

VOLUSIA FLAGLER 2050

Long Range Transportation Plan

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1. Introduction

This Environmental Mitigation Consultation Summary consists of information and data that supported development of Volusia-Flagler 2050. Applicable federal and state requirements and guidance that shaped the environmental consultation process and contents of this summary include:

- 23 C.F.R. 450.316(a)(1), (d), (e)
- 23 C.F.R. 450.324(g)
- s. 339.175(6)(b), F.S.
- s. 39.175(7)(d), F.S.

Comprehensive documentation of the environmental consultation process, including the approach to interactions with agencies and the public, is collectively found in this summary document, Chapter 4, Chapter 5, the Volusia-Flagler 2050 Public Involvement Plan (Technical Appendix G), and the [Volusia-Flagler TPO Public Participation Plan](#).

It is critical to consider and incorporate environmental and cultural resources in long range transportation planning. The development of Volusia-Flagler 2050 included the: evaluation of conservation plans, maps, and data, including inventories of natural or historical resources; outreach for consultative input from appropriate federal and state environmental and resource management agencies; and utilization of environmental criteria to inform project prioritization.

1.1 Environmental Mitigation

Transportation projects can significantly impact many aspects of the environment including wildlife and their habitats, wetlands, and groundwater resources. In situations where impacts cannot be completely avoided, mitigation or conservation efforts are required. Environmental mitigation is the process of addressing damage to the environment caused by transportation projects or programs. The process of mitigation is best accomplished through enhancement, restoration, creation and/or preservation projects that serve to offset unavoidable environmental impacts.

In the State of Florida, environmental mitigation for transportation projects is conducted through a partnership between MPO/TPOs, FDOT, and state and federal environmental resource and regulatory agencies, such as the Water Management Districts (WMDs) and the Florida Department of Environmental Protection (FDEP). These activities are directed through Chapter 373, F.S., which establishes the requirements for mitigation planning as well as the requirements for permitting, mitigation banking, and mitigation requirements for habitat impacts. Under this statute, FDOT must identify projects requiring mitigation, determine a cost associated with the mitigation, and place funds into an escrow account within the Florida Transportation Trust Fund. State transportation trust funds are programmed in the FDOT Work Program for use by the WMDs to provide mitigation for the impact identified in the annual inventory.

Section 373.4137, F.S., establishes the FDOT mitigation program that is administered by the state's WMDs, which are responsible for developing an annual mitigation plan with input from Federal and State regulatory and resource agencies, including representatives from public and private mitigation banks. Each mitigation plan must focus on land acquisition and restoration or enhancement activities that offer the best mitigation opportunity for that specific region. The mitigation plans are required to be updated annually to reflect the most current FDOT work program and project list of a transportation authority.

When addressing mitigation, there is a general rule to avoid all impacts or minimize and mitigate impacts when impacts are unavoidable. This rule can be applied at the planning level, when MPOs are identifying areas of potential environmental concern due to the development of a transportation project. A typical approach to mitigation that MPOs can follow is to:

- Avoid impacts altogether
- Minimize a proposed activity/project size or its involvement
- Rectify the impact by repairing, rehabilitating, or restoring the affected environment
- Reduce or eliminate the impact over time by preservation and maintenance operation during the life of the action
- Compensate for environmental impacts by providing appropriate or alternate environmental resources of equivalent or greater value, on or off-site

Sections 373.47137 and 373.4139, F.S. require that impacts to habitat be mitigated through a variety of mitigation options, which include mitigation banks and mitigation through the Water Management District(s) and the DEP.

Potential environmental mitigation opportunities that could be considered when addressing environmental impacts from future projects proposed by MPOs may include, but are not limited to, the items presented in Table 1.

Table 1: Potential Environmental Mitigation Opportunities

Resources/Impacts	Potential Mitigation Strategy
Wetlands and Water Resources	<ul style="list-style-type: none"> • Restore degraded wetlands • Create new wetland habitats • Enhance or preserve existing wetlands • Improve storm water management • Purchase credits from a mitigation bank
Forested and other natural areas	<ul style="list-style-type: none"> • Use selective cutting and clearing • Replace or restore forested areas • Preserve existing vegetation
Habitats	<ul style="list-style-type: none"> • Construct underpasses, such as culverts • Other design measures to minimize potential habitat fragmentation
Streams	<ul style="list-style-type: none"> • Stream restoration • Vegetative buffer zones • Strict erosion and sedimentation control measures
Threatened or Endangered Species	<ul style="list-style-type: none"> • Preservation • Enhancement or restoration of degraded habitat • Creation of new habitats • Establish buffer areas around existing habitat

Planning for specific environmental mitigation strategies over the life of the long-range transportation plan can be challenging. Potential mitigation challenges include lack of funding for mitigation projects and programs, lack of available wetland mitigation bank credits, improperly assessing cumulative impacts of projects, and permitting issues with the county, local, state and federal regulatory agencies. These challenges can be lessened when TPOs engage their stakeholders, including regulatory agencies, the public and other interested parties, through the public involvement process. The public involvement process provides TPOs with an efficient method to gain input and address concerns about potential mitigation strategies and individual projects.

2. Environmental Stakeholder Coordination and Consultation

As part of the development of Volusia-Flagler 2050, and in order to understand the environmental mitigation opportunities and issues within the metropolitan planning area, the TPO conducted direct outreach to appropriate federal, state and local land management, resource, environmental, and historic preservation agencies to obtain comments and consultation on the following:

- Environmental factors to consider as part of the plan
- Considerations from applicable conservation plans
- Potential environmental mitigation activities, and areas to carry out these activities, including those with the greatest potential to restore and maintain environmental functions
- Potential environmental impacts from the draft plan of projects

2.1 Environmental Consultation

The TPO conducted outreach for consultation with the following agencies:

- US Fish and Wildlife Service (US Department of the Interior) including the Lake Woodruff National Wildlife Refuge and Merritt Island National Wildlife Refuge
- National Park Service (US Department of the Interior) including Canaveral National Seashore
- Florida Department of Environmental Protection
- St. Johns River Water Management District
- Florida Fish and Wildlife Conservation Commission
- Florida Forest Service (Florida Department of Agriculture and Consumer Services)
- Volusia County
- Flagler County

While consultation with Tribal governments is also prescribed, there are no designated Tribal lands within the boundaries of the TPO planning area.

2.1.1 Communication

The TPO contacted these agencies directly through e-mail communication that included background on the 2050 LRTP and a request for comments on the draft plan. The following email was distributed on July 3, 2025 with a follow-up sent on July 28, 2025:

The Volusia-Flagler TPO (TPO) is in the process of developing the Volusia-Flagler 2050 Long Range Transportation Plan (LRTP) (<https://www.r2ctpo.org/planning-studies/volusia-flagler-2050-long-range-transportation-plan/>). The LRTP establishes policy-direction and transportation project priorities that best reflect the future needs of the community and region, which includes all of Volusia County and Flagler Counties. As part of the process for developing the plan, it is critical to evaluate potential environmental resource impacts of planning decisions and mitigation activities [[CFR 450.324\(f\) and \(g\)](#)].

We are reaching out to your agency for consultation regarding this plan. The Volusia-Flagler TPO is at a strategic point in developing the plan and your input will provide valuable feedback to help shape the plan. The development of this plan includes:

- Evaluation of proposed projects through assignment of an environmental impact criteria score to inform project ranking. This evaluation utilized various datasets including public conservation lands, Volusia ECHO environmental/cultural/historic sites, and Critical Lands and Waters Identification Project (CLIP) biodiversity resource and wetland priorities.
- Evaluation of environmental mitigation opportunities.

Any comments from your agency's perspective regarding the following are appreciated:

- Potential environmental impacts from the draft plan of projects
- Environmental factors to consider as part of this plan
- Considerations from applicable conservation plans
- Potential [environmental mitigation activities](#), and areas to carry out these activities, including those with greatest potential to restore and maintain environmental functions

We are seeking your consultative comments by Friday, August 1. Please see the attached PDF which includes the draft plan of projects and corresponding maps. We can also provide a GIS shapefile and/or KMZ file with the location of these projects for your review.

If you have any questions or would like to schedule an online meeting to discuss, please contact our team. If there are others in your agency that should review this plan, please feel free to forward this communication to them.

2.1.2 Consultative Comments

The Florida Forest Service responded on August 1, 2025 stating the agency had no comments on the draft Volusia-Flagler 2050 Cost Feasible Plan. Despite the initial and follow-up request for input, no other contacted agency provided a response.

2.2 Efficient Transportation Decisions Making Process (ETDM)

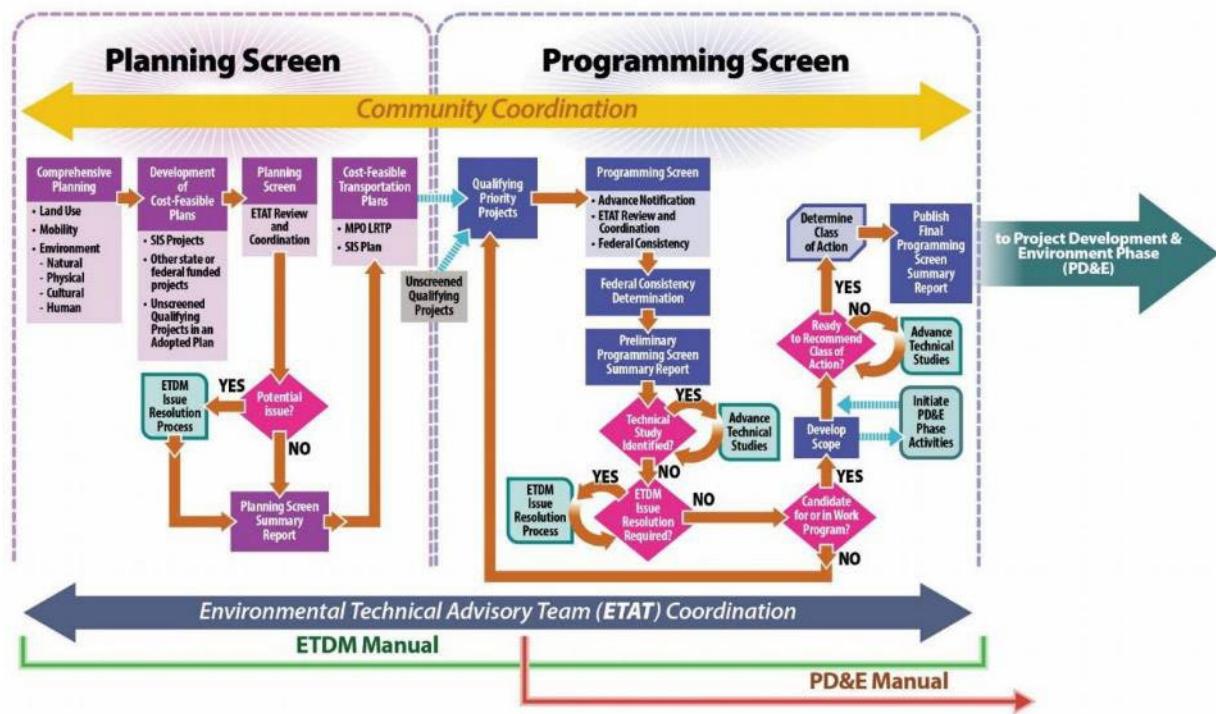
In addition to the process outlined in Florida Statutes and implemented by the TPO and its partner agencies, the Efficient Transportation Decision Making (ETDM) process (Figure 1) is used for seeking input on individual qualifying long range transportation projects allowing for more specific commentary. This provides assurance that mitigation opportunities are identified, considered and available as the plan is developed and projects are advanced. The ETDM process allows resource and regulatory agencies, as well as the public, an opportunity to review and comment on potential impacts of proposed transportation projects. The intent is to provide a method for early consideration of ecosystem, land use, social, and cultural issues, prior to a project moving into the Work Program and into the Project Development and Environmental (PD&E) study phase.

To facilitate the ETDM process and the required coordination between agencies, each FDOT District has an Environmental Technical Advisory Team (ETAT), which is comprised of representatives from MPOs/TPOs, state and federal agencies, and participating Native American Tribes. The public and members of the ETAT have the opportunity to provide input regarding the potential effects of a project on natural, physical, cultural, and community resources throughout the Planning phase of project delivery.

Coordination with the ETAT members is facilitated through the Environmental Screening Tool (EST), an Internet- accessible interactive database and mapping application that combines resource and project data from multiple sources to provides efficient Geographic Information System (GIS) analyses. The EST also provides the ability for ETAT members to provide input on proposed projects.

The ETDM process is composed of the Planning and Programming project-screenings. The Planning Screen can be used to provide information to FDOT and MPOs/TPOs regarding early evaluation of projects. The Programming Screen includes the review of qualifying projects when being considered for funding in the FDOT Five Year Work Program or MPO Transportation Improvement Program (TIP). If projects are already funded, they are reviewed during the Programming Screen before advancing to the PD&E phase. If they have not already been screened, projects identified in the Cost Feasible Plan will be screened, as applicable, during the appropriate phase of project development.

Figure 1: ETDM Process Diagram



Source: Florida Department of Transportation

3. Environmental Assets within the TPO Planning Area

In addition to the outreach and coordination with regulatory agencies previously discussed, an analysis of applicable data sources and conservation plans was conducted to broaden the scope of environmental consultation.

3.1 Mitigation Banking

According to the St. Johns River Water Management District (SJRWMD), mitigation banking is a process in which large areas of existing wetlands and/or uplands are restored and/or enhanced to mitigate, or offset, the loss of other wetlands or surface waters that are destroyed to make room for new homes, businesses, roads, utilities or other activities. In rare instances, wetlands may also be created as part of a mitigation bank.

Under Florida law, a mitigation bank is defined as a project undertaken to provide “credits” to offset adverse impacts to wetlands or other surface waters that occur as part of a permitted project.

In SJRWMD’s jurisdiction, mitigation banks are intended to be used to minimize the uncertainty associated with traditional mitigation practices and to provide greater assurance of mitigation success. Consolidating multiple mitigation projects into larger contiguous areas should provide greater assurance that the mitigation will yield long-term, sustainable, regional ecological benefits. Rather than altering the landscape to create wetlands, mitigation banks should emphasize restoration and enhancement of degraded ecosystems and the preservation of uplands and wetlands as intact ecosystems. This is best accomplished through restoration of ecological communities that were historically present. Mitigation banks are encouraged in or adjacent to areas of national, state, or regional ecological significance, provided that the area in which the mitigation bank is proposed is determined appropriate and the bank meets all applicable permitting criteria.

The mitigation banks within the TPO’s planning area as identified in GIS data obtained from FDEP are listed in Table 2 below and depicted in Figure 2. This data includes Mitigation Bank Service Areas identified in Mitigation Bank Permits issued under Ch. 373.4136, Florida Statutes by FDEP or a Water Management District.

Table 2: Mitigation Banks within the Volusia-Flagler TPO Planning Area

Bank Name	Description	Total Acres	Potential Credits
Brick Road	The site consists of commercial timberland proposed for enhancement to a more natural character.	2,945	451
Barberville	The site is adjacent to the Lake Woodruff National Wildlife Refuge and the Barberville Conservation Area. Habitats present on the site include cypress swamps, mixed wetland hardwoods, hydric pine flatwoods, freshwater marshes and associated uplands, including long leaf pine, wiregrass prairies, and pastures.	358	84
Colbert Cameron	The Colbert-Cameron Mitigation Bank covers a total of 2604 acres, and is located north of State Road 46, extending from the southeast portion of Lake Harney eastward to the Brevard County line, in southern Volusia County. Habitats present on the site include freshwater marshes, cypress swamps, cypress/pine/palm wetlands, mixed wetland hardwoods, wet prairie, inland salt marsh, and upland forests.	2,604	716
Farmton	The Farmton Mitigation Bank is located at three sites (North, South, and West) in Volusia County. Habitats present on the three sites include cypress swamp, freshwater marsh, scrub/shrub wetlands, mixed forested wetlands, cypress/pine swamp, wetland coniferous forest, wetland hardwood forest, and uplands primarily comprised of pine flatwoods and slash pine plantation, and to a lesser degree, temperate upland hardwood hammock.	22,805	4,345
Fish Tail Swamp	The application proposes for the construction, implementation, and perpetual management of a 5,266-acre wetlands mitigation bank to be known as Fish Tail Swamp Mitigation Bank (FTSMB). This FTSMB is located within northern Flagler County and southern St. Johns County.	5,266	722

Bank Name	Description	Total Acres	Potential Credits
Graham Swamp	This site is located in Pellicer Creek/Matanzas River watershed, north of the Graham Swamp Conservation Area owned by SJRWMD. The property had been dewatered through the construction of drainage ditches that flow to the Intracoastal waterway. The mitigation plan is to reduce drainage and raise groundwater levels through the construction of a series of weirs, to re-establish a freshwater forested wetland. The dominant canopy species consist of cypress, green ash, and red maple. All credits have been released.	66	33
Lake Monroe	Habitats present on the site include wet prairies, freshwater marshes, mixed hardwood and cypress dominated swamps, rangelands, and improved pastures.	997	200
Lake Swamp	The bank property includes a large portion of Lake Swamp, which flows south-southeast into Groover Branch which flows into the Little Tomoka River (OFW) that discharges to the northeast into the Tomoka basin, and ultimately flows into the Halifax River. Southwest of the bank site is Hull Cypress Swamp, a very large bottomland swamp. Nearby public conservation lands include the Relay Tract to the west; Tiger Bay State Forest to the south; and Bulow Creek and Tomoka State Parks to the east.	1,891	189
NeoVerde 21	The NeoVerde Basin 21 Mitigation Bank (NVMB) is located east of Interstate 95 and south of Maytown Road, in southern Volusia County. The project is 1301.19-bank acres and 1263.10-credit acres, located within the Northern Indian River Lagoon Hydrologic Basin (Basin 21). The site is in the western headwaters and watershed of Turnbull Hammock, which drains into the Indian River Lagoon via Turnbull Creek.	1,301	211
Port Orange	The uplands on the site consist mostly of various pine-dominated communities. The wetlands consist of cypress ponds, cypress strands, bay swamps, and marshes, which form part of the headwaters to the Tomoka River and Spruce Creek.	5,719	1,176

Bank Name	Description	Total Acres	Potential Credits
Tiger Bay	The applicant proposes to establish a wetland mitigation bank in the Tomoka River Hydrologic Basin (Halifax Basin, #17) by preserving, improving, and managing uplands and wetlands.	2,499	355
Webster Creek	This permit includes the implementation and perpetual management of Webster Creek Mitigation Bank, a 116.64-acre project to be maintained and operated as per plans received by the District on November 14, 2018.	117	21

3.2 Wetlands

Based on the U.S. Fish & Wildlife National Wetlands Inventory, there are identified wetlands adjacent to several of the existing corridors as shown in Figure 3. The TPO has and will continue to coordinate with FDOT, FDEP, FWC, and SJRWMD to mitigate transportation impacts on the environment including wetlands. As part of the Technical Criteria Scoring process described below, wetlands GIS data provided by the Florida Natural Areas Inventory (FNAI) through the Critical Lands and Waters Identification Project (CLIP) was utilized in assessing potential impacts by projects to the highest priority wetlands which, according to the CLIP Version 4.0 User Tutorial, are those wetlands within large intact natural landscapes (although the wetlands themselves may be small or large). For further information on CLIP, see Wildlife and Habitat section below.

3.3 Flood Zones

Floods are one of the most common hazards in the United States. The TPO has used flood zone mapping to display high risk areas in relation to Cost Feasible Projects and Unfunded Needs (Figure 4). It is important to specifically understand the impacts to transportation infrastructure such as major roads and bridges and evacuation routes.

The TPO will continue to coordinate with local municipalities, Volusia County, Flagler County, and other partner agencies to mitigate potential impacts to the transportation system from sea level rise. The TPO will also continue to integrate consideration of these issues to effectively shape future plans.

3.4 Wildlife and Habitat

Potential wildlife and habitat impacts must be considered as part of environmental mitigation. The importance of not only preserving land but connecting wildlife corridors to create an integrated ecosystem is paramount in considering transportation impacts. There are significant public and private conservation areas within the planning area as illustrated in the map included in Figure 5.

3.4.1 Conservation Lands and Waters Identification Project (CLIP)

Similar to the wetlands analysis described above, GIS data provided by the Florida Natural Areas Inventory (FNAI) through the Critical Lands and Waters Identification Project (CLIP) was utilized in assessing potential impacts by projects to high priority biodiversity resources. According to the CLIP Version 4.0 User Tutorial, the Biodiversity Resource Priorities layer utilized in this analysis is a combination of the four core data layers in the Biodiversity Resource Category: Strategic Habitat Conservation Areas, Vertebrate Potential Habitat Richness, Rare Species Habitat Conservation Priorities, and Priority Natural Communities.

The Florida Natural Areas Inventory, the University of Florida Center for Landscape Conservation Planning, and the Florida Fish and Wildlife Conservation Commission developed the CLIP database to assess and incorporate available GIS data for identifying statewide areas of interest for protecting biodiversity, water resources, ecosystem services, and other natural resource values. CLIP provides a broad synthesis of natural resource GIS data to support comprehensive identification of statewide conservation opportunities, and is suitable as a resource planning guide for state, regional, and local entities interested in effective natural resource protection and management. CLIP data was used in the environmental criteria screening because it is an appropriate dataset to inform long range transportation planning.

3.4.2 Florida State Wildlife Action Plan

As described in the Florida State Wildlife Action Plan (FSWAP) developed by FWC, transportation corridors and the vehicles that use them can cause a range of potential impacts including habitat fragmentation, altered surface hydrology and fire regimes, the spread of invasive plants, and increased wildlife mortality. Roads can cause fragmentation of wetlands, streams and habitats. This can lead to isolated groups of what FWC defines as the Species of Greatest Conservation Need (SGCN), fish and wildlife species that are imperiled or at risk of becoming imperiled in the future. The FSWAP includes certain actions related to transportation corridors. The following actions are included here as documentation of appropriate considerations in long range transportation planning and future project implementation:

Action T4.2: Work with FDOT and utility companies to reduce right-of-way footprints by reducing width, especially on conservation lands, and co-locating linear facilities when possible.

Action F4.1: Assess and correct or replace road crossings that fragment aquatic habitat, impact wetland hydrology, or impede the movement of freshwater species.

Action F4.2: Stabilize high priority unpaved road crossings that cause excess sedimentation and turbidity in streams.

Action S4.1: Reduce the number of roadway collisions by providing alternate crossing routes in problematic locations (e.g., wildlife overpasses or underpasses), using fencing or strategically planting trees and shrubs to shunt wildlife towards safe crossing locations, and by using technology to improve signage for motorists.

4. Environmental Considerations in the LRTP and Technical Scoring Criteria

As also discussed in Chapter 2, Chapter 5, and in Appendix I, the Volusia-Flagler TPO has integrated environmental considerations into the goals and objectives of Volusia-Flagler 2050, as well as the Technical Criteria Scoring.

Goal 5 of Volusia-Flagler 2050 is to “Promote livability through a multimodal transportation system that fosters quality communities and protects natural resources” with multiple objectives explicitly addressing environmental, historic, and cultural assets.

Objective 5.4 - Locate and design transportation facilities to avoid or minimize the impact to natural resources including environmentally sensitive areas and critical lands, waters, and habitats.

Objective 5.5 - Develop and support a multimodal transportation system that reduces or mitigates vehicle greenhouse gas emissions or stormwater impacts.

Objective 5.6 - Locate and design transportation facilities to avoid or minimize impacts to historic and cultural assets.

As part of the evaluation and prioritization process, projects were assigned an environmental impact technical criteria score through GIS analyses and the evaluation of projects based on their location in relation to identified conservation lands, wetlands, biodiversity resources, and other cultural/historic sites.

Table 3 depicts the Environmental Priority Evaluation Category portion of the project prioritization matrix. Please see Appendix I for complete documentation related to the Technical Criteria Scoring process.

Table 3: Environmental Priority Evaluation Criterion

Priority Evaluation Category	Volusia-Flagler 2050 Goals Implemented	Criteria Description	Proposed Sources/Methodology for Evaluation	Criteria Scoring	Points Available
Environment	5	Corridor Environmental Impact	Identified projects evaluated in relation to various datasets identifying public conservation lands, environmental/cultural/historic sites, and Critical Lands and Waters Identification Project (CLIP) biodiversity resource and wetland priorities. If the project intersects or is adjacent to an identified area or site, staff analysis is performed to determine the potential level of impacts based on the project's scope. The projects receive 10, 5, or -3 points accordingly.	No Anticipated Impacts	10
				Limited Impacts	5
				Potential Environmental Impacts	-3

Figure 2: Mitigation Banks Map

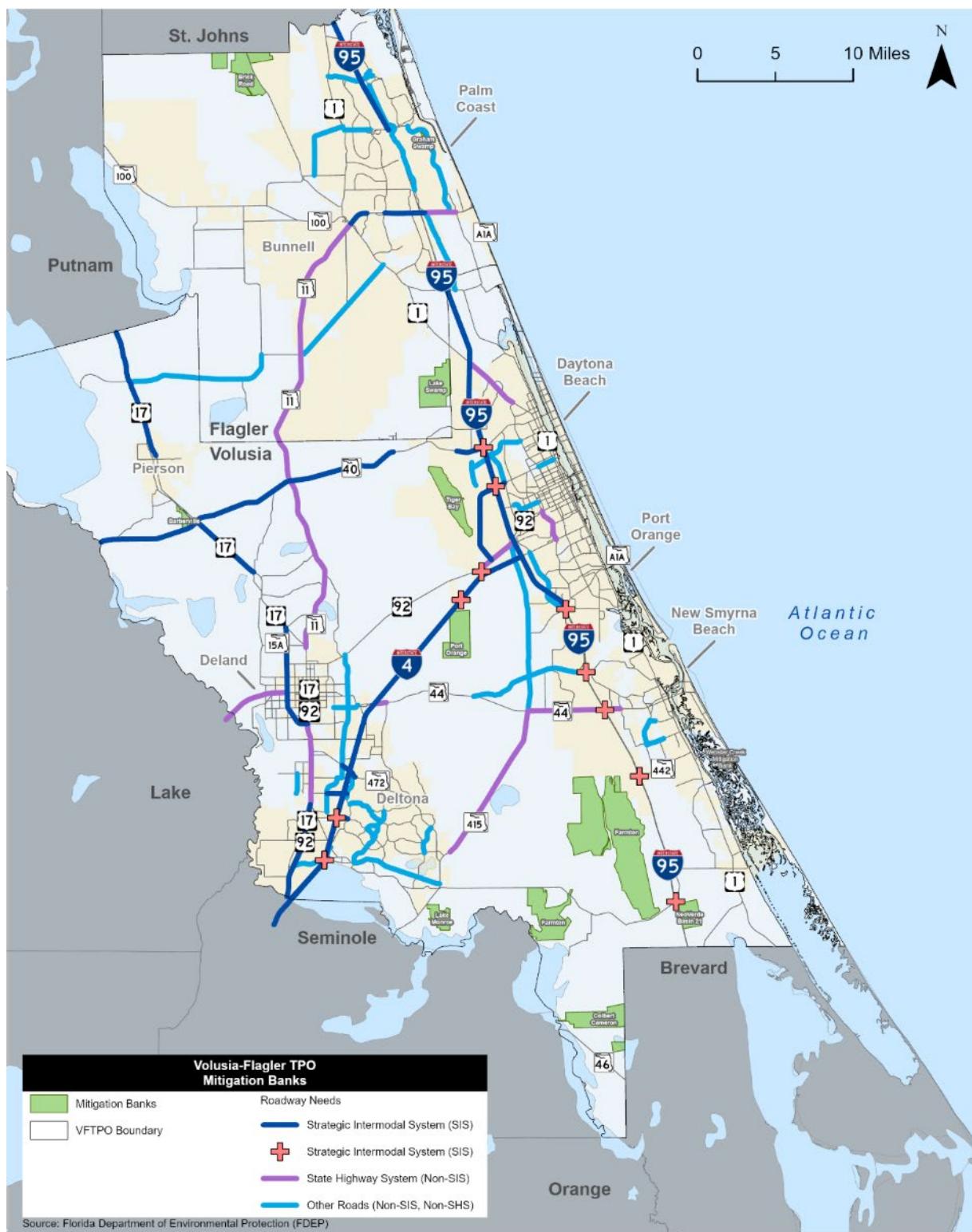


Figure 3: Wetlands Map

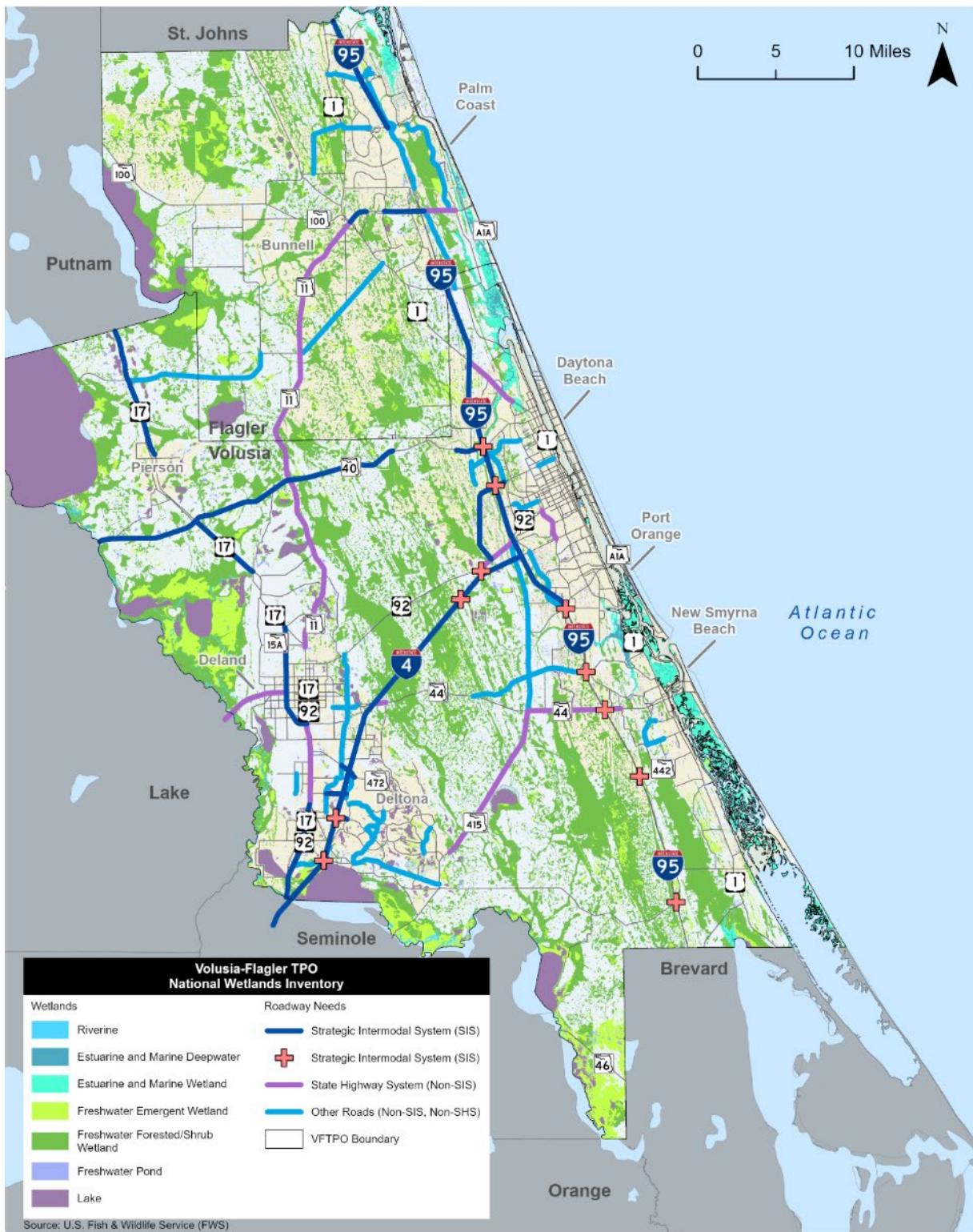


Figure 4: Flood Zones Map

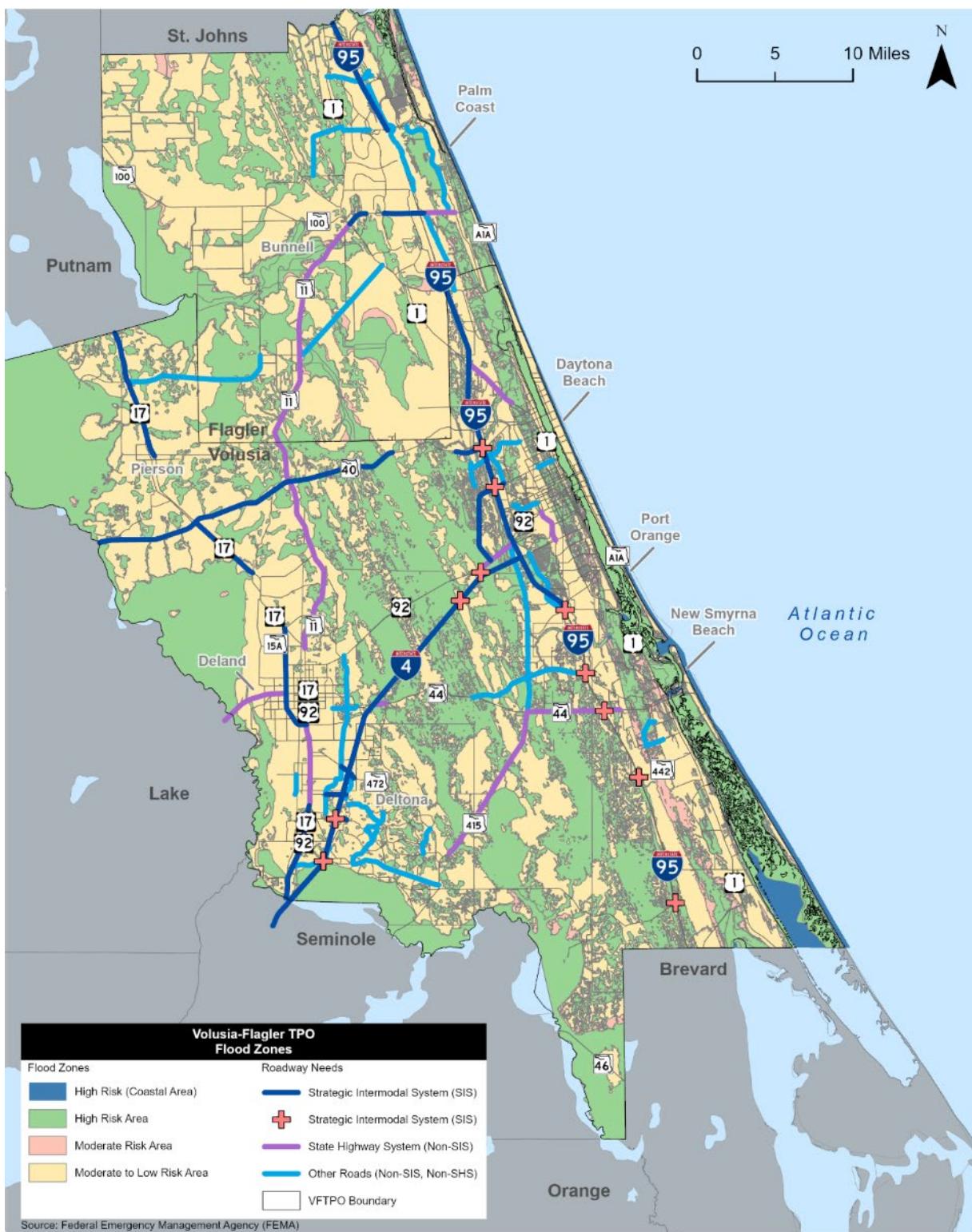


Figure 5: Conservation Lands Map

