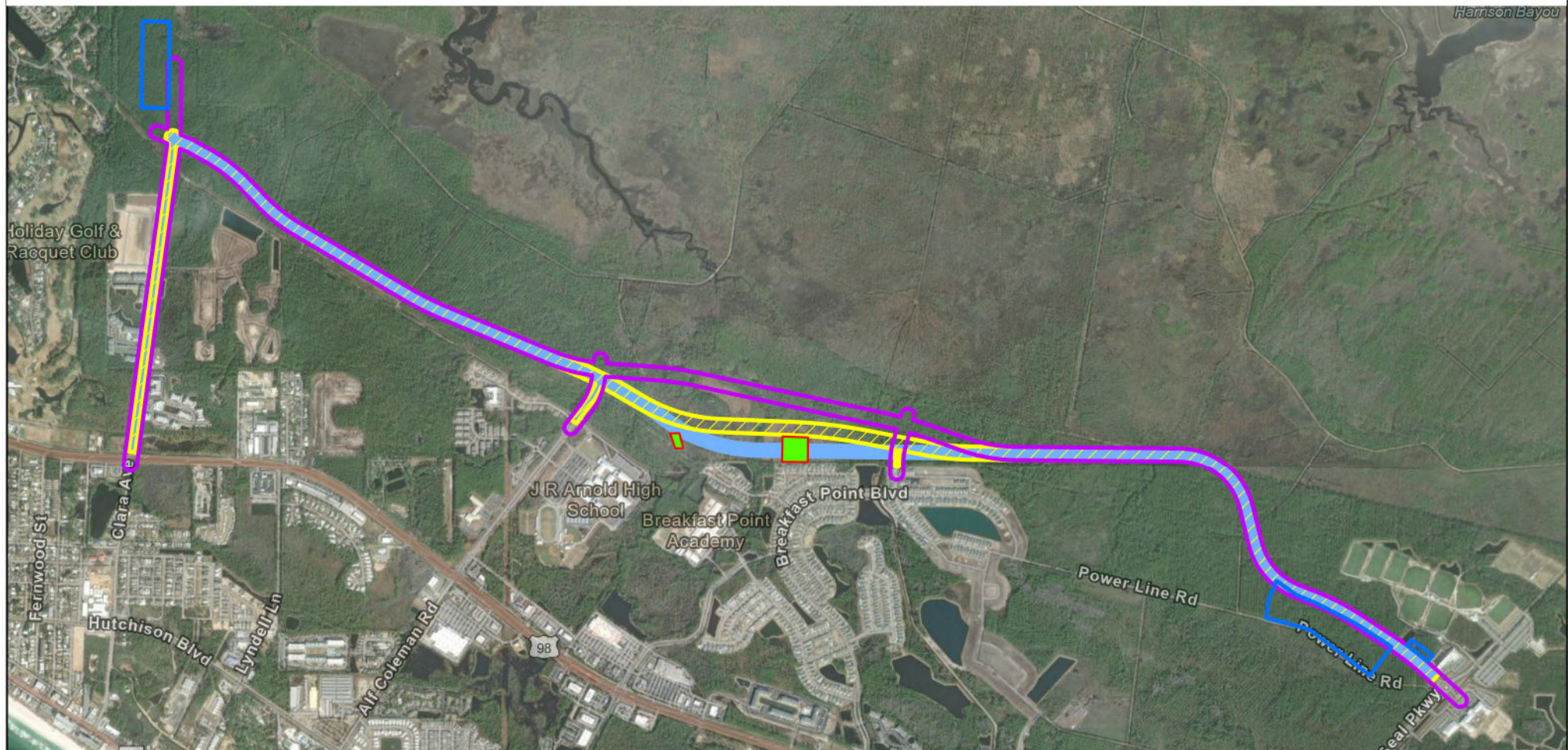
FIGURE 8 - Mitigation Bank
Philip Griffiths Sr. Parkway Phase III

Bay County, FL





Philip Griffiths Sr. Parkway Phase III PD&E Study and Design



LEGEND

- Telephus spurge (Euphorbia telephioides) managed areas
- Alternative M1 Alignment
- Alternative M2 Alignment
- Alternative M3 Alignment
- SMFs (Ponds)

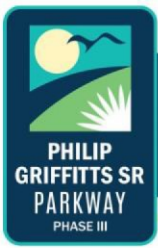
Source: ESRI Imagery Basemap, Icarus Ecological Services



0 0.25 0.5 Miles

**FIGURE 9 - Telephus spurge
(Euphorbia telephioides)
Managed Areas Map**
Philip Griffiths Sr. Parkway Phase III
Bay County, FL





Appendix D

- FNAI Biodiversity Matrix Report
- USFWS IPaC Database Report



Florida Natural Areas Inventory

Biodiversity Matrix Query Results

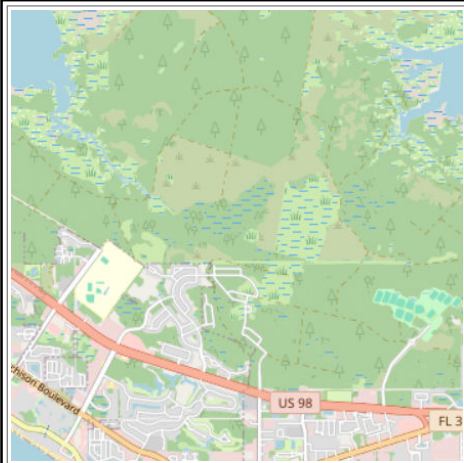
UNOFFICIAL REPORT

Created 4/15/2025

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

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

Report for 6 Matrix Units: 5352 , 5353 , 5419 , 5420 , 5486 , 5487



Descriptions

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

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

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

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

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

Matrix Unit ID: 5352

2 Documented Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Euphorbia telephioides telephus spurge	G1	S1	T	E
Gentiana pennelliana wiregrass gentian	G3	S3	N	E

0 Documented-Historic Elements Found

2 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mesic flatwoods	G4	S4	N	N
Xyris isoetifolia Quillwort yellow-eyed grass	G2	S2	N	E

Matrix Unit ID: 5353

0 Documented Elements Found

0 Documented-Historic Elements Found

1 Likely Element Found

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

Matrix Unit ID: 54191 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Euphorbia telephioides telephus spurge	G1	S1	T	E

0 **Documented-Historic** Elements Found1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Mesic flatwoods</i>	G4	S4	N	N

Matrix Unit ID: 54200 **Documented** Elements Found0 **Documented-Historic** Elements Found2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Haliaeetus leucocephalus Bald Eagle	G5	S3	N	N
<i>Mesic flatwoods</i>	G4	S4	N	N

Matrix Unit ID: 54860 **Documented** Elements Found0 **Documented-Historic** Elements Found1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Mesic flatwoods</i>	G4	S4	N	N

Matrix Unit ID: 54870 **Documented** Elements Found0 **Documented-Historic** Elements Found2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Haliaeetus leucocephalus Bald Eagle	G5	S3	N	N
<i>Mesic flatwoods</i>	G4	S4	N	N

Matrix Unit IDs: 5352 , 5353 , 5419 , 5420 , 5486 , 548740 **Potential** Elements Common to Any of the 6 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Acipenser oxyrinchus desotoi Gulf Sturgeon	G3T2T3	S2?	T	FT
Ammodramus maritima peninsulae Scott's Seaside Sparrow	G4T3	S3	N	ST
Andropogon arctatus pinewoods bluestem	G3	S3	N	T
Asclepias viridula southern milkweed	G2	S2	N	T
Calamovilfa curtissii Curtiss' sandgrass	G3	S3	N	T
Charadrius melodus Piping Plover	G3	S2	T	FT

Chrysopsis godfreyi Godfrey's goldenaster	G2	S2	N	E
Chrysopsis gossypina ssp. cruiseana Cruise's goldenaster	G5T2	S2	N	E
Cladonia perforata perforate reindeer lichen	G2G3	S2S3	E	E
Dryobates borealis Red-cockaded Woodpecker	G3	S2	E, PT	FE
Euphorbia telephioides telephus spurge	G1	S1	T	E
Furybia spinulosa pinewoods aster	G1	S1	N	E
Gentiana pennelliana wiregrass gentian	G3	S3	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
Linum westii West's flax	G1	S1	N	E
Litsea aestivalis pondspice	G3?	S2	N	E
Lupinus westianus Gulf Coast lupine	G3T3	S3	N	T
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nerodia clarkii clarkii Gulf Salt Marsh Snake	G4T3	S2	N	N
Nuphar advena ssp. ulvacea West Florida cowliily	G5T2	S2	N	N
Peromyscus polionotus allopchrys Choctawhatchee Beach Mouse	G5T1	S1	E	FE
Peucaea aestivalis Bachman's Sparrow	G3	S3	N	N
Physostegia godfreyi Apalachicola dragon-head	G3	S3	N	T
Pinguicula ionantha Godfrey's butterwort	G2	S2	T	E
Pinguicula primuliflora primrose-flowered butterwort	G3G4	S3	N	E
Platanthera integrata yellow fringeless orchid	G3G4	S3	N	E
Polygonella macrophylla large-leaved jointweed	G3	S3	N	T
Rallus longirostris scottii Florida Clapper Rail	G5T3?	S3?	N	N
Rhexia parviflora small-flowered meadowbeauty	G2G3	S2	N	E
Rhexia salicifolia Panhandle meadowbeauty	G3	S3	N	T
Rhododendron austrinum Florida flame azalea	G3	S3	N	E
Ruellia noctiflora nightflowering wild petunia	G3?	S2	N	E
Stachydeoma graveolens mock pennyroyal	G2G3	S2S3	N	E
Thalictrum cooleyi Cooley's meadowrue	G1	S1	E	E
Tiedemannia filiformis ssp. greenmanii giant water cowbane	G3	S3	N	E
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Xyris ispetifolia Quillwort yellow-eyed grass	G2	S2	N	E
Xyris louisianica Louisiana yellow-eyed grass	G2G3	S1	N	N
Xyris scabrifolia Harper's yellow-eyed grass	G3	S3	N	T

Disclaimer

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

Unofficial Report

These results are considered unofficial. FNAI offers a [Standard Data Request](#) option for those needing certifiable data.

IPaC resource list

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

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

Location

Bay County, Florida



Local office

Florida Ecological Services Field Office

☎ (352) 448-9151

📅 (772) 562-4288

✉ fw4flesregs@fws.gov

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

NOT FOR CONSULTATION

Endangered species

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

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

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

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

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

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

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

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

Mammals

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee <i>Trichechus manatus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Birds

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened

Reptiles

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened
Eastern Indigo Snake <i>Drymarchon couperi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened

Insects

NAME	STATUS
------	--------

Monarch Butterfly *Danaus plexippus*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

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

Flowering Plants

NAME

STATUS

Godfrey's Butterwort *Pinguicula ionantha*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6805>

Telephus Spurge *Euphorbia telephioides*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/5499>

White Birds-in-a-nest *Macbridea alba*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6291>

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

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

Additional information can be found using the following links:

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

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

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

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

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

Ensure Your Eagle List is Accurate and Complete

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

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

Review the FAQs

The FAQs below provide important additional information and resources.

NAME

BREEDING SEASON

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (I)

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

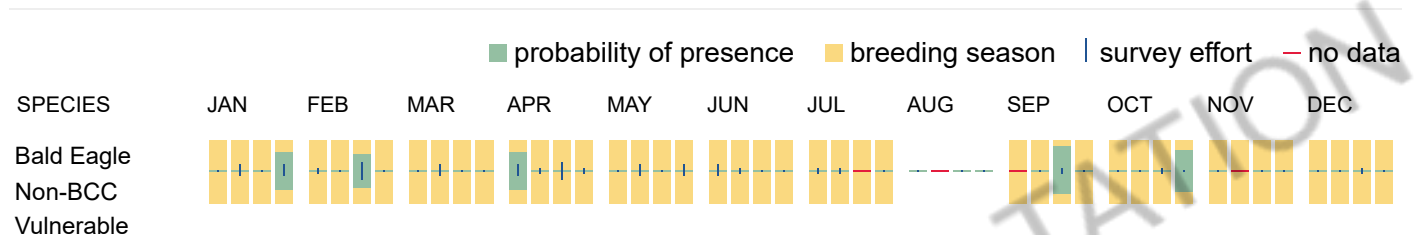
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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



Bald & Golden Eagles FAQs

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

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

Proper interpretation and use of your eagle report

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in

your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

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

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

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

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

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

Breeding Season ()

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

Survey Effort ()

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

No Data ()

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

Survey Timeframe

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

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

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

Measures for Proactively Minimizing Migratory Bird Impacts

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

Ensure Your Migratory Bird List is Accurate and Complete

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

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

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

Black Skimmer <i>Rynchops niger</i>	Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	
Brown-headed Nuthatch <i>Sitta pusilla</i>	Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
Chimney Swift <i>Chaetura pelagica</i>	Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Chuck-will's-widow <i>Antrostomus carolinensis</i>	Breeds May 10 to Jul 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
Gull-billed Tern <i>Gelochelidon nilotica</i>	Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	
Least Tern <i>Sternula antillarum antillarum</i>	Breeds Apr 25 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Marbled Godwit <i>Limosa fedoa</i>	Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	
Painted Bunting <i>Passerina ciris</i>	Breeds Apr 25 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
Prothonotary Warbler <i>Protonotaria citrea</i>	Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	

Ruddy Turnstone *Arenaria interpres morinella*

Breeds elsewhere

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

Semipalmated Sandpiper *Calidris pusilla*

Breeds elsewhere

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

Swallow-tailed Kite *Elanoides forficatus*

Breeds Mar 10 to Jun 30

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

<https://ecos.fws.gov/ecp/species/8938>

Willet *Tringa semipalmata*

Breeds Apr 20 to Aug 5

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the

maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

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

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

Breeding Season (🟡)

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

Survey Effort (I)

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

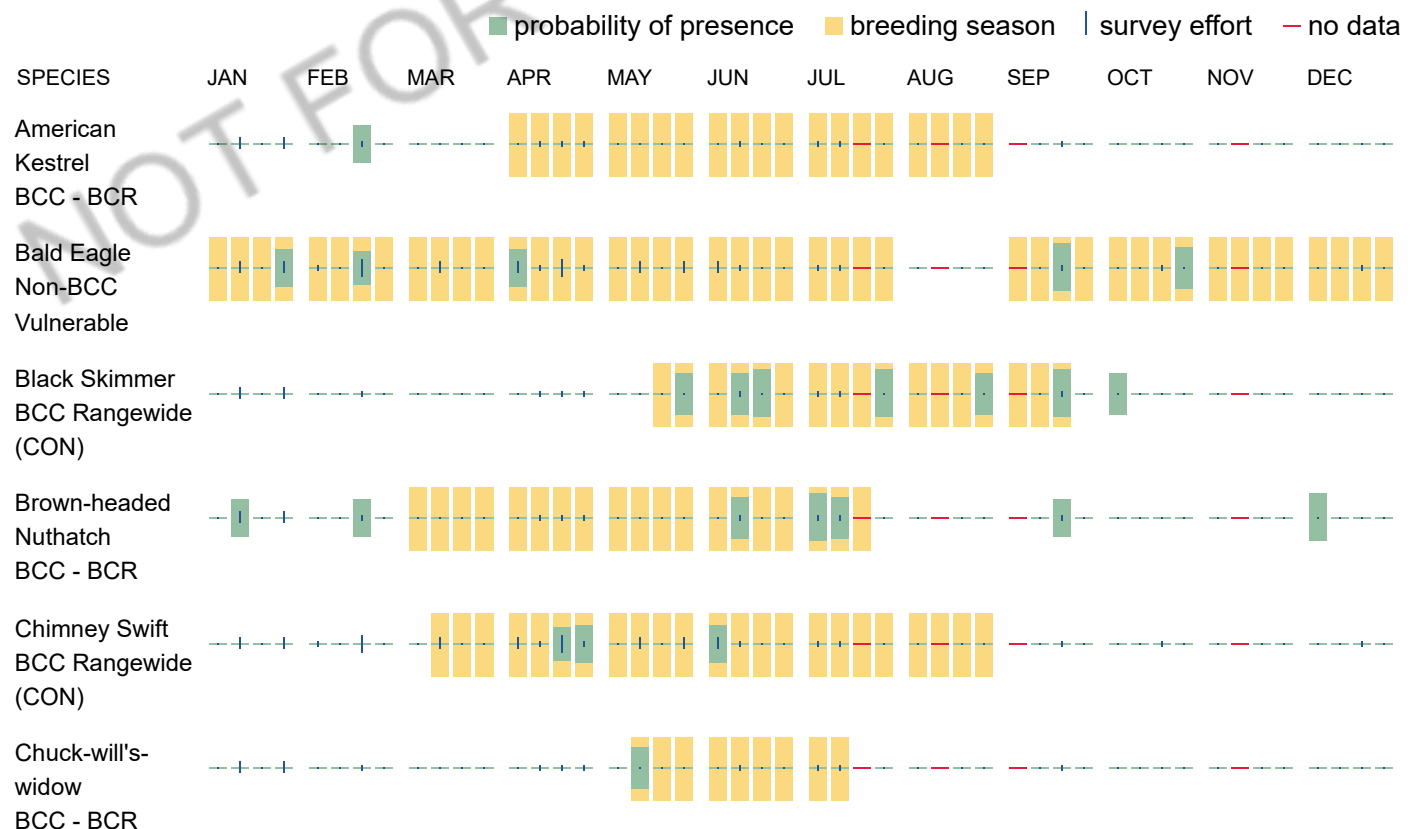
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

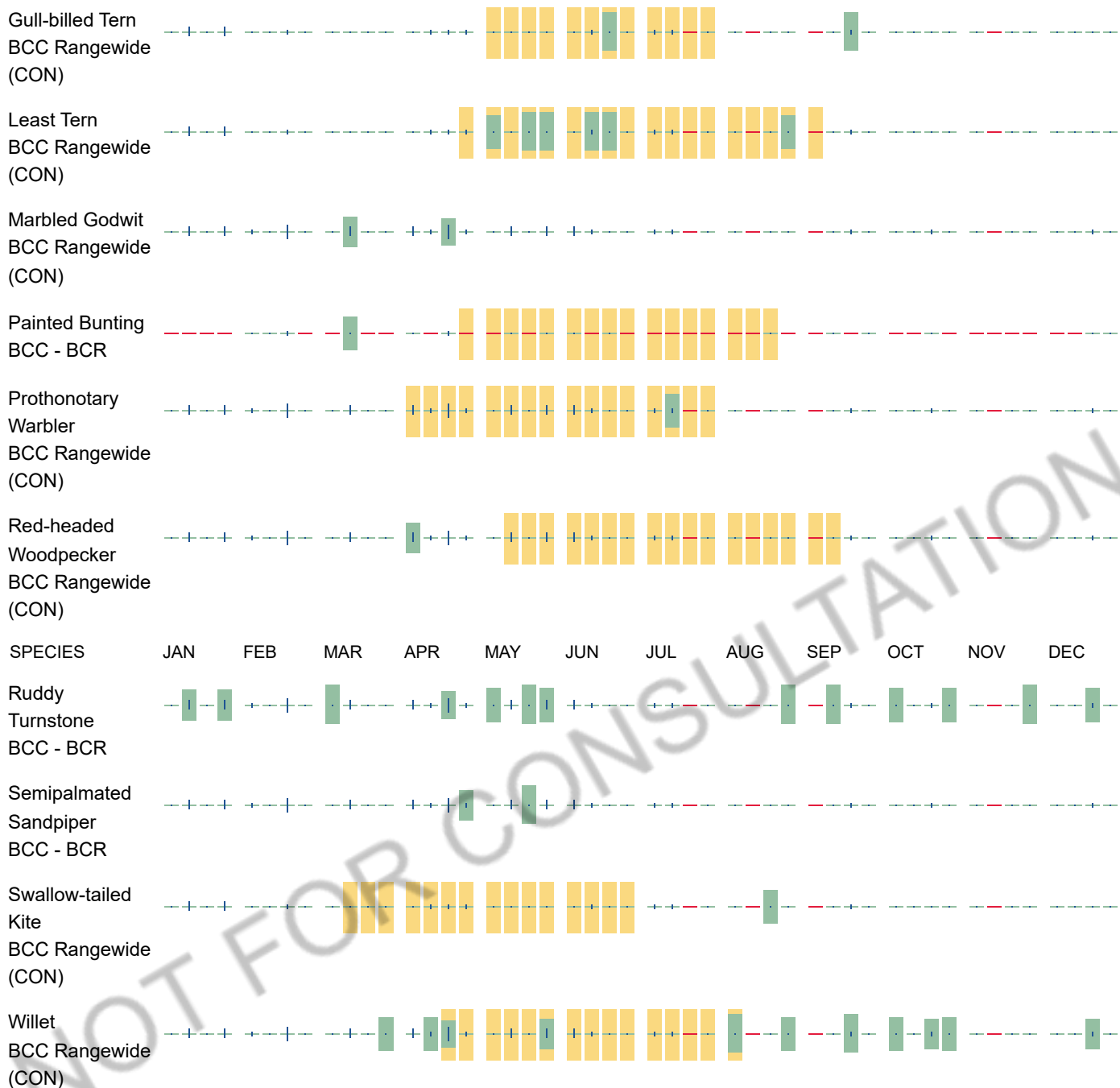
No Data (—)

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

Survey Timeframe

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





Migratory Bird FAQs

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

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

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

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

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

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

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

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

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

What are the levels of concern for migratory birds?

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

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

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

Interpreting the Probability of Presence Graphs

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

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

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

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

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

Breeding Season ()

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

Survey Effort ()

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

No Data ()

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

Survey Timeframe

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

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

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 Fisheries³ [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.

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.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*

<https://ecos.fws.gov/ecp/species/4469>

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

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

Data limitations

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

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

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

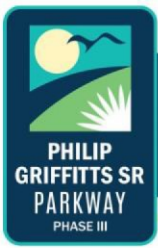
Data exclusions

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

Data precautions

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

NOT FOR CONSULTATION



Appendix E

Project Wetland and Other Surface Water Photos

Griffitts Parkway Field Photographs

January and September 2024



N Clara Ave – Jan 2024



Mesic Flatwoods East of N Clara Ave – Jan 2024

Griffitts Parkway Field Photographs

January and September 2024



Powerline Easement (Typical) – January 2024



Powerline Easement (Typical) – September 2024

Griffitts Parkway Field Photographs

January and September 2024



Wetland Forest Mixed (Typical) – January 2024



Wetland Forest Mixed (Typical) – September 2024

Griffitts Parkway Field Photographs

January and September 2024



Wet Prairie (Telephus Spurge Managed Habitat) – January 2024



Wet Prairie (Telephus Spurge Managed Habitat) – January 2024

Griffitts Parkway Field Photographs

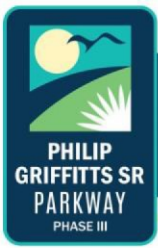
January and September 2024



Hydric Pine (Typical) – January 2024



Hydric Pine (Typical) – January 2024



Appendix F

USFWS Standard Protection Measures for the Eastern Indigo Snake

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

U.S. Fish and Wildlife Service

December 2023

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

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

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

STANDARD PROTECTION MEASURES

BEFORE AND DURING CONSTRUCTION ACTIVITIES:

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

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

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

POST CONSTRUCTION ACTIVITIES:

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

USFWS FIELD OFFICE CONTACT INFORMATION

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

POSTER & PAMPHLET INFORMATION

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

POSTER CONTENT (ENGLISH):

ATTENTION

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

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

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

- Stop land disturbing activities and allow the snake time to move away from the site without interference. Do NOT attempt to touch or handle the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor/agent, and a U.S. Fish and Wildlife Service (USFWS) Ecological Services Field Office, with the location information and condition of the snake.
- If the snake is located near clearing or construction activities that will cause harm to the snake, the activities must pause until a representative of the USFWS returns the call (within one day) with further guidance.

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

- Stop land disturbing activities and immediately notify supervisor/applicant, and a USFWS Ecological Services Field Office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

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

in the throat area. They are not typically aggressive.

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

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

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

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

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

POSTER CONTENT (SPANISH):

ATENCIÓN

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

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

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

- Pare excavación y permite el movimiento de la culebra fuera del área sin interferir. NO atentes tocar o recoger la culebra.
- Fotografié la culebra si es posible para identificación y documentación.
- Notifique supervisor/agente, y la Oficina de Campo de Servicios Ecológicos del Servicio Federal de Pesca y Vida Silvestre (USFWS) apropiada con información acerca del sitio y condición de la culebra.

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

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

- Pare excavación. Notifique supervisor/aplicante, y la Oficina de Campo de Servicios Ecológicos apropiada con información acerca del sitio y condición de la culebra.
- Fotografié la culebra si es posible para identificación y documentación.
- EmERGE completamente la culebra en agua y congele la especie hasta que personal apropiado de la agencia de vida silvestre la recoja.

DESCRIPCIÓN. La culebra Índigo del Este es una de las serpientes sin veneno más grande en Norte América, alcanzando hasta 8 pies de largo. Su nombre proviene del color azul-negro brillante 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.

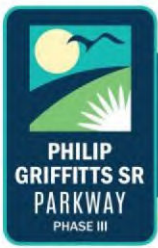
HÁBITATS Y ECOLOGÍA. La culebra Índigo del Este vive en una variedad de hábitats, incluyendo tierras secas, humedales, y áreas de agricultura. Ellas buscan refugio en agujeros o huecos de tierra, en especial madrigueras de tortugas de tierra. Las hembras ponen 4 hasta 12 huevos blancos entre abril y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

Eastern Indigo Snake Programmatic Effect Determination Key



United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

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

IN REPLY REFER TO:

August 13, 2013

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

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

Dear Colonel Dodd:

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

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

On Page 2

The following replaces the last paragraph above the signatures:

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

On Page 3

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

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

On Page 4

The following replaces the first paragraph under Conservation Measures:

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

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

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

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

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... “may affect”

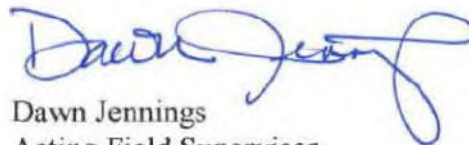
On Page 5

The following replaces footnote #3:

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

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

Sincerely,


Dawn Jennings
Acting Field Supervisor

cc:

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



United States Department of the Interior

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



January 25, 2010

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

Service Federal Activity Code: 41420-2009-FA-0642

Service Consultation Code: 41420-2009-I-0467

41910-2010-I-0045

Subject: North and South Florida
Ecological Services Field Offices
Programmatic Concurrence for Use
of Original Eastern Indigo Snake
Key(s) Until Further Notice

Dear Mr. Hobbie:

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

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

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

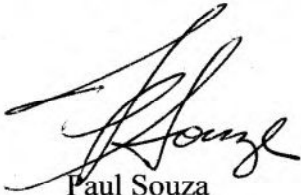


located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced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

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

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

Sincerely,



Paul Souza
Field Supervisor
South Florida Ecological Services Office



David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

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

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

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

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

Habitat

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

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

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

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

Conservation Measures

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

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. If the use of this key results in a Corps' determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary¹. This key is subject to revisitation as the Corps and Service deem necessary.

- A. Project is not located in open water or salt marsh.....go to B
- Project is located solely in open water or salt marsh....."no effect"
- B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction.....go to C
- Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested² "may affect"
- C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activitiesgo to D
- There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities "NLAA"
- D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested² "may affect"

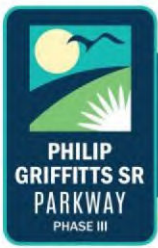
- E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow³. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity.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

Permit will not be conditioned as outlined above and consultation with the Service is requested² "may affect"

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

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

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



Appendix H

UMAM Data Sheets
from BPMB Permit

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4		Application Number		Assessment Area Name or Number Coastal Basin Marsh	
FLUCCs code 641		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 3.08	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The assessment area is hydorlogically connected to other wetlands with a few uplands areas along the western side.					
Assessment area description The assessment area is identified as a Coastal Basin Marsh. Invasive species such as spanish gold (<i>Sesbania punicea</i>) and torpedo grass (<i>Panicum repens</i>) are also present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water quality, water storage			Mitigation for previous permit/other historic use These areas area a part of a larger mitigatiopn bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, tracks, scat, and evidence of rooting were found.					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4	Application Number	Assessment Area Name or Number Coastal Basin Marsh
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assesment area is surrounded by Wet, Coastal and Mesic Flatwoods. West Bay is north of the area, and residential development is located to the south. Restoration and preservation activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 9 9	Saturated soil and areas of standing water are present, along with buttressing and water lines.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 8 9	Very little canopy with dense ground cover. The canopy is made up of sparse slash pine (<i>Pinus elliotii</i>), with young tupelo (<i>Nyssa sp.</i>) and red maple (<i>Acer rubrum</i>) in the subcanopy. The ground cover includes saw grass (<i>Cladium jamaicense</i>), panic grass (<i>Dichanthelium scabriusculum</i>), and bulltongue arrowhead (<i>Sagittaria lancifolia</i>).

Score = sum of above scores/30 (if uplands, divide by 20)	
current	with
0.8	0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.1

If mitigation
Time lag (t-factor) = 1.00
Risk factor = 1.00

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.10

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4		Application Number N/A		Assessment Area Name or Number Coastal Flatwoods Planted	
FLUCCs code 625/626		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 46.98	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Assessment area is hydrologically connected to other wetland habitat. Some areas are directly adjacent to upland habitat.					
Assessment area description Assessment areas are Coastal Flatwoods, saturated soils are present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water storage, water quality.			Mitigation for previous permit/other historic use The areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, scat, butterflies, insect, dens, rooting					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3		Application Number		Assessment Area Name or Number Coastal Flatwoods Planted	
FLUCCs code 625/626		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 612.85	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The assesement area is hydrologically connected to adjacent wetland habitat. Mesic Flatwoods communities are scattered throughout the assessment area.					
Assessment area description Assessment areas are Coastal Flatwoods, saturated soils are present.					
Significant nearby features Silviculture road bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water quality, water storage			Mitigation for previous permit/other historic use This areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), tree frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, Amercian crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, tracks, rooting, scat					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4	Application Number N/A	Assessment Area Name or Number Coastal Flatwoods
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assessment area is hydrologically connected to other wetland habitats, with a few adjacent uplands. West Bay is located north of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 8 9	There was no standing water at the time of the assessment; however, wet soils were present. A reduction in beds and rows will improve the hydrology and wetland function of the assessment areas.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 5 9	The assessment area is currently in silviculture and dominated by planted slash pine (<i>Pinus elliottii</i>). Other vegetation include saw-grass (<i>Cladium jamaicense</i>), needle rush (<i>Juncus sp.</i>), wiregrass (<i>Aristida stricta</i>), yaupon holly (<i>Ilex vomitoria</i>), and salt bush (<i>Baccharis halimifolia</i>). Invasive species, such as spanish gold (<i>Sesbania punicea</i>) and chinese tallow (<i>Triaidca sebifera</i>), are also present. Restoration activities, such as prescribed burning and herbicide treatment, will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current
or w/o pres with
0.67 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.23

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.15

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3	Application Number	Assessment Area Name or Number Coastal Flatwoods
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assessment area is hydrologically connected to other wetland habitats; Mesic Flatwoods scattered throughout. West Bay is located north of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activites will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 7 9	Evidence of hydrology was present, however no standing water was observed at the time of the assessment. Restoration and preservation activities will improve these area's hydrology.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 4 9	The assessment area is currently in silviculture. Vegetation consists of planted slash pine (<i>Pinus elliottii</i>), sweetbay (<i>Magnolia virginiana</i>), saw-grass (<i>Cladium jamaicense</i>), needle rush (<i>Juncus sp.</i>), wiregrass (<i>Aristida stricta</i>), swamp bay (<i>Persea palustris</i>), poison ivy (<i>Toxicodendron radicans</i>), swamp titi (<i>Cyrilla racemiflora</i>), wax leaf myrtle (<i>Morella cerifera</i>). Invasive species, such as popcorn tree (<i>Triadeca sebifera</i>) and torpedo grass (<i>Panicum repens</i>) are also present. Restoration activities, such as prescribed burning and herbicide treatment, will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres with
0.6 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.3

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.19

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4		Application Number		Assessment Area Name or Number Cypress Mixed Forested Planted	
FLUCCs code 621/631		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
Assessment Area Size 58.15					
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Assessment area is hydrologically connected to other wetland habitat. Some areas are directly adjacent to upland habitat.					
Assessment area description Assessment areas are Cypress Mixed Forested. Saturated soils are present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water storage, water quality.			Mitigation for previous permit/other historic use These areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Bald Eagle (BGEPA)		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): Bald Eagle, birds, tracks, rooting, scat.					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4	Application Number N/A	Assessment Area Name or Number Cypress Mixed Forested
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assessment area is hydrologically connected to other wetland habitats, with a few adjacent uplands. West Bay is located north of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 8 9	There was no standing water at the time of assessment, however, wet soils were present. A reduction in beds and rows along the edges of this habitat will improve the hydrology and wetland function of the assessment area.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7 9	The edges of the assessment areas contain planted slash pine (<i>Pinus elliotii</i>). The canopy consists of a mixture of cypress (<i>Taxodium ascendens</i>) and young tupelo (<i>Nyssa sylvatica</i>). Other vegetation include wax myrtle (<i>Morella cerifera</i>), yaupon holly (<i>Ilex vomitoria</i>), needle rush (<i>Juncus sp.</i>), saw-grass (<i>Cladium jamaicense</i>), and (<i>Aristida stricta</i>). Restoration activities will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres with
0.73 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.17

If mitigation
Time lag (t-factor) = 1.00
Risk factor = 1.00

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.17

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4		Application Number		Assessment Area Name or Number Mesic Flatwoods Planted	
FLUCCs code 411		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
Assessment Area Size 114.13					
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Assessment areas are surrounded by wetland habitat.					
Assessment area description Assessment areas are Mesic Flatwoods. These areas are currently in silviculture, with beds and rows present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions wildlife habitat, sheet flow			Mitigation for previous permit/other historic use These areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, scat, butterflies, insects, dens.					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3		Application Number N/A		Assessment Area Name or Number Mesic Flatwoods Planted	
FLUCCs code 411		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 94.17	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The assessment areas are surrounded by wetland habitat.					
Assessment area description Assessment areas are currently in silviculture. Mesic Flatwoods are scattered throughout the landscape of the mitigation area					
Significant nearby features Siliviculture roads bisect the site. West Bay is located north and east of the site, and a residential subdivision is located south of the site. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions wildlife habitat, sheet flow			Mitigation for previous permit/other historic use These areas are part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, tracks, scat					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4	Application Number	Assessment Area Name or Number Mesic Flatwoods
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 7 with 9	The assessment area is surrounded by wetlands, with silviculture roads bisecting the site. West Bay is located to the north, residential development to the south, and undeveloped land to the west. Preservation and restoration activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current N/A with N/A	There was no standing water present at the time of the assessment.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current 4 with 9	The assessment area is currently in silviculture. The canopy is made up of planted slash pine (<i>Pinus elliottii</i>), with a subcanopy of scattered sweet bay (<i>Magnolia virginiana</i>). Other vegetation includes saw palmetto (<i>Serenoa repens</i>), gallberry (<i>Ilex glabra</i>), yaupon holly (<i>Ilex vomitoria</i>), and shiny blueberry (<i>Vaccinium myrsinites</i>). Invasive species, such as spanish gold (<i>Sesbania punicea</i>) and torpedo grass (<i>Panicum repens</i>), are also present. Restoration activities, such as prescribed burning and herbicide treatments, will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres 0.55 with 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.35

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.22

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3	Application Number	Assessment Area Name or Number Mesic Flatwoods
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 7 with 9	The assessment area is surrounded by wetlands, with silviculture roads bisecting the site. West Bay is located to the north, residential development to the south, and undeveloped land to the west. Preservation and restoration activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current N/A with N/A	There was no standing water present at the time of the assessment.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current 4 with 9	The assessment area is currently in silviculture. The canopy is made up of planted slash pine (<i>Pinus elliottii</i>), with a subcanopy of scattered sweetbay (<i>Magnolia virginiana</i>). Other vegetation includes saw palmetto (<i>Serenoa repens</i>), gallberry (<i>Ilex glabra</i>), yaupon holly (<i>Ilex vomitoria</i>), and shiny blueberry (<i>Vaccinium myrsinites</i>). Invasive species, such as spanish gold (<i>Sesbania punicea</i>) and torpedo grass (<i>Panicum repens</i>), are also present. Restoration activities, such as prescribed burning and herbicide treatments, will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres 0.55 with 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.35

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.22

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4		Application Number N/A		Assessment Area Name or Number Wet Flatwoods Planted	
FLUCCs code 626		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 155.74	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Assessment area is hydrologically connected to other wetland habitat. Some areas are directly adjacent to upland habitat.					
Assessment area description Assessment areas are a Wet Flatwoods system, saturated soils are present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water storage, water quality.			Mitigation for previous permit/other historic use These areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, Americann crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, scat, butterflies, insect, dens, rooting					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 4	Application Number N/A	Assessment Area Name or Number Wet Flatwoods
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 7 with 9	The assessment area is hydrologically connected to other wetland habitats, with a few adjacent uplands. West Bay is located north of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activities will cause the overall landscape to improve.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current 7 with 9	There was no standing water at the time of assessment, however, wet soils were present. A reduction in beds and rows will improve the hydrology and wetland function of the assessment area.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current 4 with 9	The assessment area is currently in silviculture and dominated by planted slash pine (<i>Pinus elliottii</i>). Other vegetation includes gallberry (<i>Ilex glabra</i>), large gallberry (<i>Ilex coriacea</i>), swamp titi (<i>Cyrilla racemiflora</i>), myrtle leaf holly (<i>Ilex myrtifolia</i>), sweetbay (<i>Magnolia virginiana</i>), and yellow-eyed grass (<i>Xyris sp.</i>). Invasive species, such as spanish gold (<i>Sesbania punicea</i>) and torpedo grass (<i>Panicum repens</i>), are also present. Restoration activities, such as prescribed burning and herbicide treatment, will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres 0.6 with 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.3

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.19

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3		Application Number		Assessment Area Name or Number Coastal Basin Marsh	
FLUCCs code 641		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation Site	
				Assessment Area Size 114.87	
Basin/Watershed Name/Number St. Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The assessment area is hydrologically connected to adjacent wetlands. Mesic Flatwoods are scattered throughout the assessment area.					
Assessment area description The assessment area is identified as a Coastal Basin Marsh.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north of the site, residential subdivisions are located to the south. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water quality, water storage.			Mitigation for previous permit/other historic use The areas are a part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) None		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, tracks, scat, rooting					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3	Application Number	Assessment Area Name or Number Coastal Basin Marsh
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assessment area is hydrologically connected to adjacent wetland habitats, with Mesic Flatwoods scattered throughout. West Bay is located north of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activities will improve the overall landscape.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 10 10	There was no standing water at the time of assessment; however, wet soils were present. Restoration activities will improve hydrology and wetland functions of the assessment area.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 8 9	Very little canopy with dense ground cover. The canopy is made up of sparse slash pine (<i>Pinus elliotii</i>), with young tupelo (<i>Nyssa sp.</i>) and red maple (<i>Acer rubrum</i>) in the subcanopy. The ground cover includes saw grass (<i>Cladium jamaicense</i>), panic grass (<i>Dichanthelium scabriusculum</i>), and bulltongue arrowhead (<i>Sagittaria lancifolia</i>). Restoration activities will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current with
or w/o pres with
0.83 0.93

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.1

If mitigation
Time lag (t-factor) = 1.00
Risk factor = 1.00

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.10

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3		Application Number		Assessment Area Name or Number Cypress/Mixed Forested	
FLUCCs code 621/631		Further classification (optional) N/A		Impact or Mitigation Site? Mitigation	
Assessment Area Size 2.16					
Basin/Watershed Name/Number St.Andrew Bay/3140101		Affected Waterbody (Class) Class III Waters		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The assessment area is hydrologically connected to adjacent wetland habitat					
Assessment area description The assessment area is a Cypress/Mixed Forested system. Saturated soils are present.					
Significant nearby features Silviculture roads bisect the site. West Bay is located north and east of the site, and a residential subdivision is located south of the site. West of the site is undeveloped land.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions flood attenuation, water quality, water storage			Mitigation for previous permit/other historic use This area is part of a larger mitigation bank, Breakfast Point Mitigation Bank.		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Deer, feral hogs, small mammals (rabbits, moles, mice, rats, etc.), various frogs, lizards, snakes, alligators. Bird species anticipated include common urban avian species like northern cardinal, downy woodpecker, American crow, songbirds, etc.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Bald Eagle (BGEPA)		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): birds, tracks, rooting, scat					
Additional relevant factors: None					
Assessment conducted by: Ann Amicarelle and Austin Roberts			Assessment date(s): 10/7/2022		

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

Site/Project Name Breakfast Point Mitigation Bank Phase 3	Application Number	Assessment Area Name or Number Cypress/Mixed Forested
Impact or Mitigation Mitigation	Assessment conducted by: Ann Amicarelle and Austin Roberts	Assessment date: 10/7/2022

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 with 7 9	The assessment area is hydrologically connected to other wetland habitats. West Bay is located north and east of the site, residential development to the south, and undeveloped land to the west. Restoration and preservation activities will improve the overall landscape to improve.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 8 9	There was no standing water at the time of assessment, however, wet soils were present. A reduction in beds and rows along the edge of this habitat will improve the hydrology and wetland function of the assessment area.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7 9	The edges of the assessment areas contain planted slash pine (<i>Pinus elliotii</i>). The canopy consists of a mixture of cypress (<i>Taxodium acendens</i>) and young tupelo (<i>Nyssa sylvatica</i>). Other vegetation include wax myrtle (<i>Morella cerifera</i>), yaupon holly (<i>Ilex vomitoria</i>), needle rush (<i>Juncus sp.</i>), saw-grass (<i>Cladium jamaicense</i>), and wire grass (<i>Aristida stricta</i>). Restoration activities will improve the community structure.

Score = sum of above scores/30 (if uplands, divide by 20)
current with
or w/o pres with
0.73 0.9

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

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.17

If mitigation
Time lag (t-factor) = 1.00
Risk factor = 1.00

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.17

UMAM Summary BPMB Phase 3 (Form 15)

		Location and Landscape		Water Environment		Community Structure								
AA - PH 3	Acreage	W/OUT	W/	W/OUT	W/	W/OUT	W/	Current Score	With Score	Delta	Time Lag	Risk	RFG	Credits
Coastal Basin Marsh	114.87	7	9	10	10	8	9	0.83	0.93	0.10	1.00	1.00	0.100	11.49
Cypress Mixed	2.16	7	9	8	9	7	9	0.73	0.90	0.17	1.00	1.00	0.167	0.36
Coastal Flatwoods-Planted	612.85	7	9	7	9	4	9	0.60	0.90	0.30	1.25	1.25	0.192	117.67
Mesic Flatwoods-Planted	94.17	7	9	N/A	N/A	4	9	0.55	0.90	0.35	1.25	1.25	0.224	21.09
Totals	824.05													150.61

UMAM Summary BPMB Phase 4 (Form 15)

		Location and Landscape		Water Environment		Community Structure								
AA - PH 4	Acreage	W/OUT	W/	W/OUT	W/	W/OUT	W/	Current Score	With Score	Delta	Time Lag	Risk	RFG	Credits
Cypress Mixed	58.15	7	9	8	9	7	9	0.73	0.90	0.17	1.00	1.00	0.167	9.69
Coastal Basin Marsh	3.08	7	9	9	9	8	9	0.80	0.90	0.10	1.00	1.00	0.100	0.31
Wet Flatwoods-Planted	155.74	7	9	7	9	4	9	0.60	0.90	0.30	1.25	1.25	0.192	29.90
Coastal Flatwoods - Planted	46.98	7	9	8	9	5	9	0.67	0.90	0.23	1.25	1.25	0.149	7.02
Mesic Flatwoods-Planted	114.13	7	9	N/A	N/A	4	9	0.55	0.90	0.35	1.25	1.25	0.224	25.57
Totals	378.08													72.48