Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Natural Systems & Restoration Bureau
Springs & Environmental Flows Section
2379 Broad Street
Brooksville, FL 34604-6899

photo courtesy George Veazey

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Cover: Roseate spoonbill in flight. Photo used with permission by George Veazey. Copyright 2013. The photograph of a Roseate Spoonbill in flight was taken at SW 78 Bahia Beach. Since construction, this FDOT Mitigation Project has become a birding hot spot with 63 different species of birds observed on October 12, 2013.

INTRODUCTION

The Florida Department of Transportation (FDOT) historically conducted mitigation for wetland impacts associated with roadway construction on a project by project basis. The majority of these mitigation activities were creation and enhancement of habitats adjacent to the roadway facilities. Existing and future commercial, industrial and residential developments along these roadways subject these constructed mitigation areas to many limitations and risks in achieving the desired ecological benefits needed to compensate for wetland impacts. These developments also reduce mitigation opportunities as well as increase the cost of mitigation projects, primarily a result of the availability of property and the cost of acquisition.

In 1996, the State Legislature determined that mitigation would be more effectively achieved with regional, long range mitigation planning instead of conducting mitigation on a project by project basis and created the FDOT Mitigation Program (see Section 373.4137, Florida Statutes). A copy of the current statutory language is provided in Appendix A. This program is administered by the state's water management districts, which are responsible for annually developing a mitigation plan.

Mitigation planning is based on an inventory of construction projects that is provided by the FDOT. The minimum planning horizon is three years. However, the FDOT may elect to add to their inventory, projects with projected construction dates that extend beyond this planning horizon. This provides additional time for suitable mitigation projects to be developed, which is essential when mitigation options are limited. The project inventory is updated annually to account for changes that occur as the FDOT projects move through planning, design and permitting phases. Inventory updates include: additions and deletions of construction projects; modifications to projected permitting and construction dates as well as adjustments to projected impact habitat type or acreages. The FDOT is also required to perform an evaluation to identify any projects where impacts may be offset using a mitigation bank. These projects are identified on the inventory of projects but are not included in the FDOT Mitigation Program.

Mitigation for wetland impacts associated with FDOT road improvement projects may be provided by a private or public mitigation bank or a mitigation project adopted into the FDOT Mitigation Program. Mitigation projects that are adopted into the FDOT Mitigation Program are to address significant water resource needs and focus on the needs of the Department of Environmental Protection and the water management districts, such as Surface Water Improvement and Management (SWIM) projects, lands identified for acquisition, restoration or enhancement and control of invasive and exotic plants to the extent the impacts of the road improvement project are offset.

Based on the impact information provided by the FDOT, mitigation options are matched to FDOT road improvement projects such that the State and Federal permitting requirements for mitigation offsets are satisfied. Federal and State mitigation requirements specify that habitats with similar value and function as those being impacted are to be created, enhanced, restored or preserved. Additionally, mitigation projects must be located in the same regional watershed as the projected wetland impacts. A map of the regional watersheds in the Southwest Florida Water Management District (District) is provided in Appendix B. In addition to these criteria, Florida statutes specify that the purchase of credits from public or private mitigation banks be considered when such purchase would offset the impact of the FDOT project, provide equal benefits to the water resource as other mitigation options and provide the most cost-effective mitigation option.

The statute establishing the FDOT Mitigation Program requires that the FDOT Mitigation Plan be updated every year by March 1st. Approval by the District's Governing Board and the Florida Department of Environmental Protection is required prior to implementation. Before presenting the 2014 FDOT Mitigation Plan for approval, a draft was presented to interested parties for comment at a publicly noticed meeting held on January 7, 2014. The 2014 FDOT Mitigation Plan contains an updated inventory of all FDOT projects included in the FDOT Mitigation Program, a summary of the evaluation of mitigation bank options performed and a description of the mitigation project or projects that are designated to offset the identified wetland impacts. This Mitigation Plan has been developed by the District in accordance with the statutory requirements for the FDOT Mitigation Program.

REPAYMENT OF ADVANCE FUNDING

Pursuant to Chapter 373.4137, F.S., the FDOT provided $12 million advance mitigation funding. These funds were distributed statewide to various habitat restoration projects proposed by the Water Management Districts. To the extent these projects offset the wetland impacts identified in the inventory, the FDOT received mitigation credit. Of the $12 million distributed statewide, the District received $1.9 million designated toward planning and design activities associated with several SWIM-sponsored projects selected for the mitigation program. The savings from cost-effective mitigation (i.e. mitigation projects costs that were less than the funding provided by FDOT) was credited toward reimbursing FDOT for the advance funding. The District officially reimbursed the FDOT $4.2 million of the program's advance funding. The other Water Management Districts combined contributed $4.8 million toward this reimbursement.

An analysis of selected mitigation projects demonstrated the tax savings exceeded $50 million in the Tampa Bay region and $100 million District-wide when the cost of the District's mitigation projects were compared to money FDOT anticipated expending to conduct traditional project specific mitigation. As a result of the substantial program savings demonstrated by the District, in 2009, Legislation that suspended the requirement to reimburse the remaining $3 million balance in advance funding was passed. The District was credited with reimbursing $7.2 million of the $12 million program's advance funding.

CONTACT INFORMATION

Any questions, comments, requests or recommendations for the FDOT Mitigation Program or any of the designated mitigation projects, may be directed to the FDOT Mitigation Program Manager and Senior Environmental Scientist, Karen Gruenhagen, MSPH, PWS at:

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FDOT ROAD IMPROVEMENT PROJECTS

Since the inception of the FDOT Mitigation Program in 1996, there are various transportation entities within the Southwest Florida Water Management District jurisdictional boundaries that have conducted mitigation through the FDOT Mitigation Program. These include FDOT District 1 (Bartow), District 5 (Deland), District 7 (Tampa), District 8 (Florida's Turnpike, Orlando), Tampa-Hillsborough Expressway Authority, and the Tampa International Airport, collectively referred to as FDOT. From 1996 through 2013, there are 141 construction projects with wetland impacts totaling 556.40 acres mitigated through the FDOT Mitigation Program.

Over the years, a number of FDOT projects for which mitigation projects were developed have been removed from the FDOT Mitigation Program, including 14 projects having a total of 24.86 acres of wetland impact in this year's Plan (includes only projects previously listed in the 2013 Plan). The FDOT projects being deleted and the reasons for deletion are shown in Table One.

Table One: FDOT Road Improvement Projects that are deleted in the 2014 FDOT Mitigation Program from impacts included in the 2013 Plan, and the reason for deletion.

Delete Reason	Number of Projects	Wetland Impacts (acres)
Permit application date is outside FDOT planning horizon	0	0
Combined with another FDOT project	0	0
Dropped from the FDOT work program	1	0.5
Wetland impacts to be offset at a Private Mitigation Bank	7	18.94[1]
Permitted without mitigation required	6	4.42
Mitigation is not available	1	1.0

[1]Does not include 5 projects totaling 1.06 acres of impacts that were added in 2014 (i.e. not included in the 2013 Plan).

Currently, there are 34 construction projects that are active (i.e. not yet fully permitted), of which 9 are added to the Program, that require mitigation to be provided through the FDOT Mitigation Program. A total of 132.93 acres of wetland impact associated with these active projects are planned to be offset through the FDOT Mitigation Program.

Tables Two through Fourteen list all of the FDOT projects that have been permitted with mitigation provided through the FDOT Mitigation Program. State (Environmental Resource Permit) and Federal (Army Corps of Engineers) permit numbers are shown for projects that have been permitted. Also listed are the FDOT projects that remain in, are added to or deleted from the FDOT Mitigation Program. Projects deleted are highlighted in yellow and projects that are added are highlighted in green. Detailed information, including location, projected permitting and construction dates, impact acreage and impact habitat type for all FDOT projects in the FDOT Mitigation Program is provided in the table appended as Appendix C.

Table Two: FDOT Road Improvement Projects in the Alafia River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
4154892	US 301, Balm Road to Gibsonton Drive	Permitted	0.30	SW 81 - Balm Boyette
4131361	McMullen Road from Balm Riverview to Boyette Road	Permitted	0.20	SW 81 - Balm Boyette

Table Three: FDOT Road Improvement Projects in the Charlotte Harbor Drainage

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
4130423	I-75 from Tucker's Grade to N. Jones Loop Road	Permitted	1.10	SW 52 - Little Pine Island Mit. Bank

Table Four: FDOT Road Improvement Projects in the Hillsborough River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
2012081	I-4 - County Line to Memorial Blvd. -Sec. 1	Permitted	13.55	SW 55 - U.H. 4&5
2012171	I-4 West of Memorial Blvd. to west of US 98 - Sec. 2	Permitted	4.30	SW 61 - Jennings Tract
2562432	SR 52 (Schrader Hwy) from CR 581 (Bellamy Br) to Old Pasco Rd	2014-active	2.50	SW 77 - Conner Preserve
2555361	SR 39, Blackwater Creek Bridge Replacement	Permitted	2.10	SW 61 - Jennings Tract
2555851	SR 39 (Alexander St) I-4 to Knights Griffin Rd.	Permitted	14.20	SW 84 - Colt Creek State Park
2558591	SR 678 (Bearss Ave.) Florida Ave. to Nebraska	Permitted	0.10	SW 61 - Jennings Tract
2558934	SR 574 (MLK Blvd) from East of Kingsway Rd to E of McIntosh Rd	2014-new	0.10	SW 77 - Conner Preserve
2563151	US 41 Bell Lake to Tower Road	Permitted	1.10	SW 63 - Hills. River Corridor
2563341	SR 52 US 41 to CR 581	2014-active	19.00	SW 77 - Conner Preserve
2564222	US 301 (SR 41) SR 39 to South of CR 54	2014-active	0.10	SW 77 - Conner Preserve
2563431	SR 54 US 41 to Cypress Creek	Permitted	14.20	SW 34 - Lake Thonotasassa
2578623	Sam Allen Rd; from Alexander St to Park Rd	2014-active	2.45	SW 77 - Conner Preserve
2587362	I-75 (SR 93) from N of SR/CR 54 to N of SR 52 (Design-Build)	Permitted	1.63	SW 77 - Conner Preserve
2578071	Bruce B. Downs Bike Path Amberly Dr. - Hunter's Green	Permitted	0.50	SW 61 - Jennings Tract
2578072	Bruce B. Downs Bike Path Tampa Limits to Amberly Dr.	Permitted	0.20	SW 61 - Jennings Tract
2578391	Alexander Street US 92 to I-4	Permitted	2.60	SW 61 - Jennings Tract
2578622	Park Road I-4 (SR 400) to Sam Allen Rd.	Permitted	0.81	SW 84 - Colt Creek State Park

2584131	SR 93 (I-275) US 41 to Pasco Co. Line	Permitted	7.60	SW 61 - Jennings Tract
2584491	I-4 (SR 400) at Alexander Street Ramp	Permitted	1.70	SW 61 - Jennings Tract
2587341	SR 56, Cypress Creek to CR 581 (B.B. Downs)	Permitted	5.30	SW 61 - Jennings Tract
4110142	I-75 (SR 93) from N of SR 52 TO Pasco/Hernando C/L (design-build)	Permitted	11.12	SW 77 - Conner Preserve
4165612	SR 54 from CR 577/Curlew Rd to CR 579/Morris Bridge Rd	2014-active	2.58	SW 77 - Conner Preserve
4079441	I-75 Northbound Rest Area	Permitted	1.20	SW 84 - Colt Creek State Park
4079442	I-75 Southbound Rest Area	Permitted	1.00	SW 84 - Colt Creek State Park
4084592	I-75 Fowler Avenue to CR 581	Permitted	23.79	SW 84 - Colt Creek State Park
4084593	I-75 - CR 581 (BB Downs) to SR 56 (Mainline)	Permitted	16.10	SW 84 - Colt Creek State Park
4084594	I-75 SR 56 to S of CR 54	Permitted	11.90	SW 84 - Colt Creek State Park
4084602	I-75 Off-Ramp at CR 581	Permitted	0.50	SW 61 - Jennings Tract
4089321	SR 39 @ Hillsborough River	Permitted	1.70	SW 84 - Colt Creek State Park
4113371	US 92 - Eureka Springs to Thonotasassa Rd.	Permitted	1.65	SW 84 - Colt Creek State Park
4218311	I-75 - CR 581 (BB Downs) to SR 56 ("Waddah Ramps")	Permitted	30.70	SW 84 - Colt Creek State Park
4218314	I-75 S of CR 54 to N of CR 56	Permitted	17.34	SW 84 - Colt Creek State Park
4289611	SR 39/James L Redman from SR 60(Hopewell Rd) to N of Charlie Grif	2014-Deleted	0.33	SW 77 - Conner Preserve
4311371	SR 574/MLK Jr Blvd from E of McIntosh Rd to W of Wheeler Ct	2014-Deleted (2013 New)	0.20	SW 77 - Conner Preserve
4306851	SR 574 / MLK Blvd at Gallagher Road	2014-Active	0.20	SW 77 - Conner Preserve

Projects highlighted in green are newly added to the Program in 2014.
Projects highlighted in yellow have been removed from the Program in 2014 and acreages do not count towards totals.

Table Five: FDOT Road Improvement Projects in the Kissimmee Ridge Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
1945101	US 27 Lake Glenada to Hal McRae	Permitted	0.39	SW 49 - Reedy Ck. Mit. Bank
2012041	I-4, East of CR 557 to Osceola County (Sec. 6-7,9)	Permitted	2.35	SW 49 - Reedy Ck. Mit. Bank

Table Six: FDOT Road Improvement Projects in the Little Manatee River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
4154893	US 301, Sun City Center to Balm Road	Permitted	0.90	SW 83 - Little Manatee River, Lower Tract

[1] All impacts are reported with the segment located in Tampa Bay Drainage basin (FM 4245501)

Table Seven: FDOT Road Improvement Projects in the Manatee River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
1960222	SR 64 (Seg. 1) I-75 to Lena Rd.	Permitted	2.42	SW 65 - Rutland Ranch
1960223	SR 64 (Seg. 2) Lena Rd. to Lakewood Ranch Rd.	Permitted	0.84	SW 65 - Rutland Ranch
1960224	SR 64 (Seg. 3) Lakewood Ranch to Lorraine Rd.	Permitted	4.06	SW 80 - Hidden Harbour
1961211	SR 70 (Seg. 1) I-75 to Lakewood Ranch Rd.	Permitted	1.40	SW 65 - Rutland Ranch
4043232	SR 70 (Seg. 2) Lake Ranch Rd. to Lorraine Rd.	Permitted	3.62	SW 65 - Rutland Ranch
4161201	SR 64 Carlton Arms Blvd. to I-75	Permitted	0.78	SW 80 - Hidden Harbour
4226031	US 301 (Seg. B) Erie Road to CR 675	Permitted	2.73	SW 80 - Hidden Harbour
2010322	I-75 at SR 70 Interchange	2014 New	9.45	Mitigation by FDOT
2010324	I-75 at University Pkwy – Manatee	2014 new	1.30	Mitigation by FDOT
2010325	I-75 at US 301	2014 new	3.00	Mitigation by FDOT

Projects highlighted in yellow have been removed from the Program in 2014 and acreages do not count towards totals.

Table Eight: FDOT Road Improvement Projects in the Myakka River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
1937941	SR 776 CR 771 to Willow Bend Rd.	Permitted	2.08	SW 52 - Little Pine Island Mit. Bank

1937941	SR 776 CR 771 to Willow Bend Rd.	Permitted	8.88	SW 31 - Cattle Dock
1979251	SR 72 Big Slough to DeSoto C/L	Permitted	1.49	SW 51 - Myakka River State Park
1980131	SR 72 Deer Prairie to Big Slough	Permitted	0.87	SW 51 - Myakka River State Park
4138871	SR 72 Myakka River to Big Slough	Permitted	5.00	SW 51 - Myakka River State Park

Table Nine: FDOT Road Improvement Projects in the Ocklawaha River

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
238641	US 27 Levy Co. Line to SR 326	Permitted	3.50	SW 58 - Ledwith Prairie
238679	US 27 SR 326 to CR 225a	Permitted	1.09	SW 58 - Ledwith Prairie
238719	SR 40 CR 328 to SW 80th	Permitted	0.08	SW 58 - Ledwith Prairie
1976791	US 27 SR 544 to Blue Heron Bay	Permitted	0.46	SW 76 - Lake Lowery
2012041	I-4 East of CR 557 to Osceola County (Sec. 6-7,9)	Permitted	4.35	SW 76 - Lake Lowery
4038901	US 27 Blue Heron Bay to CR 547	Permitted	1.90	SW 76 - Lake Lowery

Table Ten: FDOT Road Improvement Projects in the Peace River

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
1937911	US 17 (SR 35) CR 74 to CR 764 North	Permitted	0.27	SW 53 - Boran Ranch Mit. Bank
1937981	US 17 (SR35) CR 764 South to CR 764 North	Permitted	3.60	SW 53 - Boran Ranch Mit. Bank
1938851	SR 72 Sarasota Co. Line to SR 70	Permitted	1.19	SW 53 - Boran Ranch Mit. Bank
1938991	US 17 Livingston to Hardee County Line	Permitted	11.59	SW 66 - Circle B Bar Reserve
1940931	US 17 (SR 35) Peace River to Tropicana Rd.	Permitted	4.42	SW 66 - Circle B Bar Reserve
1941021	US 17 (SR 35) SR 64 to Peace River Bridge	Permitted	2.30	SW 53 - Boran Ranch Mit. Bank
1971681	SR 60A (Van Fleet Dr.) CR 555 to Broadway Ave.	Permitted	0.46	SW 66 - Circle B Bar Reserve
1974711	SR 540 (Cypress Gardens) 9th Street to Overlook	Permitted	0.41	SW 47 - Tenoroc/Saddle Creek
1974751	SR 540 (Cypress Gardens) Thornhill Rd. to Recker Hwy.	Permitted	5.87	SW 47 - Tenoroc/Saddle Creek

1975331	US 27 Towerview Rd. to SR 540	Permitted	3.90	SW 66 - Circle B Bar Reserve
1976381	US 98 - Carpenter's Way to Daugherty Road	Permitted	0.10	SW 66 - Circle B Bar Reserve
1976791	US 27 SR 544 to Blue Heron Bay	Permitted	1.50	SW 66 - Circle B Bar Reserve
1977014	SR 559 Extension SR 655 (Recker Hwy) to Derby Ave.	Permitted	0.39	SW 66 - Circle B Bar Reserve
1977051	US 27 SR 60 to Towerview Blvd.	Permitted	0.19	SW 66 - Circle B Bar Reserve
1977061	US 27 SR 540 to SR 542	Permitted	3.94	SW 66 - Circle B Bar Reserve
1977071	US 27 SR 542 to CR 546	Permitted	0.60	SW 66 - Circle B Bar Reserve
1984711	Trabue Harborwalk Bike Path	Permitted	0.16	SW 52 - Little Pine Island Mit. Bank
1986371	Ft. Green/Ona (Seg. 2) Vandola to North of Vandolah Rd.	Permitted	7.22	SW 53 - Boran Ranch Mit. Bank
1986381	Ft. Green/Ona (Seg. 3) SR 64 to Vandolah Rd.	Permitted	5.23	SW 53 - Boran Ranch Mit. Bank
1986401	Ft. Green/Ona Road (Seg. 1) Vandolah to SR 62	Permitted	2.08	SW 53 - Boran Ranch Mit. Bank
2012092	I-4, East of US 98 to East of CR 557 (Sec. 3-5)	Permitted	1.88	SW 47 - Tenoroc/Saddle Creek
4046971	I-75 Bridge Widening over Peace River	Permitted	2.75	SW 52 - Little Pine Island Mit. Bank
4046971	I-75 Bridge Widening over Peace River	Permitted	3.31	SW 69 - Peace Restor.
4082685	US 98 Manor Drive to CR 540A	Permitted	0.63	SW 66 - Circle B Bar Reserve
4110391	US 27 CR 546 to SR 544	Permitted	1.96	SW 66 - Circle B Bar Reserve
4154901	US 17 Charlotte C.L. to SW Collins	Permitted	2.23	SW 85 - Peace River Mit. Bank
4154901	US 17 Charlotte C.L. to SW Collins	Permitted	1.98	SW 53 - Boran Ranch Mit. Bank
4251371	SR 17 @ Mountain Lake Cutoff Intersection Improvements	Permitted	0.16	SW 66 - Circle B Bar Reserve

Table Eleven: FDOT Road Improvement Projects in the South Coastal Drainage

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
1979421	SR 789 Ringling Causeway Blvd.	Permitted	0.27	SW 88 - Curry Creek ROMA
1980051	US 41 Bus. (SR 45) Venice Ave. to US 41 Bypass	Permitted	0.32	SW 88 - Curry Creek ROMA

4063143	I-75 N. River Rd. (CR 577) to SR 681	Permitted	14.55	SW 79 - Fox Creek ROMA
4063143	I-75 N. River Rd. (CR 577) to SR 681	Permitted	0.77	SW 88 - Curry Creek ROMA

Table Twelve: FDOT Road Improvement Projects in the Tampa Bay Drainage[1]

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
2555991	SR 676 (Causeway Blvd.) US 301 to US 41	Permitted	1.40	SW 71 - Boyd Hill Nature Preserve
2555991	SR 676 (Causeway Blvd.) US 301 to US 41	Permitted	1.40	SW 56 - Cockroach Bay (Fresh)
2556301	SR 60 Courtney Campbell to Fish Creek	Permitted	12.20	SW 45 - Gateway Tract
2557031	SR 60 Cypress St. to Fish Creek	Permitted	5.40	SW 75 - Cockroach Bay (Salt)
2557031	SR 60 Cypress St. to Fish Creek	Permitted	0.80	SW 56 - Cockroach Bay (Fresh)
2557031	SR 60 Cypress St. to Fish Creek	Permitted	10.70	SW 67- Apollo Beach
2557031	SR 60 Cypress St. to Fish Creek	Permitted	5.10	SW 62 - Tappan Tract
2557341	SR 676 Maritime Blvd. to SR 60	Permitted	1.50	SW 45 - Gateway Tract
2558881	US 301 Sligh Ave. to Tampa Bypass Canal	Permitted	8.30	SW 71 - Boyd Hill Nature Preserve
2558881	US 301 Sligh Ave. to Tampa Bypass Canal	Permitted	3.00	SW 56 - Cockroach Bay (Fresh)
2558935	SR 574 (MLK) @ I-75	Permitted	0.21	SW 90 - Brooker Ck. Buffer Preserve
2569951	43rd St N Extension from CR 296 (118th Ave N) to 40th Street N	2014-active	0.76	SW 87 – Alligator Lake
2569952	43rd St N Extension from CR 296 (118th Ave N) to 40th Street N	2014-active	0.72	SW 86 - Mobbly Bayou
2568811	US 19 (SR 55) Whitney Rd. to Seville Dr.	Permitted	0.50	SW 86 - Mobbly Bayou
2568812	US 19 (SR 55) Seville Dr. to SR 60	Permitted	0.20	SW 56 - Cockroach Bay (Fresh)
2568881	US 19 Coachman Rd. to Sunset Rd.	Permitted	0.40	SW 71 - Boyd Hill Nature Preserve
2569051	SR 679 (Bayway) Bunces Pass Bridge # 150	Permitted	0.60	SW 45 - Gateway Tract
2569961	SR 686 at CR 611 (49th St)	2014-deleted	0.70	SW 86 - Mobbly Bayou

2569312	Gandy Blvd. (SR 694) 9th Street to 4th Street North	Permitted	3.31	SW 86 - Mobbly Bayou
2569571	US 19 SR 60 (Drew St.) to Railroad Crossing	Permitted	0.50	SW 56 - Cockroach Bay (Fresh)
2569941	CR 296 Connector 40th St. to 28th St.	Permitted	1.00	SW 56 - Cockroach Bay (Fresh)
2569942	CR 296 Connector NB I-275 (Ramp P) to WB SR 686	Permitted	1.10	SW 56 - Cockroach Bay (Fresh)
2569971	SR 686 (Roosevelt) from 49th St Bridge to N of Ulmerton Rd	2014-renewed	2.29	SW 86 - Mobbly Bayou
2569981	SR 686 from W of I-275 to W of 9th St N	2014-active	2.80	SW 86 - Mobbly Bayou
2570701	US 19 (SR 55) 49th St. to 118th Avenue	Permitted	0.10	SW 71 - Boyd Hill Nature Preserve
2571391	SR 688 (Ulmerton Rd.), US 19 to 49th Street	Permitted	0.10	SW 75 - Cockroach Bay (Salt)
4055252	SR 60 (Adamo Dr) from E of US 301 to W of Falkenburg Rd	2014-deleted	0.86 (increase from 0.01)	SW 90 - Brooker Ck. Buffer Preserve
4061511	Veteran's Expressway Memorial Hwy. to Gunn Hwy.	Permitted	6.40	SW 78 - Bahia Beach
2583982	I-275 Howard Franklin to Himes Ave.	Permitted	1.50	SW 45 - Gateway Tract
2584151	I-4 (SR 400) @ Selmon Expressway	Permitted	6.40	SW 86 - Mobbly Bayou
2588701	I-275 Roosevelt to Big Island Gap	Permitted	9.10	SW 45 - Gateway Tract
4037701	US 19, CR 816 (Alderman) to SR 582 (Tarpon)	Permitted	0.10	SW 71 - Boyd Hill Nature Preserve
4062531	SR 686 (Roosevelt) at 49th Street	Permitted	0.20	SW 45 - Gateway Tract
4062561	East-West Trail, Coopers Bayou to Bayshore	Permitted	0.10	SW 71 - Boyd Hill Nature Preserve
4082011	Himes Ave. at Hillsborough Ave.	Permitted	0.10	SW 71 - Boyd Hill Nature Preserve
4091551	SR 688 (Ulmerton Rd.) Lake Seminole to Wild Acres	Permitted	0.02	SW 86 - Mobbly Bayou
4113371	US 92 Eureka Springs to Thonotosassa Rd.	Permitted	0.20	SW 82 - Ekker Tract
4125313	I-275 @ I-275 NB Off-Ramp to SR 60 Airport Flyover	Permitted	0.90	SW 86 - Mobbly Bayou
4143481	36R RPZ (TIA)	Permitted	7.18	SW 78 - Bahia Beach
4142481	36R RPZ (TIA)	Permitted	0.55	SW 90 – Brooker Creek

4143481	Taxiway V&W	Permitted	0.66	SW 78 - Bahia Beach
4143481	Taxiway B rehab, Bridge and N. Terminal Stormwater	Permitted	3.29	SW 78 - Bahia Beach
4143481	North Terminal Phase 1	2014-Active	2.48	SW 90 - Brooker Ck. Buffer Preserve
4143481	Airfield Drainage Rehab (fkaTaxiway N Overpass)	Permitted	2.85	SW 78 - Bahia Beach
4143481	Runway 17-35	2014-Active	6.72	SW 78 - Bahia Beach
4143481	Taxiway S West Extension	2014-Active	0.43 (decreased from 0.85)	SW 78 - Bahia Beach
4143481	Taxiway E Reconstruction	2014-deleted	2.87	SW 78 - Bahia Beach
4143481	North Terminal Airside 2	2014-Active	5.29	SW 90 - Brooker Ck. Buffer Preserve
4143481	North Terminal Airside 3	2014-Active	4.29	SW 90 - Brooker Ck. Buffer Preserve
4143481	North Terminal Airside 4	2014-Active	3.66	SW 90 - Brooker Ck. Buffer Preserve
4143481	Taxiway A Extension	2014-Active	1.27	SW 90 - Brooker Ck. Buffer Preserve
4143481	East Development Area (Drew Park Improvements)	2014-Active	0.63	SW 78 - Bahia Beach
4143481	South Development Area	2014-Active	3.94	SW 90 - Brooker Ck. Buffer Preserve
4143481	High Speed Txwy for RW18R (fna Taxiway "W3")	Permitted	2.20	SW 78 - Bahia Beach
4143481	Cargo/ Ground Support Equip. Facility	Permitted	0.63	SW 78 - Bahia Beach
4154892	US 301, Balm Road to Gibsonton Drive	Permitted	11.50	SW 82 - Ekker Tract
4154893	US 301, Sun City Center to Balm Road	Permitted	2.00	SW 71 - Boyd Hill Nature Preserve
4154893	US 301, Sun City Center to Balm Road	Permitted	3.20	SW 82 - Ekker Tract
4168381	US 92 (SR 600 / Gandy) Pelican Sound to Gandy Bridge	Permitted	1.50	SW 86 - Mobbly Bayou
4245611	SR 60 - Pinellas/Hillsborough C.L. to Rocky Point Dr.	Permitted	0.06	SW 86 - Mobbly Bayou

4230801	I-275/SR 93 Southbound @ Bunces Pass	2014-renewed (2013-deleted)	0.10	SW 86 - Mobbly Bayou
4290081	SR 597 Dale Mabry from County Line Rd to N of Brinson Rd	Permitted	0.25	SW 87 - Alligator Lake
4290741	US 41/SR45/599/50th from N of 27th Ave S to N of E 10th Ave	2014-Deleted	0.10	
N/A	Lee Roy Selmon Crosstown Extension - Temporary Haul Road	Permitted	0.21	SW 82 - Ekker Tract
4293501	Veteran's Expressway Gunn Hwy. to Van Dyke	2014-renewed	3.00	SW 78 - Bahia Beach

Projects highlighted in green are newly added to the Program in 2014.
Projects highlighted in yellow have been removed from the Program in 2014 and acreages do not count towards totals.
[1]The following FM Nos. were provided to the District in 2014 as projects going directly to the Tampa Bay Mitigation Bank and are not included in the table above: 2570861, 4080752, 4290741, 4309001, 4325341 (totaling 0.50 acres of impact).

Table Thirteen: FDOT Road Improvement Projects in the Upper Coastal Drainage

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
2563231	SR 52 (Shcrader Hwy) from W of Suncoast Pkwy to E of US 41 (SR 45)	2014-active	12.5	SW 77 - Conner Preserve
2563161	SR 52 Hicks to Moon Lake Rd.	Permitted	1.60	SW 74 - Serenova - Sites 2,3,4,8
2563221	SR 52 Moon Lake to Suncoast Parkway	Permitted	6.70	SW 77 - Conner Preserve
2563242	US 41: from Ridge Rd to N of SR 52	2014-active	9.50	SW 77 - Conner Preserve
2563241	US 41 (SR 45) Tower Rd. to Ridge Road	Permitted	8.85	SW 77 - Conner Preserve
2563321	SR 54 - Rowan Rd. to Mitchell Bypass	Permitted	3.68	SW 77 - Conner Preserve
2563341	SR 52 US 41 to CR 581	2014-active	4.00 (decrease from 10.00)	SW 77 - Conner Preserve
2563361	SR 54 Mitchell to Gunn	Permitted	6.60	SW 54 - Anclote Parcel
2563371	SR 54 - Gunn Highway to Suncoast Parkway	Permitted	6.00	SW 77 - Conner Preserve
2563391	SR 54 N. Suncoast to US 41	Permitted	7.00	SW 54 - Anclote Parcel
2567742	US 19 from N of SR 580 to Northside	2014-active	0.50	SW 77 - Conner Preserve
2568151	SR 586 (Curlew Rd.) CR 1 to Fisher Road	Permitted	0.08	SW 77 - Conner Preserve

2569031	SR 682 (Bayway Bridge) SR 679 to W. Toll Plaza	Permitted	0.80	SW 70 - Ft. DeSoto Park
2589581	Suncoast Parkway and Ridge Road Interchange	2014-active	2.33	SW 77 - Conner Preserve
2570501	SR 688 (Ulmerton Rd.) Oakhurst Rd. to 119th St.	Permitted	0.20	SW 77 - Conner Preserve
2570831	SR 699 (Gulf Blvd.) - 192nd Ave. to Walsingham/Ulmerton Rd.	Permitted	0.10	SW 70 - Ft. DeSoto Park
2570931	SR 60, Clearwater Harbor Bridge Replacement	Permitted	1.50	SW 45 - Gateway Tract
4058223	US 19 (SR 55) Jump Court to Ft. Island Trail	Permitted	8.84	SW 77 - Conner Preserve
2571741	US 98 Hernando Co. Line to US 19	Permitted	1.40	SW 77 - Conner Preserve
2572982	CR 578 (County Line Rd.) US 19 to East Rd.	Permitted	0.55	SW 77 - Conner Preserve
2572983	CR 578 (CLR) FROM East Rd to Mariner Blvd	Permitted	0.21	SW 77 - Conner Preserve
2572985	CR 578 (County Line Rd.) Suncoast Parkway to US 41	Permitted	0.29	SW 77 - Conner Preserve
4110142	I-75 (SR 93) from N of SR 52 to Pasco/Hernando C/L (design-build)	Permitted	0.92	SW 77 - Conner Preserve
4037711	US 19 - Republic Drive to CR 816 (Alderman Rd.)	Permitted	0.10	SW 77 - Conner Preserve
4058222	US 19 (SR 55) Green Acres to Jump Ct.	Permitted	0.53	SW 77 - Conner Preserve
4079513	SR 50 US 19 to Mariner Dr.	Permitted	1.25	SW 77 - Conner Preserve
4091541	SR 688 (Ulmerton) - Wild Acres to El Centro/Ranchero Blvd.	Permitted	0.64	SW 77 - Conner Preserve
4107552	SR 679 (Pinellas Bay Structure E) at Intercoastal Waterway	Permitted	0.40	SW 70 - Ft. DeSoto Park
4188602	US 19 (SR 55) Continuous Right Turn Lane	Permitted	0.40	SW 77 - Conner Preserve
4271571	US 19 (SR 55) from New York Ave to Pasco/Hernando C/L	2014-deleted	0.02	SW 77 - Conner Preserve
4300211	CR490A/Halls River from W of Halls River to E of Halls River	2014-renewed (2013-deleted)	0.60	SW 77 - Conner Preserve
4306601	Alt US19 (SR 595) from N of SR 586/Curlew Rd to N of Whisper Lake Rd	2014-deleted	1.00	
4311431	US 41 (SR 45/Broad) from S of CR 572/Powell Rd to S of Pine Cabin Rd	2014 New	0.1	SW 77 - Conner Preserve

4303811	SR 52/Schrader Hwy @ US 41/SR 45	2014 New	0.1	SW 77 - Conner Preserve

Projects highlighted in green are newly added to the Program in 2014.
Projects highlighted in yellow have been removed from the Program in 2014 and acreages do not count towards totals.

Table Fourteen: FDOT Road Improvement Projects in the Withlacoochee River Basin

FM No.	Project Description	FDOT Project Status	Total Impacted Acreage	Mitigation Location
2012041	I-4 East of CR 557 to Osceola County (Seg. 6-7,9)	Permitted	3.88	SW 59 - Hampton Tract
2012092	I-4 East of US 98 to East of CR 557 (Sec. 3-5)	Permitted	18.88	SW 59 - Hampton Tract
2426263	I-75 Hernando Co. Line to Florida Turnpike	2014-active	9.35	SW 84 - Colt Creek State Park
2571651	US 41 from SR 44 to SR 200	2014-active	0.70	SW 92 -Halpata Tastanki Preserve
2571631	SR 44 US 41 to CR 470	Permitted	7.90	SW 64 - Withlacoochee S.F. - Baird
2571641	SR 44 CR 470 to Withlacoochee River	Permitted	13.90	SW 64 - Withlacoochee S.F. - Baird
2571841	US 41 (SR 45) Watson St. to SR 44 East	Permitted	0.10	SW 64 - Withlacoochee S.F. - Baird
4110113	I-75 (SR 93) from Pasco/Hernando C/L to US98/N SR50/Cortez Blvd	2014-Active	6.57	SW 84 – Colt Creek State Park
4110114	I-75 (SR 93) from Pasco/Hernando C/L to US98/N SR50/Cortez Blvd	2014-Active	0.34	SW 84 – Colt Creek State Park
4110142	I-75 (SR 93) from N of SR 52 to Pasco/Hernando C/L (design-build)	Permitted	3.17	SW 84 - Colt Creek State Park
4230961	SR 33 at CR 474	2014-deleted	1.00	SW 92 -Halpata Tastanki Preserve
4245241	SR 50 Bridge Removal over Van Fleet Trail	2014-deleted	0.50	SW 84 - Colt Creek State Park
4063291	I-75 Lk. Panasoffkee Bridge	Permitted	5.93	SW 57 - Lake Panasoffkee
4092071	CR 470 (Gospel Isle)	Permitted	0.30	SW 64 - Withlacoochee S.F. - Baird
4295821	I-75/ SW 95th St. Interchange	2014-deleted	0.00	SW 92 -Halpata Tastanki Preserve
4312431	US 98/US 301/Gall Blvd from N of Kossik Rd to Bougainvillea Ave	2014-deleted	0.2	SW 84 - Colt Creek State Park

4061101	Turnpike/I-75 Interchange-Wildwood	2014 Renewed	18.00	Colt Creek State Park[1]
4167323	SR 50 from US 98/McKethan Rd to US 301	2014 New	3.85	SW 84 - Colt Creek State Park
4167324	SR 50 from Windmere Rd/Bronson Bl to US 98/McKethan Rd	2014-deleted	3.44	

Projects highlighted in green are newly added to the Program in 2014.
Projects highlighted in yellow have been removed from the Program in 2014 and acreages do not count towards totals.

[1]A portion of this may be mitigated at a bank if credits are available when permits are applied for. There are an additional 2 acres of impacts associated with this project which have not been accepted to the mitigation program because there is no mitigation of the correct type available in the program.

MITIGTION BANK EVALUATION

Chapter 373.4137, F.S., which establishes the FDOT Mitigation Program, requires that the District consider the "purchase of credits from public or private mitigation banks permitted under s. 373.4136 and associated federal authorization and shall include the purchase as a part of the mitigation plan when the purchase would offset the impact of the transportation project, provide equal benefits to the water resources than other mitigation options being considered, and provide the most cost-effective mitigation option." Very few mitigation banks were available for use for approximately the first ten years of the FDOT Mitigation Program. As mitigation banks became available, the purchase of mitigation bank credits was considered in accordance with the statute. To date, mitigation for 17 FDOT road improvement projects is provided at one or more mitigation banks. The road improvement projects and the mitigation banks that have been used are listed in Table Fifteen. Descriptions of the mitigation banks used are included in the FDOT Mitigation Project Details section.

Table Fifteen: FDOT Road Improvement Projects for which mitigation is provided by mitigation bank credit purchased through the FDOT Mitigation Program.

FM No.	Project Description	Mitigation Location	Total Impacted Acreage
1937911	US 17 (SR 35) CR 74 to CR 764 North	SW 53 - Boran Ranch Mit. Bank	0.27
1937941	SR 776 CR 771 to Willow Bend Road	SW 52 - Little Pine Island Mit. Bank	2.08
1937981	US 17 (SR35) CR 764 South to CR 764 North	SW 53 - Boran Ranch Mit. Bank	3.60
1938851	SR 72 Sarasota Co. Line to SR 70	SW 53 - Boran Ranch Mit. Bank	1.19
1941021	US 17 (SR 35) SR 64 to Peace River Bridge	SW 53 - Boran Ranch Mit. Bank	2.30
1945101	US 27 Lake Glenada to Hal McRae	SW 49 - Reedy Ck. Mit. Bank	0.39
1979421	SR 789 Ringling Causeway Blvd.	SW 88 - Curry Creek ROMA	0.27
1980051	US 41 Bus. (SR 45) Venice Ave. to US 41 Bypass	SW 88 - Curry Creek ROMA	0.32
1984711	Trabue Harborwalk Bike Path	SW 52 - Little Pine Island Mit. Bank	0.16
1986371	Ft. Green/Ona (Seg. 2) Vandola to North of Vandolah	SW 53 - Boran Ranch Mit. Bank	7.22

1986381	Ft. Green/Ona (Seg. 3) SR 64 to Vandolah Rd.	SW 53 - Boran Ranch Mit. Bank	5.23
1986401	Ft. Green/Ona Road (Seg. 1) Vandolah to SR 62	SW 53 - Boran Ranch Mit. Bank	2.08
2012041	I-4, East of CR 557 to Osceola County (Sec. 6-7,9)	SW 49 - Reedy Ck. Mit. Bank	2.35
4046971	I-75 Bridge Widening over Peace River	SW 52 - Little Pine Island Mit. Bank	2.75
4063143	I-75 N. River Rd. (CR 577) to SR 681	SW 79 - Fox Creek ROMA	14.55
4063143	I-75 N. River Rd. (CR 577) to SR 681	SW 88 - Curry Creek ROMA	0.77
4130423	I-75 from Tucker's Grade to N. Jones Loop Road	SW 52 - Little Pine Island Mit. Bank	1.10
4154901	US 17 Charlotte C.L. to SW Collins	SW 85 - Peace River Mit. Bank	2.23
4154901	US 17 Charlotte C.L. to SW Collins	SW 53 - Boran Ranch Mit. Bank	1.98

The largest difficulty in performing a mitigation bank analysis when the FDOT Mitigation Plan is developed is determining whether mitigation bank credit will be available and whether the purchase would be the most cost effective mitigation option at the time the FDOT project is submitted for permitting. With mitigation bank options and FDOT mitigation needs constantly changing, this mitigation bank analysis becomes quickly outdated.

This situation is best remedied by performing an evaluation as to whether a mitigation bank may be used at the time the permit application is being prepared. This concept was included in the 2012 Mitigation Plan. Also in 2012, revisions to the statute that directs how the FDOT Mitigation Program is to be implemented require that the FDOT perform a mitigation bank analysis when determining which projects are submitted for inclusion in the FDOT Mitigation Program. The initial inventory is developed in July of each year and finalized in December of that year for the Plan to be finalized by March 1st of the following year. These factors, combined with the federal permitting requirement that a mitigation bank evaluation be conducted in the course of evaluating a permit application, result in three mitigation banks being used or proposed to be used for 12 FDOT projects. These projects are listed in Table Sixteen. Since mitigation for these projects is provided outside the FDOT Mitigation Program, project descriptions for these mitigation banks are not included in the FDOT Mitigation Project Details section.

Table Sixteen: FDOT Road Improvement Projects for which mitigation is proposed to be provided by mitigation bank credit purchased directly by the FDOT[1].

FM No.	Project Description	Mitigation Bank(s) Evaluated	Mitigation Bank Use (acres)
2569951	43rd St N Extension from CR 296 (118th Ave N) to 40th Street N	Tampa Bay Mitigation Bank	2.79
2569952	43rd St N Extension from CR 296 118th Ave N) to 40th Street N	Tampa Bay Mitigation Bank	0.72
2569961	SR 686 at CR 611 (49th St)	Tampa Bay Mitigation Bank	0.70
4110142	I-75 (SR 93) from N of SR 52 to Pasco/Hernando C/L (design-build)	Upper Coastal Mitigation Bank	13.41
2570861	SR 694 (Gandy Blvd) from East US19 (SR55) to E of I-275 (SR93)	Tampa Bay Mitigation Bank	0.10

4055252	SR 60 (Adamo Dr) from E of US 301 to W of Falkenburg Rd	Tampa Bay Mitigation Bank	0.86
4080752	US 301 (SR 39) from S of CR 54/Eiland Blvd to N of Kossik Rd	Tampa Bay Mitigation Bank	0.10
4167324	SR 50 from Windmere Rd./ Bronson Bl. To US 98/ McKethan Rd	Green Swamp Mitigation Bank	0.10
4230801	I-275/SR93 Southbound @ Bunces Pass	Tampa Bay Mitigation Bank	0.10
4309001	SR 687 from 106th Ave N to E of Big Island Gap	Tampa Bay Mitigation Bank	0.10
4325341	US 19 from 38th Avenue North to 44th Avenue North	Tampa Bay Mitigation Bank	0.66
4110142	I-75 (SR 93) from N of SR 52 to Pasco/Hernando C/L (design-build)	Hillsborough River Mitigation Bank	0.36

Projects highlighted in green are newly added to the Program in 2014.

[1]This a partial list of all mitigation bank credits purchased by the FDOT since not all FDOT Districts report this information with the inventories submitted for inclusion in the 2014 FDOT Mitigation Plan.
Projects highlighted in green are new in 2014.

As mentioned previously, statutory changes made in 2012 direct the FDOT to determine which projects to include or exclude from the mitigation plan by investigating the use of credits from a permitted mitigation bank before those projects are submitted for inclusion in the Plan. The FDOT considered public and private mitigation banks that have both state and federal permits as of December 2013 and have a service area in which the wetland impact is located. The cost analysis performed is a comparison of the cost per impact acre established by statute with the cost per credit based on information provided by the mitigation banker. Also, the type and amount of mitigation credits available were reviewed to determine whether wetland impacts could be offset with a public or private mitigation bank. The results of analyses for FDOT projects where a mitigation bank option was not identified are listed in Tables Seventeen through Twenty. These road improvement projects will remain in or are added to the FDOT Mitigation Program. However, at the time permit applications are prepared for these projects an updated mitigation analysis will be conducted by the FDOT to determine whether changes to the road improvement project or the available mitigation bank options now make it feasible to offset impacts at the mitigation bank instead of through the FDOT Mitigation Program.

Table Seventeen: Mitigation bank analysis for FDOT Road Improvement Projects in the Hillsborough River Basin[1].

FM No.	Project Description	Mitigation Bank (s) Evaluated	Mitigation Bank Comment
2562432	SR 52 (Schrader Hwy) from CR 581 (Ballamy Bro) to Old Pasco Rd	North Tampa Mitigation Bank	credit-amount
2564222	US 301 (SR 41) SR 39 to South of CR 54	North Tampa Mitigation Bank	credit-amount
2578623	Sam Allen Rd; from Alexander St to Park Rd	North Tampa Mitigation Bank	credit-type
2563341	SR 52 (Schrader Hwy) US 41 to CR 581	North Tampa Mitigation Bank	credit-type or cost
4165612	SR 54 from CR 577/Curlew Rd to CR 579/Morris Bridge Rd	North Tampa Mitigation Bank	credit-type
4306851	SR 574 / MLK Blvd at Gallagher Road	North Tampa Mitigation Bank	credit-cost

2558934	SR 574 (MLK Blvd) from East of Kingsway Rd to E of McIntosh Rd	North Tampa Mitigation Bank	credit-type

[1] Hillsborough River Mitigation Bank Federal Mitigation Banking Instrument is pending as of 11-14-2013.

Table Eighteen: Mitigation bank analysis for FDOT Road Improvement Projects in the Tampa Bay Drainage[1]

FM No.	Project Description	Mitigation Bank (s) Evaluated	Mitigation Bank Comment
2569981	SR 686 from W of I-275 to W of 9th St N	Tampa Bay Mitigation Bank	credit-type
4143481[2]	North Terminal Phase 1		See footnote 2
4143481	Runway 17-35		See footnote 2
4143481	Taxiway S West Extension		See footnote 2
4143481	North Terminal Airside 2		See footnote 2
4143481	North Terminal Airside 3		See footnote 2
2569951	43rd St N Extension from CR 296 (118th Ave N) to 40th Street N	Tampa Bay Mitigation Bank	credit-type
4143481	North Terminal Airside 4		See footnote 2
4143481	Taxiway A Extension		See footnote 2
4143481	East Development Area (Drew Park Improvements)		See footnote 2
4143481	South Development Area		See footnote 2
2569971	SR 686 (Roosevelt) from 49th St Bridge to N of Ulmerton Rd	Tampa Bay Mitigation Bank	credit-type
4230801	I-275/SR 93 Southbound @ Bunces Pass	Tampa Bay Mitigation Bank	credit-type
4293501	Veteran's Expressway Gunn Hwy. to Van Dyke	Tampa Bay Mitigation Bank	

[1] Easter Island Mitigation Bank Federal Mitigation Banking Instrument was pending as of 11-14-2013.
[2] Wetland impacts and mitigation for all Tampa International Airport improvement projects have been approved by conceptual permit issued before new requirements for mitigation bank analysis.

Table Nineteen: Mitigation bank analysis for FDOT Road Improvement Projects in the Upper Coastal Drainage Basin

FM No.	Project Description	Mitigation Bank (s) Evaluated	Mitigation Bank Comment
2589581	Suncoast Parkway and Ridge Road Interchange	Upper Coastal Mitigation Bank	
2563231	SR 52 (Schrader Hwy) from W of Suncoast Pkwy to E of US 41 (SR 45)	Upper Coastal Mitigation Bank	credit-type or cost
2563242	US 41from Ridge Rd to N of SR 52	Upper Coastal Mitigation Bank	credit-type or cost

2563341	SR 52 (SCHRADER HWY)US 41 to CR 581	Upper Coastal Mitigation Bank	credit-cost
2567742	US 19 from N of SR 580 to Northside	Upper Coastal Mitigation Bank	credit-type
4303811	SR 52/Schrader Hwy @ US 41/SR 45	Upper Coastal Mitigation Bank	credit-type
4311431	US 41 (SR 45/Broad) from S of CR 572/Powell Rd to S of Pine Cabin Rd	Upper Coastal Mitigation Bank	credit-type
4300211	CR490A/Halls River from W of Halls River to E of Halls River	Upper Coastal Mitigation Bank	credit-type or cost

Table Twenty: Mitigation bank analysis for FDOT road improvement projects in the Withlacoochee River Basin[1]:

FM No.	Project Description	Mitigation Bank (s) Evaluated	Mitigation Bank Comment
2571651	US 41 from SR 44 to SR 200	Green Swamp Mitigation Bank;	credit-cost
2426263	I-75 Hernando Co. Line to Florida Turnpike	Green Swamp Mitigation Bank;	credit-amount
4110113	I-75 (SR 93) FROM PASCO/HERNANDO CO/L TO US98/N SR50/CORTEZ BVD	Green Swamp Mitigation Bank;	credit-type or cost
4110114	I-75 (SR 93) FROM PASCO/HERNANDO CO/L TO US98/N SR50/CORTEZ BVD	Green Swamp Mitigation Bank	credit-type or cost
4061101	Turnpike/ I-75 Interchange-Wildwood		
4167323	SR 50 from US 98/ McKethan Rd. to US 301	Green Swamp Mitigation Bank	credit-type

[1] Withlacoochee Wetland Mitigation Bank Federal Mitigation Banking Instrument is pending as of 11-14-2013.

FDOT MITIGATION PROJECTS

There are a total 38 mitigation projects that have been established through the FDOT Mitigation Program contributing to the habitat protection and restoration priorities of various resource agencies. The distribution of projects among resource agencies and the number of FDOT Mitigation projects sponsored are listed in Table Twenty-One.

Table Twenty-One: Resource Agencies sponsoring FDOT Mitigation projects.

Project Resource Agency	Number of Projects
Southwest Florida Water Management District	10
Florida Department of Environmental Protection	4
Florida Department of Transportation	1 (on-site mitigation)
Florida Division of Forestry	1
Florida Fish and Wildlife Conservation Commission	1
Alachua County	1
Hillsborough County	9
Manatee County	1
Pinellas County	4
Polk County	2
Sarasota County	2 (Regional Offsite Mitigation Areas)
City of Tampa	1
City of St. Petersburg	1

Two notable mitigation projects are Ft. DeSoto Park (SW 70), a Pinellas County project, and Circle B Bar Preserve (SW 66), a Polk County project. The seagrass restoration at Ft. DeSoto is recognized by the National Oceanic and Atmospheric Administration with a Coastal America Partnership Award and Circle B Bar Preserve is recognized by both the Audubon of Florida and USA Today for the wildlife use of the habitats that have been restored.

The statute establishing the FDOT Mitigation Program specifies that mitigation projects focus on activities of the Water Management Districts and the Department of Environmental Protection such as Surface Water Improvement and Management (SWIM) projects, land acquisition and control of invasive and exotic plants to the extent these projects meet mitigation requirements for the FDOT road improvement projects. Mitigation projects that include these specified elements are tallied in Table Twenty-Two.

Table Twenty-Two: FDOT Mitigation Projects that include elements specified by Chapter 373.4137, F.S.

Project Type	Number of Projects
SWIM Projects	15
Land Acquisition	7
Aquatic/ Exotic Plan Control	14

The number of proposed FDOT projects having substantial wetland impacts for the FDOT Mitigation Program have declined, especially in recent years. With mitigation available through a mitigation bank or a mitigation project already adopted into the FDOT Mitigation Program, there has not been a need to add new mitigation projects to the Program since 2008. The three projects that were added in 2009 were removed the following year when the FDOT mitigation needs changed and these projects were no longer needed. All mitigation projects that remain in the Program will be evaluated to identify which have available mitigation that exceeds the projected need by the FDOT. For these projects, options to reduce excess mitigation will be explored. Furthermore, the ecological benefit projected to be achieved by the active mitigation projects (currently being used for mitigation) is being verified by the Army Corps of Engineers when permitting FDOT road improvement projects.

Not only have no new mitigation projects been added to the Mitigation Program but 68% of all the existing mitigation projects have been completed and are in the perpetual management phase. Table Twenty-Three summarizes the status of all mitigation projects.

Table Twenty Three: Status of FDOT Mitigation Projects[1]

Project Status	Number of Projects
Perpetual Management	22
Maintenance and Monitoring	3
Construction	4
Design and Permitting	3

[1] Excludes Mitigation Banks, ROMAs and projects implemented by DEP

Tables Twenty-Four through Thirty-Six summarize information for all of these mitigation projects. Regional Off-site Mitigation Areas (ROMA) or Private Mitigation Banks where credit was purchased through the FDOT Mitigation Program are listed with these mitigation projects. Detailed descriptions for each Mitigation Project follow the summaries and are organized by Project ID.

Table Twenty-Four: FDOT Mitigation Projects in the Alafia River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 81	Balm-Boyette-Stallion Hammock Restoration	Yes	No	No	Hillsborough County and Trustees of the Internal Improvement Trust Fund	N/A (transferred to FDEP)

Table Twenty-Five: FDOT Mitigation Projects in the Charlotte Harbor Drainage

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 52	Little Pine Island Mitigation Bank	No	Yes	No	Private	N/A

Table Twenty-Six: FDOT Mitigation Projects in the Hillsborough River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 34	Lake Thonotosassa Shoreline Restoration	Yes	No	No	SWFWMD	Perpetual Management
SW 55	Upper Hillsborough 4&5	No	No	No	SWFWMD	Perpetual Management

SW 61	Cypress Creek Preserve, West-Jennings Tract	No	No	No	Hillsborough County	Construction
SW 63	Hillsborough River Corridor	No	No	No	SWFWMD	Perpetual Management
SW 77	Conner Preserve	No	No	No	SWFWMD	Perpetual Management
SW 84	Colt Creek State Park, Phase 1	no	No	No	SWFWMD and Trustees of Internal Improvement Trust Fund	Perpetual Management
SW 84	Colt Creek State Park, Phase 2	No	No	No	SWFWMD and Trustees of Internal Improvement Trust Fund	Construction
SW 84	Colt Creek State Park, Phase 3	No	No	No	SWFWMD and Trustees of Internal Improvement Trust Fund	Design & Permitting

Table Twenty-Seven: FDOT Mitigation Projects in the Kissimmee Ridge Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 49	Reedy Creek Mitigation Bank	No	Yes	No	Private	N/A

Table Twenty-Eight: FDOT Mitigation Projects in the Little Manatee River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 83	Little Manatee River-Lower Tract	No	No	No	Hillsborough County	Construction

Table Twenty-Nine: FDOT Mitigation Projects in the Manatee River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 50	Terra Ceia Restoration	Yes	No	No	Trustees of Internal Improvement Trust Fund	Perpetual Management
SW 65	Rutland Ranch-South Tract	No	No	No	SWFWMD	Perpetual Management
SW 80	Hidden Harbour	No	No	No	Manatee County	Construction

Table Thirty: FDOT Mitigation Projects in the Myakka River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 31	Cattle Dock Point, Phase II	Yes	No	No	Trustees of Internal Improvement Trust Fund	Perpetual Management
SW 51	Myakka River State Park	No	No	No	Trustees of Internal Improvement Trust Fund	N/A (Implemented by the FDEP)

Table Thirty-One: FDOT Mitigation Projects in the Ocklawaha River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 58	Barr Hammock-Ledwith Prairie	No	No	No	Alachua County	Perpetual Management
SW 76	Lake Lowery Tract	No	No	No	Polk County and SWFWMD	Perpetual Management

Table Thirty-Two: FDOT Mitigation Projects in the Peace River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 47	Tenoroc-Bridgewater Tract	No	No	No	Florida Fish & Wildlife	N/A (Implemented by the FDEP)

SW 53	Boran Ranch Mitigation Bank	No	Yes	No	Private	N/A
SW 66	Circle B Bar Preserve	No	No	No	Polk County and SWFWMD	Perpetual Management
SW 69	I-75 Peace River Bridge Restoration	No	No	No	FDOT	Perpetual Management
SW 85	Peace River Mitigation Bank	No	Yes	No	Private	N/A

Table Thirty-Three: FDOT Mitigation Projects in the South Coastal Drainage

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 79	Fox Creek ROMA	No	No	Yes	Sarasota County	N/A
SW 88	Curry Creek ROMA	No	No	Yes	Sarasota County	N/A

Table Thirty-Four: FDOT Mitigation Projects in the Tampa Bay Drainage

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 45	Gateway Restoration	Yes	No	No	Pinellas County	Perpetual Management
SW 56	Cockroach Bay Restoration-Freshwater	Yes	No	No	Hillsborough County	Perpetual Management
SW 62	Tappan Tract	Yes	No	No	City of Tampa	Perpetual Management
SW 67	Apollo Beach Nature Preserve	Yes	No	No	Hillsborough County	Perpetual Management
SW 71	Boyd Hill Nature Preserve	No	No	No	City of St. Petersburg	Perpetual Management

SW 75	Cockroach Bay Restoration-Saltwater	Yes	No	No	Hillsborough County	Perpetual Management
SW 78	Bahia Beach	Yes	No	No	Hillsborough County	Construction
SW 82	Ekker Tract	Yes	No	No	SWFWMD	Maintenance & Monitoring
SW 86	Mobbly Bayou Wilderness Preserve, Phase 1	Yes	No	No	Pinellas County and City of Oldsmar	Perpetual Management
SW 86	Mobbly Bayou Wilderness Preserve, Phase 2	Yes	No	No	Pinellas County and City of Oldsmar	Design & Permitting
SW 87	Alligator Lake Mgmt Area	Yes	No	No	Pinellas County	Maintenance & Monitoring
SW 90	Brooker Creek Buffer Preserve	No	No	No	Hillsborough County	Design & Permitting

Table Thirty-Five: FDOT Mitigation Projects in the Upper Coastal Drainage

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 54	Anclote Parcel	No	No	No	SWFWMD	Perpetual Management
SW 70	Ft. DeSoto Park	Yes	No	No	Pinellas County	Perpetual Management
SW 74	Serenova Preserve-Sites 2, 3, 4, 8	No	No	No	SWFWMD	Perpetual Management
SW 77	Conner Preserve	No	No	No	SWFWMD	Perpetual Management

Table Thirty-Six: FDOT Mitigation Projects in the Withlacoochee River Basin

Project ID	Project Name	SWIM Project?	Mitigation Bank?	ROMA?	Landowner	Status
SW 57	Lake Panasoffkee Restoration	Yes	No	No	SWFWMD	Perpetual Management

SW 59	Hampton Tract	No	No	No	SWFWMD	Maintenance & Monitoring
SW 64	Withlacoochee State Forest- Baird Tract	No	No	No	Trustees of the Internal Improvement Trust Fund/Division of Forestry	N/A (Implemented by the FDEP)
SW 84	Colt Creek State Park, Phase 2	No	No	No	SWFWMD and Trustees of Internal Improvement Trust Fund	Construction
SW 84	Colt Creek State Park, Phase 3	No	No	No	SWFWMD and Trustees of Internal Improvement Trust Fund	Design & Permitting
SW 92	Halpata Tastanaki Preserve	No	No	No	SWFWMD	Perpetual Management

SW-31 CATTLE DOCK POINT, PHASE II MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Cattle Dock Point, Phase II	**Project Number**	SW-31
Project Type	Wetland restoration and enhancement; upland creation		
Landowner	Board of Trustees of the Internal Improvement Trust Fund; Southwest Florida Water Management District	**Management Entity**	Florida Department of Environmental Protection
County	Charlotte	**Watershed**	Myakka River
Water bodies	Myakka River, Charlotte Harbor	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	**Phase I:** Perpetual Management (Constructed prior to FDOT Mitigation Program)		
	Phase II: Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	3/41S/21E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Myakka River	1937941	SR 776 CR 771 to Willow Bend Road[1]	8.88	4316676.000	1996-01986

[1] This project has an additional 2.08 acres of open water impact mitigated through the purchase of 2.08 credits from the Little Pine Island Mitigation Bank (SW 52).

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Intertidal marsh	Creation	Myakka River	6.0
Upland habitat islands	Creation	Myakka River	1.5
Salt marsh 'platforms'	Creation	Myakka River	8.0
Mangrove littoral zone	Enhancement	Myakka River	1.2
		Total:	**16.7**

PROJECT DESCRIPTION

A. Overall project goals: The primary goal of the project was to create intertidal and salt-marsh wetland habitat within heavily disturbed property co-owned by the SWFWMD and FDEP. Prior to construction, this tract was predominately a dredged boat basin that connected to the Myakka River (refer to Figures A & B). Constructed in 2004-2005 (Figure C), Phase II removed extensive exotic vegetation (predominantly Brazilian pepper) that dominated the site, followed by grading the historically filled area to create a habitat mosaic of upland and wetland habitat (Figures C & D, site photos). The Phase I project (total 18 acres) was constructed in 2001 to provide appropriate mitigation for wetland impacts associated with an adjacent segment of SR 776 (Willow Bend Rd. to Collingswood Blvd.). The Phase I habitat improvements were selected to provide SR 776 mitigation a year prior to commencement of the FDOT Mitigation Program in 1996 and are therefore not included in this document except as supplemental information.

B. Brief description of pre-construction habitat conditions: Historically, the filled upland areas (six acres within Phase I, eight acres within Phase II) were formed as a result of disposal and spreading of material dredged as a result of constructing the boat basin during the early 1900's (Figure B). The basin was used to load cattle on barges for transport on the Myakka River and downstream to Charlotte Harbor. The uplands were almost completely covered with dense coverage of nuisance/exotic vegetation, particularly Brazilian pepper within Phase II and Australian pine for the peninsula associated with Phase I.

A narrow littoral zone of 40-50 ft. (total 1.2 acres) of mangrove habitat was present along the border between the dredged basin and the filled upland (Figures B-D). Overall, except for the minor mangrove fringe habitat, the project area for Phases I and II areas provided extremely limited and poor habitat conditions to support wildlife activities.

C. Brief description of construction activities and current habitat conditions: The Phase II project included initial eradication of nuisance & exotic vegetation, followed by grading and removing the filled upland to create appropriate intertidal marsh elevations (total 6.0 acres) and three upland habitat islands (total 1.5 acres) in the marsh. The dredged material was deposited to fill a portion of the boat basin to create salt-marsh "platforms" (total – 8.0 acres).

The intertidal marsh is hydrologically connected to the basin via culverts, and a meandering channel was constructed in the marsh to provide tidal flushing and fish access (refer to photos). After the appropriate grades were established in 2005, the intertidal marsh and salt-marsh were planted and currently have extensive coverage of herb species such as saltmarsh cordgrass (*Spartina alterniflora*) and black rush (*Juncus roemerianus*) in the low marsh grade elevations, bordered with sand cordgrass (*Spartina bakeri*) and seashore paspalum (*Paspalum vaginatum*) in the high marsh grade elevations. Mangrove species have naturally recruited and generated within the salt-marsh areas, particularly in the marsh platforms. Small portions of the marsh platforms also have appropriate elevations that formed rare and unique saltern habitat (photos). The upland islands were also planted and have dense ground cover vegetation, and the existing mangrove littoral zone (1.2 acres) was enhanced with the eradication of Brazilian pepper that had encroached upon the perimeter. The total habitat creation, restoration, and enhancement is 16.7 acres, which does not include the extensive secondary ecological benefits in association with Phase I and open water components of the dredged basin. The basin was not completely filled to allow access and foraging opportunities for aquatic wildlife species, including manatees and American crocodiles that have been documented at the site.

The success criteria has been achieved and reflects a minimum 70% coverage of desirable species in the project area, and less than 5% coverage of exotic and nuisance species. Monitoring was conducted four years post-construction to evaluate species survival, percent cover, invasive exotic plants, and maintenance activities conducted to ensure and enhance habitat conditions. Periodic monitoring is conducted to evaluate and determine additional management and maintenance activities necessary to maintain and improve upon successful habitat conditions.

Long term maintenance of the project has been minimal since the appropriate saltwater wetland grade elevations provide opportunities for appropriate seed source recruitment and generation, while minimizing conditions for exotic and nuisance species to germinate. Maintenance includes periodic herbicide treatments to eradicate exotic species that have primarily generated within the upland islands and upper sideslopes of the constructed wetlands in Phases I & II.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The wetland and other surface water impacts associated with SR 776 included 2.2 acres of borrow pit, 2.1 acres of open water, 3.1 acres of mangroves, 1.4 acres of exotic shrub habitat, and 2.1 acres of ditches for a total of 10.9 acres of impacts that represented a dominance of low quality habitat. The only high quality habitat impacted was the mangrove area. The mitigation project includes a mosaic of saltwater wetland habitat creation (14 acres) and upland habitat creation (1.5 acres). The mangrove impacts are appropriately compensated with the enhancement of the existing mangrove habitat (1.2 acres), as well as the mangrove habitat naturally generating within Phase I and the salt-marsh habitat (site photos). The open water impacts were appropriately mitigated with purchasing non-forested wetland credits from the Little Pine Island Mitigation Bank (refer to SW 52). The permitted wetland impacts associated with this SR 776 segment are the only impacts that were designated and permitted for mitigation at Cattle Dock Point, Phase II.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: Cattle Dock, Phase II provides appropriate wetland mitigation for the predominantly low-quality SR 776 wetland impacts, as well as for the high quality impacts associated with the mangrove habitat. The mitigation includes creation of similar habitat within close proximity to the wetland impacts on publicly-owned land that was in need of major restoration, and adjacent to other

constructed mitigation compensating for wetland impacts associated with the adjacent SR 776 segment (Phase I). Due to the low quality habitat associated with the open water impacts, the associated mitigation was compensated with purchasing non-forested mitigation bank credits at the adjacent Little Pine Island Mitigation Bank. The mitigation bank could not be nominated to provide mitigation for the mangrove wetland impacts since the bank is located in the adjacent Charlotte Harbor Drainage Basin and the wetland impacts occurred in the Myakka River basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: Cattle Dock, Phases I and II were SWIM sponsored projects constructed on property co-owned and managed by the SWFWMD and FDEP.

PROJECT IMPLEMENTATION

- Planning and Design: July, 1999
- Construction of Phase I: Summer 2001
- Phase I achieved success criteria: 2004
- Phase II construction and planting : Summer 2005
- Maintenance and monitoring: 2005- 2009
- Perpetual management : Ongoing

Entity responsible for construction: Private contractor working for the SWFWMD.

Entity responsible for monitoring and maintenance: SWFWMD staff and private consultants on contract with the SWFWMD conducted semi-annual monitoring through 2009.

Entity Responsible for perpetual management: Herbicide maintenance conducted by FDEP staff assigned to Charlotte Harbor Preserve as part of normal land management activities.

Total Cost for FDOT Mitigation Including O&M: $ 986,186

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-Construction (2005)
4. Figure D-Construction (2008)
5. Photographs (2012)

SW 31 - Cattle Dock Point, Phase II
Figure A - Location (3/41S/21E)

Legend

Project Location

2011 Aerial

Miles
0 0.275 0.55 1.1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 31 - Cattle Dock Point, Phase II
Figure B - Pre-Construction (1999 aerial)

Legend

- Project Limits - Phase I
- Project Limits - Phase II

N

Feet
0 135 270 540

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 31 - Cattle Dock Point, Phase II
Figure C - Construction (2005 aerial)

Legend

- Project Limits - Phase I
- Project Limits - Phase II

Feet
0 135 270 540

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 31 - Cattle Dock Point, Phase II
Figure D - Construction (2008 aerial)

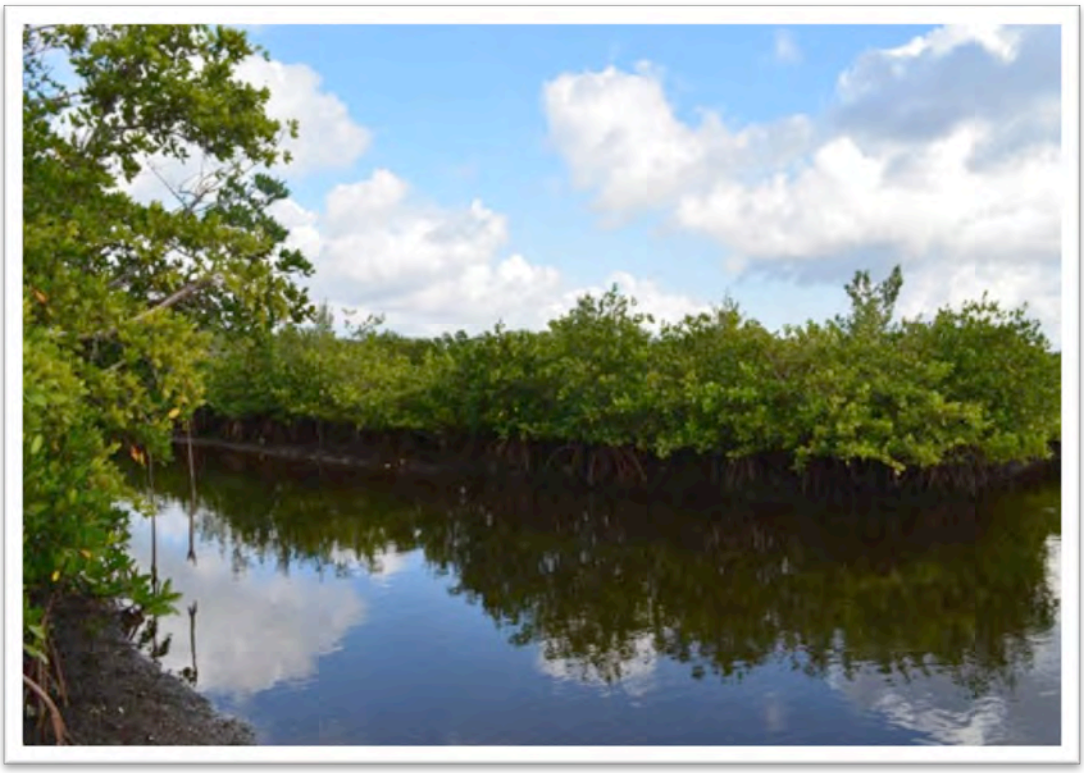
Legend

- Project Limits - Phase I
- Project Limits - Phase II

Feet
0 135 270 540

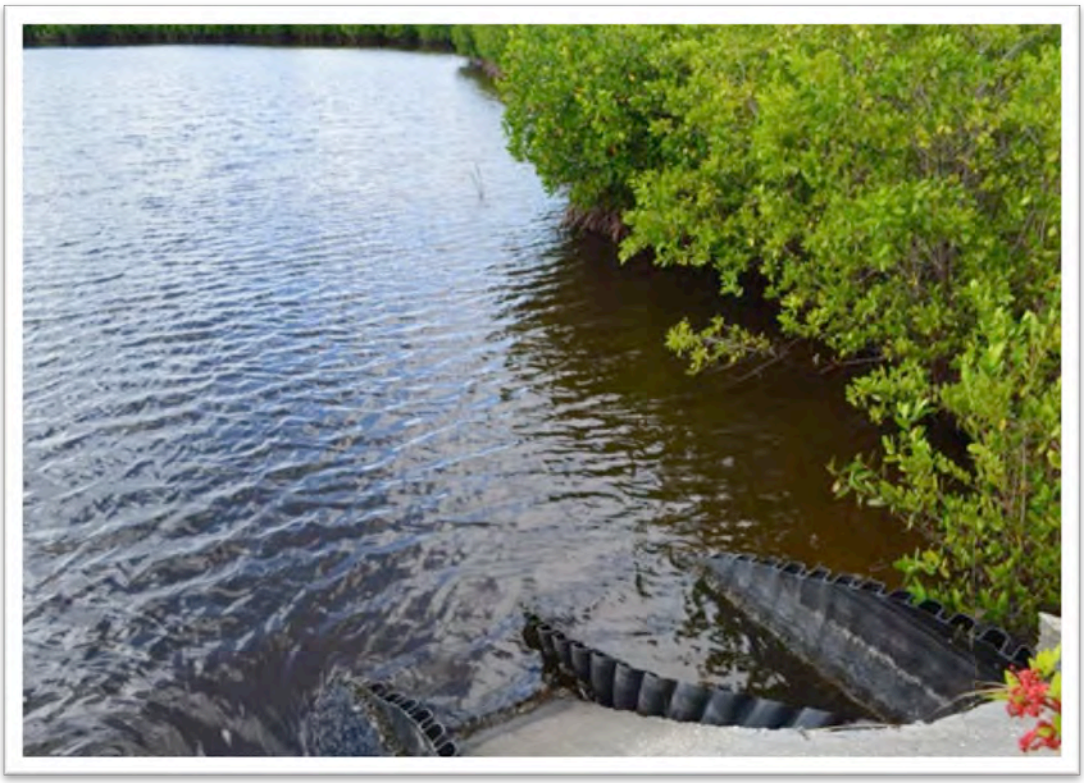
Southwest Florida Water Management District

2014 FDOT Mitigation Plan



Cattle Dock showing established mangroves along tidal creek (2012).

Cattle Dock showing established mangroves along tidal creek (2012).



Cattle Dock showing culverts installed to reconnect tidal flows (2012).

SW-34 LAKE THONOTOSASSA SHORELINE RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Lake Thonotosassa Shoreline Restoration	**Project Number**	SW-34
Project Type	Wetland enhancement and restoration		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Hillsborough	**Watershed**	Hillsborough River
Water bodies	Lake Thonotosassa, Baker Creek	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	11,12,13,14/28S/20E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Hillsborough River	2563431	SR 54 – US 41 to Cypress Creek	14.2	43019567.000	1995-01451

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Marsh and cypress	Restoration and Enhancement	Hillsborough River	98
		Total:	**98**

PROJECT DESCRIPTION

A. Overall project goals: The primary goal was to improve fish and wildlife habitat and water quality through enhancement and restoration of 98 wetland acres along the southeastern shoreline of Lake Thonotosassa.

B. Brief description of pre-construction habitat conditions: The southeast shoreline of Lake Thonotosassa included a large wetland that was historically filled with lake bottom sediment and hydrologically separated from the lake by a constructed berm and seawall. Historic contributing basin flow from the south through the wetland was diverted straight into the lake by the construction of the Baker Creek Canal. The 78-acre filled area was converted to a Bahia pasture with collector ditches that drained surface water west to a lower elevation retention area adjacent to the berm. The retention area generated a marginal, low quality, soft rush marsh. When the marsh was periodically inundated, water was pumped over the berm to maintain relatively dry conditions to improve pasture conditions. A separated 19-acre portion of the project included a wetland-dredged pond referred to as “Otter Lake” and a collection ditch that had minimal hydrologic connectivity into the lake.

C. Brief description of construction activities and current habitat conditions: The restored and enhanced marsh and planted cypress appropriately compensate for the acreage and function of the marsh, open water, and cypress wetlands impacted by the expansion of the SR 54 segment. No additional roadway wetland impacts are proposed for mitigation at the site. Success criteria included a minimum 85% coverage of desirable species in the eastern half of the restored wetland and less than 10% exotic / nuisance species. Supplemental planting occurred in the fall of 2003 and again in late 2004 to achieve additional coverage. The western portion of the marsh has been allowed to provide more open water to attract associated wildlife species.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The created marsh and planted cypress will replace the acreage and function of the marsh, open water and cypress wetlands proposed for impact along SR 54. This mitigation project is a part of a larger restoration project which extend to this project a greater chance of success and the desired fish and wildlife benefits.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time permits for the FDOT roadway improvements were required, mitigation bank options were not available for consideration.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This project is identified in the 2003 SWIM Plan for Lake Thonotosassa.

PROJECT IMPLEMENTATION

- Planning, Design and Construction: 1998-1999
- Supplemental planting completed: Fall 2003 and Fall 2004
- Periodic monitoring and maintenance completed: 2007
- Perpetual management and maintenance: Ongoing

Entity responsible for construction: Private contractor working for the SWFWMD.

Entity responsible for monitoring and maintenance: Private consultants on contract with the SWFWMD.

Entity Responsible for perpetual maintenance: SWFWMD staff.

Total Cost for FDOT Mitigation Including O&M: $832,930

ATTACHMENTS
1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-Post-construction (2009)
4. Photographs (2012)

SW 34 - Lake Thonotosassa Shoreline Restoration
Figure A - Location (11,12,13,14/28S/20E)

Legend

Project Location

2011 Aerial

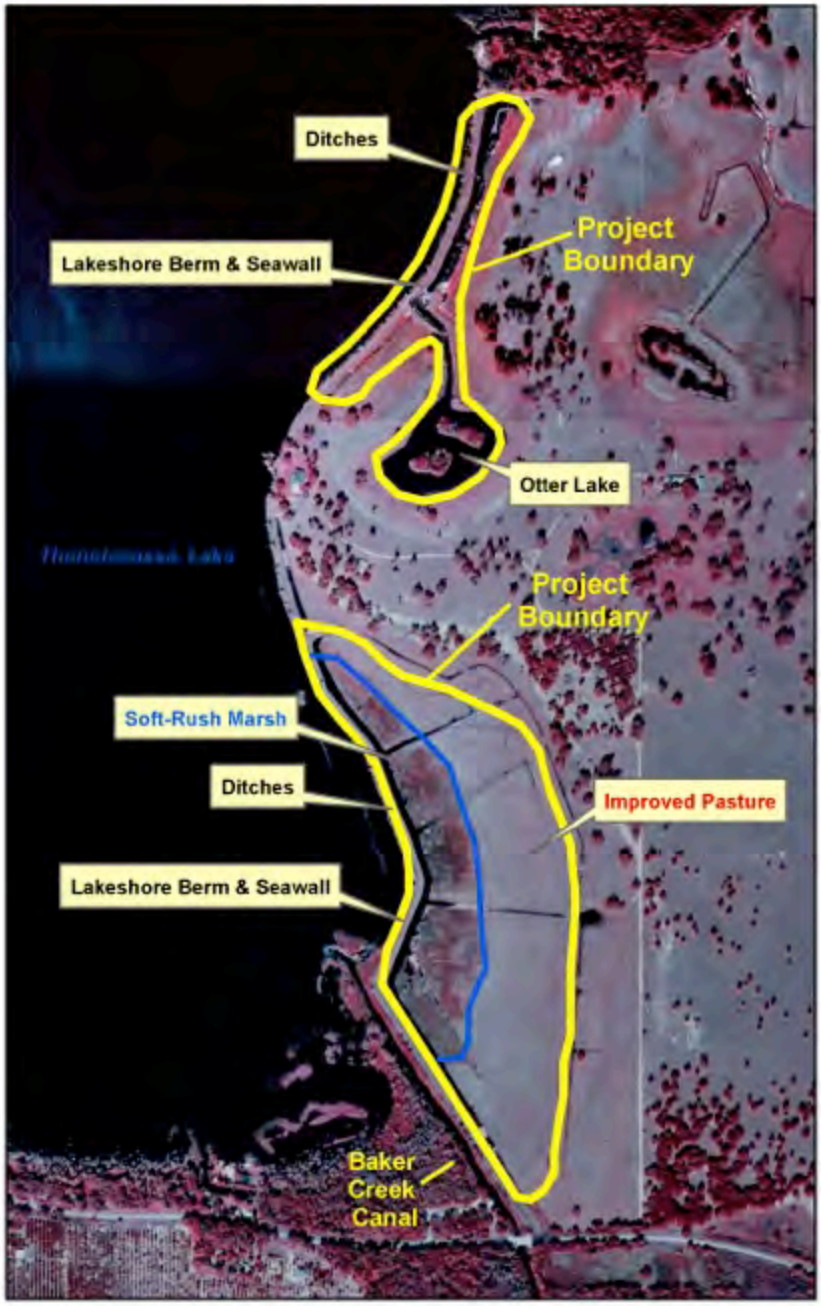
Miles

0 0.225 0.45 0.9

Southwest Florida Water Management District

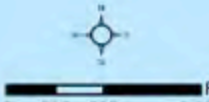
2014 FDOT Mitigation Plan

SW 34 - Lake Thonotosassa Shoreline Restoration
Figure B - Pre-Construction (1999)



Legend

Project Location



Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 34 - Lake Thonotosassa Shoreline Restoration
Figure C - Post-Construction (2009)

Legend

Project Location

N

0 295 590 1,180 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Lake Thonotosassa Shoreline Restoration: Photo shows berm breech creating outfall to lake. (2012)

Lake Thonotosassa Shoreline Restoration: Photo shows berm breech creating outfall to lake. (2012)

SW-45 GATEWAY RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Gateway Restoration	**Project Number**	SW-45
Project Type	Wetland restoration and enhancement; upland enhancement		
Landowner	Pinellas County	**Management Entity**	Pinellas County
County	Pinellas	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 7		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	12/30S/16E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2556301	SR 60 Courtney Campbell to Fish Creek	12.20	43000920.005	2001-05084
Tampa Bay Drainage	2557341	SR 676 Maritime Blvd. to SR 60	1.50	4413736.003	1995-02501
Tampa Bay Drainage	2569051	SR 679 (Bayway) Bunces Pass Bridge # 150	0.60	52-0148752-001	1991-00289
Upper Coastal Drainage	2570931	SR 60, Clearwater Harbor Bridge Replacement	1.50	44021540.001	2002-4966
Tampa Bay Drainage	2583982	I-275 Howard Franklin to Himes Ave.	1.50	43002958.006	2005-3876
Tampa Bay Drainage	2588701	I-275 Roosevelt to Big Island Gap	9.10	43001034.006	1994-02523
Tampa Bay Drainage	4062531	SR 686 (Roosevelt) at 49th Street	0.20	44007482.012	2002-06320
		Total Impact Acreage:	**26.60**		

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Mangroves	Restoration	Tampa Bay Drainage	42.50
Salt Marsh/Saltern	Restoration	Tampa Bay Drainage	42.93
Flatwoods and Hardwood Hammock	Enhancement	Tampa Bay Drainage	10.25
		Total:	**95.68**

PROJECT DESCRIPTION

A. Overall project goals: To restore and enhance estuarine wetland and coastal upland habitats within the Gateway Tract owned and managed by Pinellas County Environmental Management

B. Brief description of pre-construction habitat conditions: The project area includes the western half of the Gateway "North Tract" and the entire "South Tract" (Figures B & C). The majority of the

earthwork construction areas within both tracts included uplands that were heavily dominated by Melaleuca and Brazilian pepper. The majority of the uplands within the north tract had fill material placed on historic estuarine wetland habitat. The designated mitigation area within the north central portion of the north tract includes mangrove habitat with an extensive "checkerboard" mosquito-ditch system. The spoil mounds adjacent to the ditches had extensive and dense coverage of Brazilian pepper.

C. Brief description of construction activities and current habitat conditions: Restoration commenced with herbicide eradication and mechanical removal of the exotic vegetation in early 2004 (Figure B). Proper erosion control methods were installed, followed by necessary earthwork activities in the upland areas to create lagoons and salt-marsh habitat. A few of the ditches and adjacent spoil mounds were regraded to create channels necessary to improve tidal connectivity to Tampa Bay. A unique spoil removal method, referred to as "hydroblasting," was utilized in order to gain access into 35-acres of mangrove habitat without impacts that would otherwise occur with traditional construction equipment. Hydroblasting uses traditional pumps and high-pressure fire hoses to spray and displace the majority of the soil material, primarily into the adjacent mosquito ditches. By lowering the spoil mounds to below high tide elevations, the Brazilian pepper could not re-establish. Mangrove seedlings have naturally recruited and generated within the footprint of the removed spoil material (photos & the “white spots” on the Figure C aerial).

Earthwork conducted in areas to create and restore appropriate wetland grades were followed by planting of high and low salt-marsh habitat, including a few areas of unique and rare saltern habitat. Remnant coastal flatwood and hammock habitats in the south tract received supplemental planting after eradication of the exotic species. The combination of coastal upland and wetland habitat improvements have dramatically improved conditions for more access and use by wildlife species. The dominant wetland plantings included smooth cordgrass, marshhay cordgrass, sand cordgrass, seaside paspalum, and needle rush. These species have recruited extensively in the construction area, particularly the smooth cordgrass in the low marsh and seaside paspalum within the high marsh areas. Additional spoil mound hydroblasting was conducted at Gateway just east of the designated FDOT mitigation boundary on the north tract. This area is evident by the “white spots” depicted on the Figure C aerial.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The restored and created salt-marsh and lagoon habitats and enhanced and restored mangrove habitat compensate with higher quality and quantity of appropriate habitat than was present in the impacted wetlands. Approximately 30% of the total wetland impact mitigated at the site was associated with the I-275 (Roosevelt to Big Island Gap segment) expansion adjacent to the mitigation area, essentially providing an on-site mitigation option. This I-275 construction was conducted concurrently with the mitigation construction in 2004 (Figure B). Additional roadway projects beyond those listed above are not proposed for mitigation within this Gateway project.

This mitigation is associated with an initial and long-term restoration objective for the public lands within the Gateway and adjacent Weedon Island areas owned and managed by Pinellas County. A 5-year period of maintenance & monitoring extended beyond the construction period until the end of 2009. Perpetual maintenance is conducted as necessary by Pinellas County as part of normal land management activities to maintain and improve upon the successful habitat conditions and functions. The maintenance of the project has been minimal since the constructed wetland grades allow for sufficient tidal fluctuation, so the planted and naturally recruited vegetation have had high survival rates, with extensive recruitment and generation. Maintenance has been primarily related to spot herbicide treatments since salt water substantial limits the re-establishment of exotic vegetation.

Qualitative monitoring was conducted semi-annually for five years post-construction, with annual reports documenting habitat conditions and various activities implemented during the previous year. The achieved and maintained success criteria included a minimum 90% survivorship for planted material for one year after planting, total 85% cover of planted and recruited desirable species, and less than 5% exotic and nuisance species. Natural recruitment and generation of mangroves have occurred within the displaced spoil mounds and portions of the planted salt marsh habitat. In addition, a few graded marsh elevations are slightly above high tide elevations, providing for less frequent inundation associated with extreme high tides. This condition allows for the establishment of rare and unique saltern formations

within the salt-marsh habitat. Saltern habitats typically provide opportunities for birds and mammals to access and forage for fiddler crabs that often inhabit these areas.

Overall, the Gateway restoration project has been very successful with a diverse assemblage of habitat conditions that attract diverse wildlife species. Over 80 bird species have been documented within the restored and created habitat areas.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The Tampa Bay Mitigation Bank (TBMB) is located within the Tampa Bay Drainage basin, but had not received permits during the period of mitigation selection.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: Gateway Restoration is a SWIM-sponsored project conducted on property owned by Pinellas County.

PROJECT IMPLEMENTATION

- Planning and Design: 2002
- Construction: Spring and Summer 2004
- Maintenance and monitoring: 2005-2009
- Perpetual management: Ongoing

Entity responsible for construction: Construction was conducted by a private contractor selected by the SWFWMD.

Entity responsible for monitoring and maintenance: Private contractors selected by the SWFWMD conducted five years of maintenance & monitoring. The project achieved success criteria, and in 2010 was adopted into Pinellas County's normal perpetual land management and herbicide maintenance activities.

Entity responsible for perpetual management: Pinellas County.

Total Cost for FDOT Mitigation Including O&M: $1,623,976

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (2004)
3. Figure C-Post-construction (2008)
4. Photographs (2003, 2004, 2005, 2006, 2009, 2013)

SW 45 - Gateway Restoration
Figure A - Location (12/30S/16E)

Legend

Project Location

2011 Aerial

Feet
0 400 800 1,600

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 45 - Gateway Restoration
Figure B - Pre-Construction (2004)

Legend

Project Location

Feet

0 175 350 700

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 45 - Gateway Restoration
Figure C - Post-Construction (2008)

Legend

Project Location

Feet

0 175 350 700

2014 FDOT Mitigation Plan

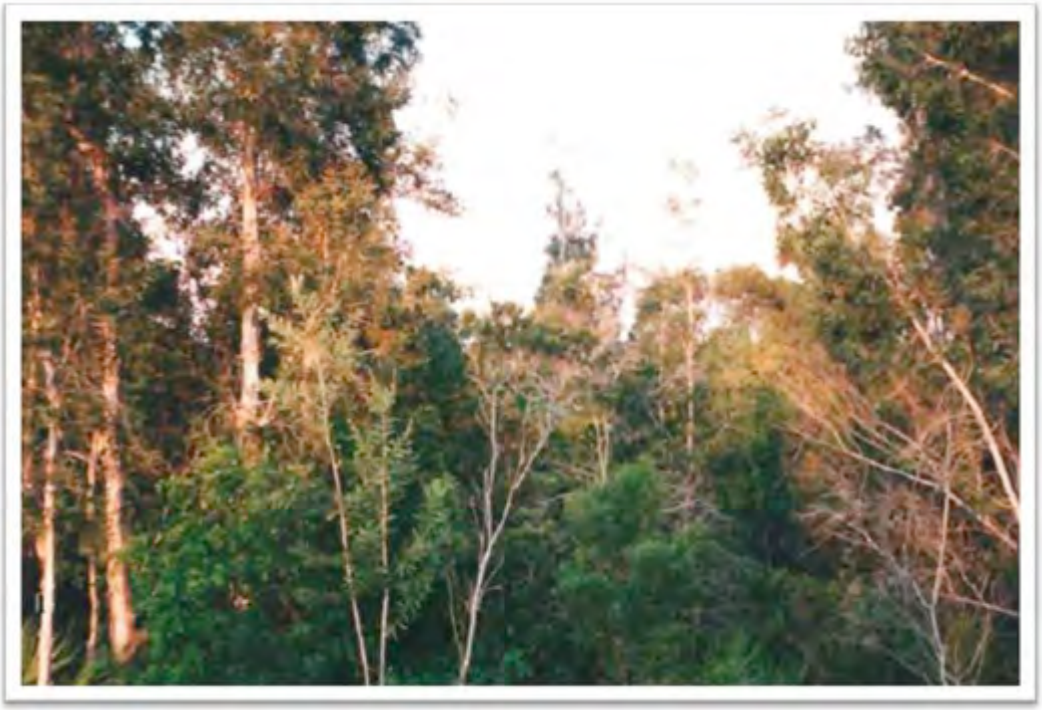
Southwest Florida Water Management District

North Tract – Pre-construction view looking south over Ulmerton Road (foreground). The dark green forested areas adjacent to Franklin Templeton building (lower right) are predominantly dense stands of Melaleuca and Brazilian pepper. Remaining portion to I-275 (middle) is mangrove habitat. (2003)

North Tract - Same view just after completion of earthwork to construct tidal channels, lagoons, and salt-marsh habitat. White spots within the mangroves are locations where Brazilian pepper was eradicated and the mosquito ditch spoil mounds were displaced by using the hydro-blast method. (2004)

South Tract – Pre-construction view looking north over 9th Street (right) and I-275 (middle). The dark green forested areas adjacent to apartment buildings (lower left) are dense stands of Melaleuca and Brazilian pepper. (2003)

South Tract - Same view after completion of earthwork to construct inter-tidal channels, lagoons, salt-marsh habitat, and enhance remnant flatwood habitat (far left). (2004)



North Tract – Pre-construction view from Franklin Templeton building, looking east over dense coverage of Melaleuca and Brazilian pepper in the filled upland area. (2003)

Gateway was the first restoration project in the region to utilize high pressure water hoses to “hydroblast” the mosquito ditch spoil mound material held together by Brazilian pepper roots. By displacing the material, Brazilian pepper mortality occurs since the roots are exposed to salt water and the species cannot regenerate when the mounds are lower than high tide elevations. (2005)

Over 80 bird species have been documented to routinely visit Gateway. Large populations of roseate spoonbills have been observed foraging and resting in the northern tract in addition to the presence of other wading bird and waterfowl species. (2005)

North Tract – A portion of the salt-marsh have grade elevations constructed slightly above high tide elevations, allowing for irregular flushing with salt water that established saltern habitat. The salterns are productive ecosystems for birds and mammals to forage on fiddler crabs and other species that inhabit the area. (2006)

The diversity of estuarine habitats at Gateway has resulted in an abundant and diverse assemblage of wildlife use. As depicted in the photograph, seabirds are often observed resting and foraging within the saltern habitats. (2007)

North Tract – Same eastern view overlooking the graded upland area at the most northern constructed tidal lagoon, covered predominantly with plantings of smooth cordgrass in the low tide zone around the lagoons and other species, including salt-grass, seaside paspulum, needle rush and sand cordgrass, at higher elevations. Mangrove seedlings (light green) have naturally recruited, particularly within the low marsh zones. (2009)

North Tract – Improved tidal channel connectivity access from the constructed lagoons to Tampa Bay have resulted in productive havens for fish and invertebrate species in the lagoons as well as the bird and mammal species that nest and forage on the property. (2009)

South Tract – Much of the salt-marsh has transitioned as mangrove species have naturally recruited and generated around the lagoon. (2009)

Much of the saltwater marsh has transitioned as mangrove species have naturally recruited around the lagoon. (2013)

SW-47 TENEROC-Bridgewater Tract RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Teneroc-Bridgewater Tract	**Project Number**	SW-47
Project Type	Wetland creation		
Landowner	Florida Fish and Wildlife Conservation Commission	**Management Entity**	Department of Environmental Protection/Florida Fish and Wildlife Conservation Commission
County	Polk	**Watershed**	Peace River
Water bodies	Lake Parker	**Water body Designations**	None
Project implementation status: (As of December 2013):	N/A (Implemented by the FDEP)		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	30,31/27S/24E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Peace River	1974711	SR 540 (Cypress Gardens) 9th Street to Overlook	0.41	44017859.000	1994-03139
Peace River	1974751	SR 540 (Cypress Gardens) Thornhill Rd. to Recker Hwy.	5.87	44001612.000	1994-01950
Peace River	2012092	I-4, East of US 98 to East of CR 557 (Sec. 3-5)[1]	1.88	43011896.026	2002-04891
		Total Impact Acreage:	**8.16**		

[1] Impacts in the Withlacoochee River Basin are offset by SW-59 Hampton Tract and are not included here.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested and marsh wetlands	Creation	Peace River	25
		Total:	**25**

PROJECT DESCRIPTION

A. Overall project goals: Creation of wetland habitat within a reclaimed former mine area within the 967-acre Bridgewater Tract (Figure A) within FWC's 7,300-Tenoroc Fish Management Area. Various wetland, water quality and watershed improvements within Tenoroc and adjacent public lands were implemented through a joint ecosystem management initiative by FDEP, FFWCC and SWFWMD for the Upper Peace River Watershed.

B. Brief description of pre-construction habitat conditions: In 2002, the Bridgewater Tract was acquired by the FFWCC as an addition to Tenoroc. As with other areas of Tenoroc, the Bridgewater property was historically mined for phosphate. This mined area was reclaimed to include numerous man-made lakes interspersed with upland ruderal fallow fields dominated by opportunistic and exotic species such as bahia grass, salt-bush, wax myrtle, cogon grass and Brazilian pepper. The designated FDOT mitigation area is within one of those ruderal fields and bordered by three reclaimed lakes (Figure B, pre-construction 2004 aerial). Overall, the pre-construction habitat represented low quality conditions.

C. Brief description of construction activities and current habitat conditions: The designated mitigation is a 25-acre wetland creation area constructed in 2005-2006. Figure C (2006 aerial) depicts the project just after completion of earthwork and prior to planting. An outer facultative zone of forested wetland creation has planted tree species dominated by red maple and bald cypress, with additional coverage provided by popash, sweetgum, laurel oak, water hickory, buttonbush and blackgum. An inner obligate forested zone includes a dominance of planted bald cypress, with additional coverage provided by popash, red maple, buttonbush, and blackgum. The ground cover of the forested components is dominated soft rush, pickerelweed, and arrowhead. Three obligate marsh pockets are dominated by pickerelweed, arrowhead, bulrush, and fireflag as well as some open water components. The marsh pockets are connected by creeks to maintain proper hydrologic flow throughout the created wetland. These habitat areas are depicted on Figure D (2009 aerial) and the site photographs. The created wetland habitat and adjacent Bridgewater property is utilized by many wildlife species. Observed avian species include several listed species such as little blue heron, snowy egret, tricolored egret, white ibis, sandhill crane, green heron, little blue heron, wood stork, and osprey. Reptile and mammal species include alligator, cottonmouth, river otter, and bobcat.

The monitoring evaluations included documentation of habitat, vegetation, wildlife, hydrologic conditions, maintenance activities. The achieved success criteria required a minimum 90% survivorship of planted stock, vegetative coverage of planted and naturally recruited desirable species exceed 85% within the facultative zone and outer obligate zones, and herbicide treatments were conducted as necessary to eradicate and maintain less than 5% cover of exotic, nuisance, and undesirable species.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): Wetland impacts for the Cypress Gardens/SR 540 9th Street to Overlook project included 0.06 acres of freshwater marsh and 0.35 acres of lake marsh. Impacts for the Cypress Gardens/SR 540 Thornhill Road to Recker Highway project included 0.59 acres of freshwater hardwood forest, 0.33 acres of bay swamp, 2.86 acres of stream swamp, 1.35 acres of mixed hardwood forest and 0.74 acres of freshwater marsh. Wetland impacts associated with Peace River watershed portion of the I-4 project listed above included 0.20 acres of streams and waterways and 1.68 acres of bay swamp.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the time of mitigation selection, the only permitted mitigation bank selling credits was located within the lower portion of the Peace River basin (SW 53 - Boran Ranch, DeSoto County). To mitigate the hydrologic and habitat characteristics of the FDOT wetland impacts in the Upper Peace River basin, it was determined the habitat plan associated with Tenoroc more appropriately compensates for those impacts. In addition, the majority of the FDOT impacts were associated with forested wetlands. At the time of mitigation selection, all the forested wetland credits at Boran Ranch had been purchased, predominantly by the SWFWMD to provide appropriate mitigation for other FDOT wetland impacts in Hardee and DeSoto Counties.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, there were currently no proposed SWIM sponsored projects in the Peace River Basin that were appropriate to mitigate for the proposed wetland impacts

PROJECT IMPLEMENTATION

- Design and permitting: 2003
- Construction: 2005 through 2006
- Perpetual management: Ongoing

Entity responsible for construction: Contractor selected by FDEP and FFWCC

Entity responsible for monitoring and maintenance: FDEP and FFWCC

Entity responsible for perpetual management: FDEP and FFWCC

Total Cost for FDOT Mitigation Including O&M: Paid directly by FDEP to FDOT

ATTACHMENTS

1. Figure A-Location
2. Photographs (2009)

SW 47 - Tenoroc - Bridgewater Tract
Figure A - Location (30,31/27S/24E)

Legend

Project Location

2011 Aerial

Feet
0 250 500 1,000

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

View from the southern limits of the constructed wetland, looking north over the facultative forested wetland creation area. Dominant planted species in the facultative zone include cordgrass, soft rush, sawgrass, St. John's wort, red maple, sweet bay, slash pine, cabbage palm and laurel oak. (2009)

The constructed obligate zone includes plantings of pickerelweed, arrowhead, bulrush, fireflag, wild rice, bald cypress, black gum, pap ash and red maple. The wetland attracts many wildlife species, particularly a variety of wading bird and waterfowl species. (2009)

SW-49 REEDY CREEK MITIGATION BANK MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Reedy Creek Mitigation Bank	**Project Number**	SW-49
Project Type	Mitigation Bank		
Landowner	Private	**Management Entity**	Private
County	Polk, Osceola	**Watershed**	Kissimmee Ridge
Water bodies	Reedy Creek	**Water body Designations**	None
Project implementation status: (As of December 2013):	NA		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 2		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	7,8,9,16,17,20,29,31,32/26S/28E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Reedy Creek	1945101	US 27 Lake Glenada to Hal McRae	0.39	44012845.060	1993-42314
Reedy Creek	2012041	I-4, East of CR 557 to Osceola County (Sec. 6, 7, 9)[1]	2.35	44011896.033	2002-08260
		Total Impact Acreage:	**2.74**		

[1] Wetland impacts associated with this I-4 segment in the Ocklawaha basin (4.00 acres) are mitigated at SW 76 - Lake Lowery Tract and in the Withlacoochee basin (3.88 acres) are mitigated at SW 59 – Hampton Tract.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed
Forested wetlands and Upland flatwoods	Wetland enhancement and Upland restoration	Kissimmee Ridge

PROJECT DESCRIPTION

A. Overall project goals: Hydrologic enhancement of forested floodplain wetlands associated with Reedy Creek, and restoration of adjacent upland improved pastures into native flatwoods habitat.

B. Brief description of pre-construction habitat conditions: The Reedy Creek Mitigation Bank (RCMB) covers approximately 3500-acres in northeast Polk County and southwest Osceola County (Figure A). Reedy Creek Swamp is a high quality wetland system; however, the swamp was historically logged for cypress and some alterations to hydrologic conditions occurred. The upland area along the eastern border of the swamp was historically converted to improved pasture, but restored to pine flatwoods habitat to provide a habitat buffer to Reedy Creek Swamp.

C. Brief description of construction activities and current habitat conditions: Hydrologic connections to Reedy Creek Swamp were restored and the upland pasture restored to flatwoods habitat with a combination of Bahia grass eradication and implementing a native species planting and seed dispersal program.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The RCMB adequately and appropriately compensates for the minor wetland impacts with the combination of wetland enhancement and upland restoration.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The Reedy Creek Mitigation Bank is authorized by DEP/WMD permit #: 970819-11 and Army Corps of Engineers permit # 199507852 (IP-ME). The purchase of credits is a cost-effective mitigation option that appropriately compensates for the proposed wetland impacts. At the time the wetland impacts associated with this I-4 segment were within the Ocklawaha basin (4.00 acres mitigated at SW 76-Lake Lowery Tract) and the Withlacoochee basin (3.88 acres mitigated at SW 59 – Hampton Tract), mitigation bank credit sufficient to offset the wetland impacts was not available at the RCMB.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: There were no existing or proposed SWIM projects in this basin during the mitigation selection.

PROJECT IMPLEMENTATION

- Mitigation Credit Purchase: 2001, 2005

Entity responsible for construction: Reedy Creek Mitigation Bank

Entity responsible for monitoring and maintenance: Reedy Creek Mitigation Bank

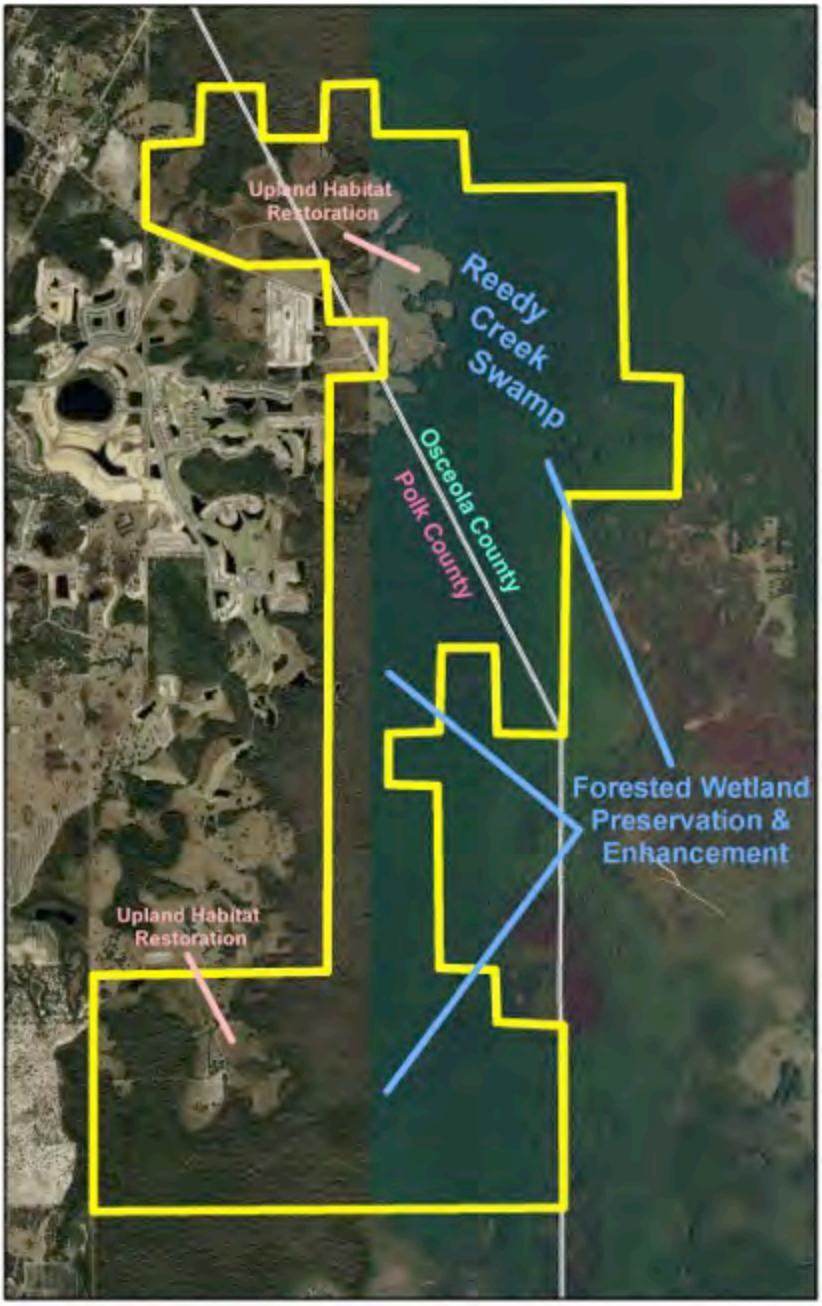
Entity responsible for perpetual management: Reedy Creek Mitigation Bank

Total Cost for FDOT Mitigation Including O&M: $90,965

ATTACHMENTS

1. Figure A - Location

SW 49 - Reedy Creek Mitigation Bank
Figure A - Location & Habitats (7,8,9,16,17,20,29,31,32/26S/28E) (2009)



Legend

Project Location

N

Miles

0 0.25 0.5 1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-50 TERRA CEIA RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Terra Ceia Restoration	**Project Number**	SW-50
Project Type	Wetland and upland enhancement		
Landowner	Board of Trustees of the Internal Improvement Trust Fund; Florida Fish and Wildlife Conservation Commission	**Management Entity**	Department of Environmental Protection
County	Manatee	**Watershed**	Tampa Bay Drainage
Water bodies	Manatee River, Tampa Bay, Terra Ceia Bay	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	24/33S/17E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	1960581	US 301 (Ellenton) 60th Ave to Erie Road[1]	0.87	40012295.000	1994-02564
		Total Impact Acreage:	**0.87**		

[1]Wetland impacts are located in the Manatee River basin and mitigation is located in the Tampa Bay Drainage basin. Out of basin mitigation is allowed by permits authorizing the road improvement project.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Mangroves and adjacent upland buffer	Wetland and Upland Restoration and Enhancement	Tampa Bay Drainage	20
		Total:	**20**

PROJECT DESCRIPTION

A. Overall project goals: Restoration and enhancement of various types of saltwater wetland and upland habitats within the 1700-acre FDEP-owned & managed Terra Ceia Isles property bordering the southeastern shore of Tampa Bay (Figure A).

B. Brief description of pre-construction habitat conditions: Large tracts of once-pristine mangrove forest and intertidal wetlands within the project area were adversely impacted by dredge and fill operations. In addition, much of the existing upland and various wetland habitats had extensive coverage of exotic vegetation including Brazilian pepper, Melaleuca, and Australian pines. These areas provided poor habitat value for wildlife utilizing the Preserve and the adjacent estuary. The 20-acre area designated to provide FDOT mitigation is within the eastern portion of the Preserve (Figure A). The pre-construction conditions included 12-acres of mangrove habitat buffered by 8-acres of upland habitat that had extensive coverage of Brazilian pepper (Figure B - 1999 aerial).

C. Brief description of construction activities and current habitat conditions: For the designated FDOT mitigation area, the Brazilian pepper was eradicated and prevented from regenerating through herbicide applications within the upland buffers. The upland buffers were also planted with native species (cabbage palm, longleaf pine and live oak). As depicted on Figure C, a braided tidal marsh was

subsequently constructed in 2007 to further buffer the mangrove habitat. This activity was not quantified for FDOT mitigation credit; however, the created marsh does increase the habitat value and diversity for the Preserve and for the designated mitigation area.

The success criteria includes less than 5% cover of exotic species for the 20-acre area providing mitigation for FDOT wetland impacts. The mitigation is associated within larger restoration objectives for the Preserve. The maintenance of the project area is being conducted by FDEP staff, primarily related to herbicide eradication of invasive exotic vegetation and limiting such coverage to less than 5%.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The restored and enhanced upland and mangrove habitats adequately and appropriately compensate for the minor impact acreage and function of the disturbed US 301 wetlands while increasing habitat diversity at Terra Ceia. No additional wetland impacts associated with other roadway projects are proposed for mitigation within this 20-acre area.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: No mitigation banks were available during mitigation selection in 1998.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The mitigation activities are in conjunction with a SWIM project located on FDEP property in need of major habitat restoration & enhancement.

PROJECT IMPLEMENTATION

- Planning and Design: 2000-2001
- Exotic species eradication and supplemental planting: 2002
- Maintenance and monitoring completed: 2008
- Perpetual management: Ongoing

Entity responsible for construction: Private Contractor selected by the SWWMD and FDEP

Entity responsible for monitoring and maintenance: Maintenance by FDEP staff assigned to the Terra Ceia Preserve, monitoring conducted through 2008 by private consultant on contract with the SWFWMD

Entity responsible for perpetual management: FDEP.

Total Cost for FDOT Mitigation Including O&M: $66,175

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-Post-construction (2009)
4. Photographs (1999, 2009, 2013)

SW 50 - Terra Ceia Restoration
Figure A - Location (24/33S/17E)

Legend

Terra Ceia Aquatic Preserve Boundary

Project Location

2011 Aerial

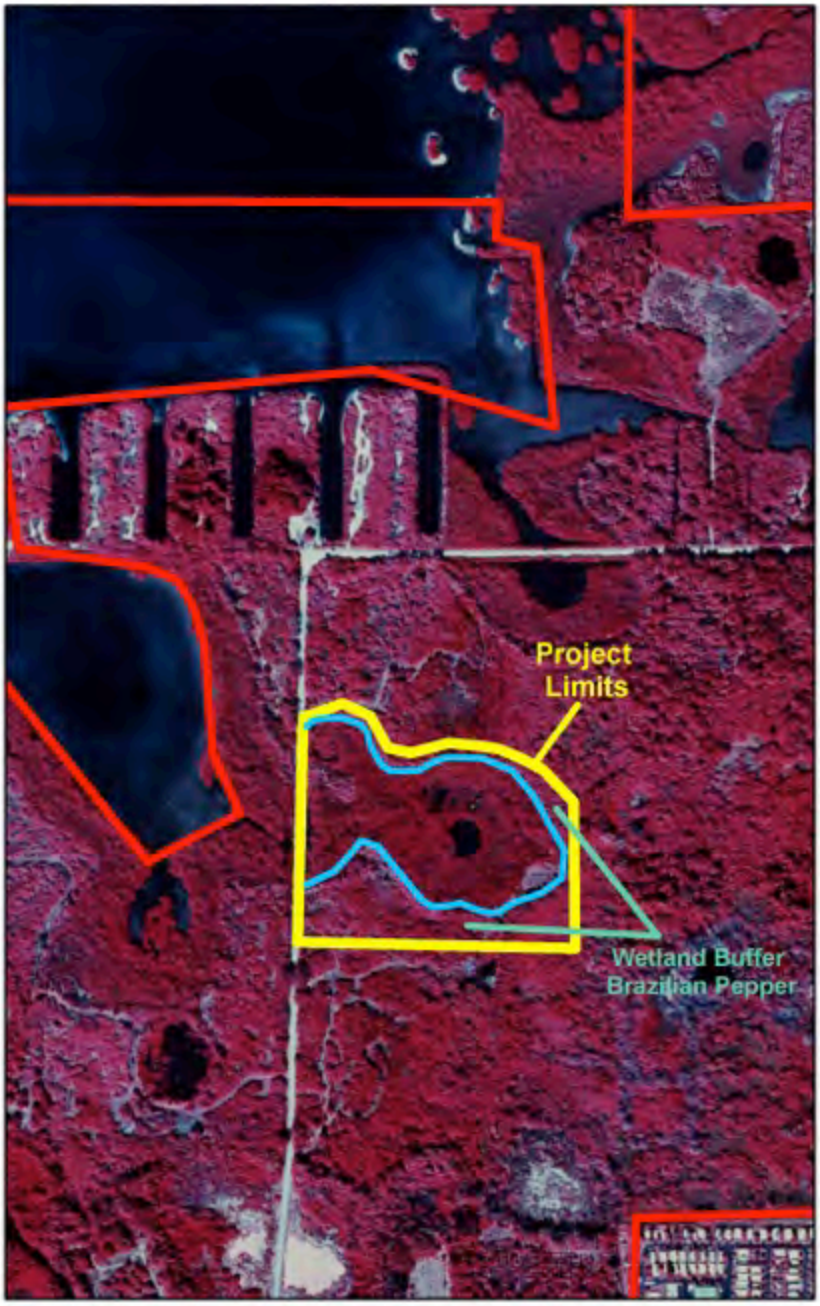
Miles

0 0.225 0.45 0.9

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 50 - Terra Ceia Restoration
Figure B - Pre-Construction (1999)



Legend

Project Location

Terra Ceia Aquatic Preserve Boundary

Feet

0 150 300 600

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 50 - Terra Ceia Restoration
Figure C - Post-Construction (2009)

Legend

Project Location

Terra Ceia Aquatic Preserve Boundary

Feet

0 162.5325 650

2014 FDOT Mitigation Plan

Southwest Florida
Water Management District

Pre-Construction – Wetlands are buffered by uplands with extensive coverage of exotic and nuisance species such as Australian pine, Brazilian pepper, Johnson grass and dog fennel. (1999)

Pre-Construction – Mangroves are buffered by dense Brazilian pepper, cogon grass and scattered cabbage palm. (1999)

Post-Construction Habitat – Exotics have been eradicated, cabbage palms preserved, and there has been natural recruitment of salt-bush and wax myrtle with planting of slash pine. (2009)

Post-Construction Habitat – Mangrove habitat in the project area is further enhanced and buffered by the braided tidal marsh habitat constructed north of the mangroves. (2009)

Results of restoration and enhancement of various types of saltwater and wetland habitats. (2013)

Results of restoration and enhancement of various types of upland habitats. (2013)

SW-51 MYAKKA RIVER STATE PARK MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Myakka River State Park	**Project Number**	SW-51
Project Type	Wetland Enhancement		
Landowner	Board of Trustees of the Internal Improvement Trust Fund	**Management Entity**	Florida Department of Environmental Protection
County	Sarasota, Manatee	**Watershed**	Myakka River
Water bodies	Myakka River	**Water body Designations**	Outstanding Florida Water and Florida Wild & Scenic River
Project implementation status: (As of December 2013):	N/A (Implemented by the FDEP)		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	State park located in all or part of 89 Sections		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Myakka River	1979251	SR 72 Big Slough to DeSoto C/L	1.49	43018471.000	1998-02683
Myakka River	1980131	SR 72 Deer Prairie to Big Slough	0.87	44018399.000	1998-02683
Myakka River	4138871	SR 72 Myakka River to Big Slough	5.00	43018399.001	2005-7108
		Total Impact Acreage:	**7.36**		

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Non-forested wetland	Enhancement	Myakka River	1,276
Forested wetland	Enhancement	Myakka River	194
Non-forested wetland	Restoration	Myakka River	6
		Total:	**1,476**

PROJECT DESCRIPTION

A. Overall project goals: Myakka River State Park & Myakka Prairie ("Park", 37,000 acres, Figure A) is one of the largest state parks in Florida. The Park has a flat topography with a general groundwater and surface water hydrology pattern that flows from north to south. There are two major constructed features where historic flow regime was altered by fill embankment, including a 9-mile long elevated east-west berm constructed during the early 1900's within the northern portion of the Park, and the elevated SR 72 segment crossing through the southern portion of the Park (Figure A). The berm was constructed without use of culverts, blocking the natural southerly sheet flow pattern and resulting in extended hydroperiods (depth & duration) within many wetlands to the north and reduced hydroperiods for wetlands south of the berm. The fill source for the berm included ditches constructed along each side of the berm. These ditches redirected and funneled contributing flow east and west along the berm to North Deer Prairie Slough. The hydrologic conditions of many wetlands south of the berm have been further altered by inter-connected ditches. The majority of the wetlands within the Park are ephemeral systems, so restoration of appropriate vegetation, hydrology and hydroperiods of these wetlands has a direct correlation to the wildlife use, groundwater recharge, flood attenuation and water quality.

B. Brief description of pre-construction habitat conditions: Evaluation by Park staff over many years determined that restoration of surface and groundwater hydrology of impacted wetlands in the vicinity of the berm could be achieved by grading the fill material to match historic ground elevations, construction of wet crossings at appropriate locations, and backfilling ditch segments. The majority of these activities have been completed and the flow regime successfully restored in the northern areas within the berm vicinity. The third SR 72 project was added to the FDOT program in 2004 and FDOT mitigation funds were allocated to install an additional five culverts during the 2008-2009 roadway construction to provide additional hydrologic improvements to wetlands upstream and downstream of SR 72. Construction activities have resulted in restoration of historic drainage patterns, improved attenuation and groundwater recharge within adjacent wetlands and recruitment of appropriate hydrophytic species in the outer perimeters of the wetlands. Natural recruitment of desirable hydrophytic species within the filled ditches has occurred without the need for supplemental planting. Only portions of wetlands adjacent to the berm, ditch blocks and the SR 72 culvert locations that receive direct hydrologic enhancement are quantified and accounted to provide mitigation credit. This included a total of 1,276 acres of non-forested wetland enhancement, 194 acres of forested wetland enhancement, and 6 acres of non-forested wetland restoration in the location where wetland-cut ditches adjacent to the berm were filled to historic natural wetland grades. Secondary benefits include restoring surface and groundwater flow regimes to thousands of acres of other wetland and upland habitat in the Park.

C. Brief description of construction activities and current habitat conditions: Success criteria include 80% coverage by desirable species and less than 5% coverage by exotic species within filled. Success criteria were been achieved for all the constructed areas by 2010. Maintenance has been and will continue to be conducted as necessary to ensure proper structure and slope stabilization and to control exotic & nuisance species within the filled ditches.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): All wetland impacts associated with three SR 72 segments are located through and adjacent to Myakka River State Park (Figure A). The wetland enhancement and restoration activities appropriately compensate for unavoidable wetland impacts that have similar habitat conditions and are located adjacent to the wetland impacts.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: No mitigation banks were permitted in the Myakka River Basin during the period of adopting the SR 72 segments to the FDOT mitigation program.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The impacts are not within a SWIM water body and there are no freshwater SWIM projects within the Myakka River basin. However, the habitat improvements provide benefits to the Myakka River, an Outstanding Florida Water and a designated Wild and Scenic River.

PROJECT IMPLEMENTATION

- Design: 1998
- Phase 1 Construction: 2002-2003
- Phase 2 Construction: 2006-2012
- Maintenance and Monitoring: 2003-2013
- Perpetual management: Ongoing

Entity responsible for construction: Private contractor selected by FDEP, Division of Recreation and Parks.

Entity responsible for monitoring and maintenance: FDEP – Myakka River State Park staff

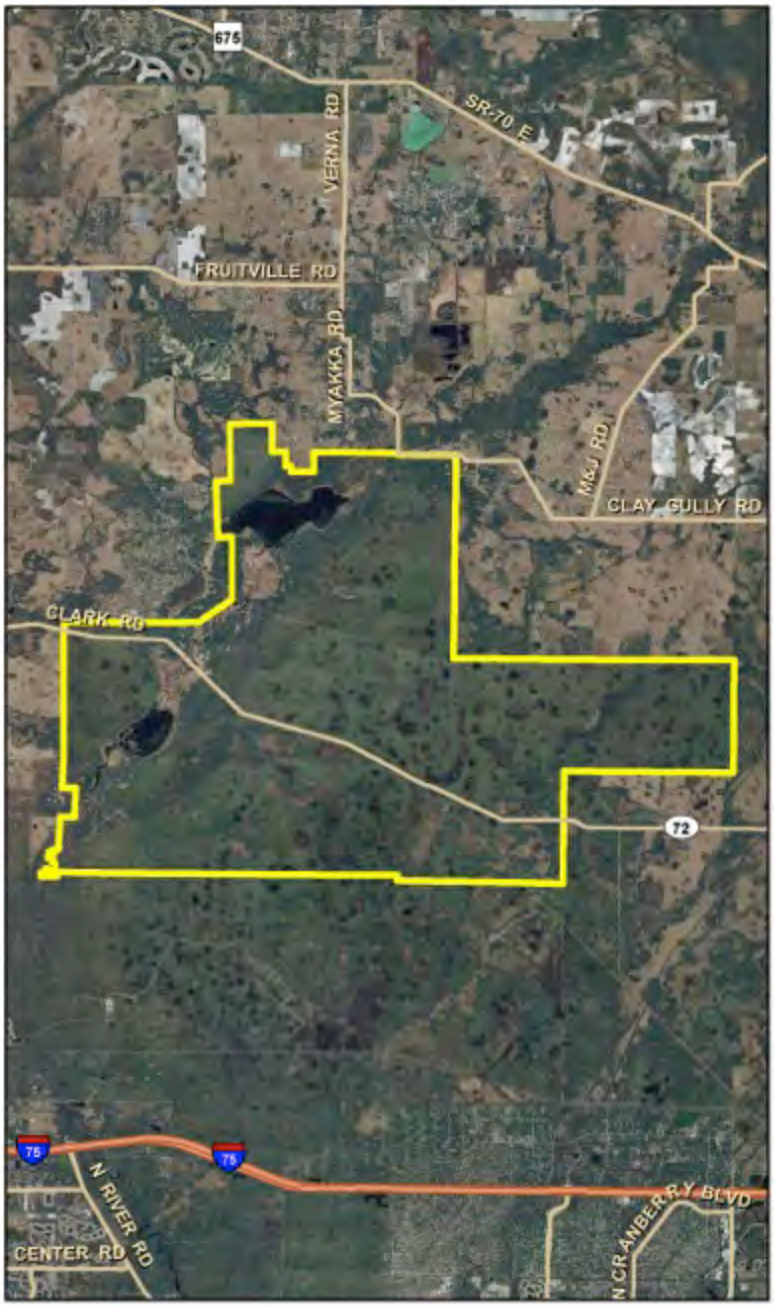
Entity responsible for perpetual management: FDEP – Myakka River State Park staff

Total Cost for FDOT Mitigation Including O&M: Paid directly from FDOT to FDEP

ATTACHMENTS

1. Figure A-Location

SW 51 - Myakka River State Park
Figure A - Project Location



Legend

Myakka River State Park

2011 Aerial

N

Miles

0 0.5 1 2

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-52 LITTLE PINE ISLAND MITIGATION BANK MITIGATION PLAN

MITIGATION SITE INFORMATION:

Project Name	Little Pine Island Mitigation Bank	**Project Number**	SW-52
Project Type	Mitigation Bank		
Landowner	Board of Trustees of the Internal Improvement Trust Fund	**Management Entity**	Private
County	Lee	**Watershed**	Charlotte Harbor
Water bodies	Charlotte Harbor	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	N/A		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 4		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	14,15,16,21,22,23,24,25,26,27,34,35,36/44S/22E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Myakka River	1937941	SR 776-CR 771 to Willow Bend Rd.[1]	2.08	4316676.000	1996-01986
Peace River	1984711	Trabue Harborwalk Bike Path	0.16	4417560.001	1997-05303
Peace River	4046971	I-75 Widen Bridge over Peace River[2]	2.75	43021917.000	2001-02749
Charlotte Harbor	4130423	I-75 – Tucker's Grade to N. Jones Loop Rd.	1.10	43035560.000	2001-01386
		Total Impact Acreage:	**6.09**		

[1] An additional 8.92 acres of wetland impacts are mitigated at SW 31 Cattle Dock Point, Phase II.
[2] An additional 0.8 acres of mangrove impact are mitigated through on-site restoration activities described in SW 69 Peace River Bridge Restoration.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed
Freshwater and saltwater herbaceous and forested wetland	Restoration	Charlotte Harbor

PROJECT DESCRIPTION

A. Overall project goals: Little Pine Island Mitigation Bank (LPIMB) includes habitat enhancement and restoration within state-owned property (FDEP's Charlotte Harbor Buffer Preserve (Preserve)) that had extensive coverage of exotic vegetation, particularly Melaleuca, Brazilian pepper and Australian pine. The goal of LPIMB is to eradicate exotic vegetation from approximately 1,600-acres of disturbed coastal marsh, salt flats, mangroves, and pine flatwoods. This included constructing temporary haul roads and restoring wetland grades and associated hydrology by backfilling approximately seven miles of mosquito ditches.

B. Brief description of pre-construction habitat conditions: Mangrove species existed within undisturbed portions of the Preserve, particularly along the perimeter of the 4,700-acre island (Figure A). However, due to historic construction of mosquito ditches, altered hydrology resulted in the substantial invasion and dominance of exotic species such as Australian pine, Brazilian pepper and especially Melaleuca, which formed very dense populations over half of the 1,600-acre restoration area.

C. Brief description of construction activities and current habitat conditions: Commencing in 1997, the LPIMB construction activities primarily included exotics eradication and restoring appropriate wetland grades by filling the mosquito ditches with adjacent spoil piles, thus resulting in restoration of appropriate wetland hydrology. The eradication of exotic species included mechanical cutting and mulching the tree material. The mulch quantity (average 30 tons of biomass per acre for over five million Melaleuca trees) was too extensive as an on-site soil amendment because the dense coverage would substantially limit the regeneration of native vegetation. Instead, the mulch was hauled and burned as a fuel source by at a sugar processing plant. As eradication and hydrologic restoration were conducted, native herbaceous and shrub species naturally regenerated with minimal need for supplemental planting. In order to access and restore the site without turbidity, impermeable liners were used to enclose the fill roads used to haul cut vegetation to the mulching machine. After all the exotic vegetation was cut and removed from the site, herbicide treatment of the stumps and spraying of any regenerated exotics have continued on a routine schedule. Due to the fact a private entity sponsor (Mariner Properties) has conducted habitat restoration within Board of Trustees of the Internal Improvement Trust Fund public lands, extensive construction requirements have been mandated and adopted by the mitigation bankers. Mariner Properties established a trust fund to provide financial assurance for the perpetual maintenance and monitoring of the restored area by FDEP after all of the credits have been sold. In addition, LPIMB credit sales will generate approximately $1.5 million in user fees that will be provided to FDEP for perpetual maintenance of restored habitat. The restored habitats have resulted in attracting a return of diverse and substantial wildlife populations, particularly a variety of wading birds. Details on the restoration project and wildlife utilization are available through the bank's website address: (www.littlepineisland.com).

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The LPIMB is conducting restoration and enhancement of freshwater and saltwater herbaceous and forested wetland habitats that appropriately and adequately compensate for FDOT wetland impacts with similar habitat functions and benefits in the Charlotte Harbor Basin.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: This mitigation bank is authorized by FDEP permit # 362434779 and Army Corps of Engineers permit # 199400037 (IP-GS). The LPIMB is a private mitigation bank conducted on public lands owned by the Board of Trustees of the Internal Improvement Trust Fund.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, there was not a SWIM-sponsored project proposed in the Charlotte Harbor watershed that could adequately and appropriately compensate for the proposed wetland impacts.

PROJECT IMPLEMENTATION

- Commencement: 1997
- Construction and exotics eradication: Complete 2009
- Perpetual management: Ongoing

Entity responsible for construction: Mariner Properties, Inc.

Entity responsible for monitoring and maintenance: Mariner Properties, Inc.

Entity responsible for perpetual management: FDEP staff

Total Cost for FDOT Mitigation Including O&M: $294,630

ATTACHMENTS

1. Figure A-Location

SW 52 - Little Pine Island Mitigation Bank
Figure A - Location

Legend

Project Location

2006 Aerial

Miles

0 1 2 4

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-53 BORAN RANCH MITIGATION BANK MITIGATION PLAN

MITIGATION SITE INFORMATION:

Project Name	Boran Ranch Mitigation Bank	**Project Number**	SW-53
Project Type	Mitigation Bank		
Landowner	Private	**Management Entity**	Private
County	DeSoto	**Watershed**	Peace River
Water bodies	Not named	**Water body Designations**	None
Project implementation status: (As of December 2013):	N/A		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 8		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	29/38S/23E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Peace River	1937911	US 17 (SR 35) CR 74 to CR 764 North	0.27	4113562.002	1995-00627
Peace River	1937981	US 17 (SR35) CR 764 South to CR 764 North	3.60	4317646.002	1995-00267
Peace River	1938851	SR 72 Sarasota Co. Line to SR 70	1.19	4317646.000	1998-01103
Peace River	1941021	US 17 (SR 35) SR 64 to Peace River Bridge	2.30	4316955.000	1994-05245
Peace River	1986371	Ft. Green/Ona (Seg. 2) Vandola to North of Vandolah	7.22	4317734.001	1998-01201
Peace River	1986381	Ft. Green/Ona (Seg. 3) SR 64 to Vandolah Rd.	5.23	4317734.002	1998-01201
Peace River	1986401	Ft. Green/Ona Road (Seg. 1) Vandolah to SR 62	2.08	4317734.000	1988-01201
Peace River	4154901	US 17 Charlotte C.L. to SW Collins[1]	1.98	43013044.006	2007-04765
		Total Impact Acreage:	**23.87**		

[1] This roadway segment also has proposed forested wetland impacts, compensated by purchasing forested wetland credits from the Peace River Mitigation Bank (SW 85) located in Hardee County.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed
Freshwater forested and non-forested wetlands and uplands	Restoration, Enhancement, Preservation	Peace River

PROJECT DESCRIPTION

A. Overall project goals: Restoration, enhancement and preservation of freshwater forested and non-forested wetlands previously impacted by agricultural ditching. Restoration and preservation of upland habitat conditions.

B. Brief description of pre-construction habitat conditions: The site is comprised of 132 wetland acres and 272 upland acres. Wetlands and uplands were historically drained by agricultural ditches and converted to improved pasture for cattle grazing. Some of the uplands have flatwood habitat that was preserved as part of the mitigation plan. In addition to filling ditches, some of the pasture required minor grading to lower elevations in order to restore appropriate marsh elevations and associated hydroperiods.

C. Brief description of construction activities and current habitat conditions: Riser structures were installed in three outfall ditches to enhance and restore proper wetland hydrology. The top six inches of the pasture surface soils were scraped & stockpiled, followed by grading and removing the underlying six inches of soil matrix. The stockpiled topsoil was evenly distributed across the constructed wetland grade, which allowed appropriate hydroperiods for creation and regeneration of marsh and wet prairie habitat. This is evident in the restored wet prairie marsh depicted on. The existing native upland habitat was preserved and converted uplands were restored through planting of appropriate native species. The project is currently in the maintenance, monitoring and land management period, which includes implementation of a prescribed burn plan.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The mitigation enhances, restores and preserves wetland and upland habitat that appropriately and adequately compensate for the proposed wetland impacts.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The BRMB is a mitigation bank authorized by SWFWMD Environmental Resource Permit No. 49014074.004 and Army Corps of Engineers permit No. 1996-01134 (IP-ML).

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: During mitigation selection, there were no SWIM projects available or currently proposed within the Peace River drainage basin to offset the anticipated wetland impacts associated with the identified road projects.

PROJECT IMPLEMENTATION

- Mitigation Bank Construction: Commenced 1998, Operational 2001
- Credit Purchase Dates: 2001, 2002, 2009

Entity responsible for construction: Boran Ranch Mitigation Bank

Entity responsible for monitoring and maintenance: EarthBalance

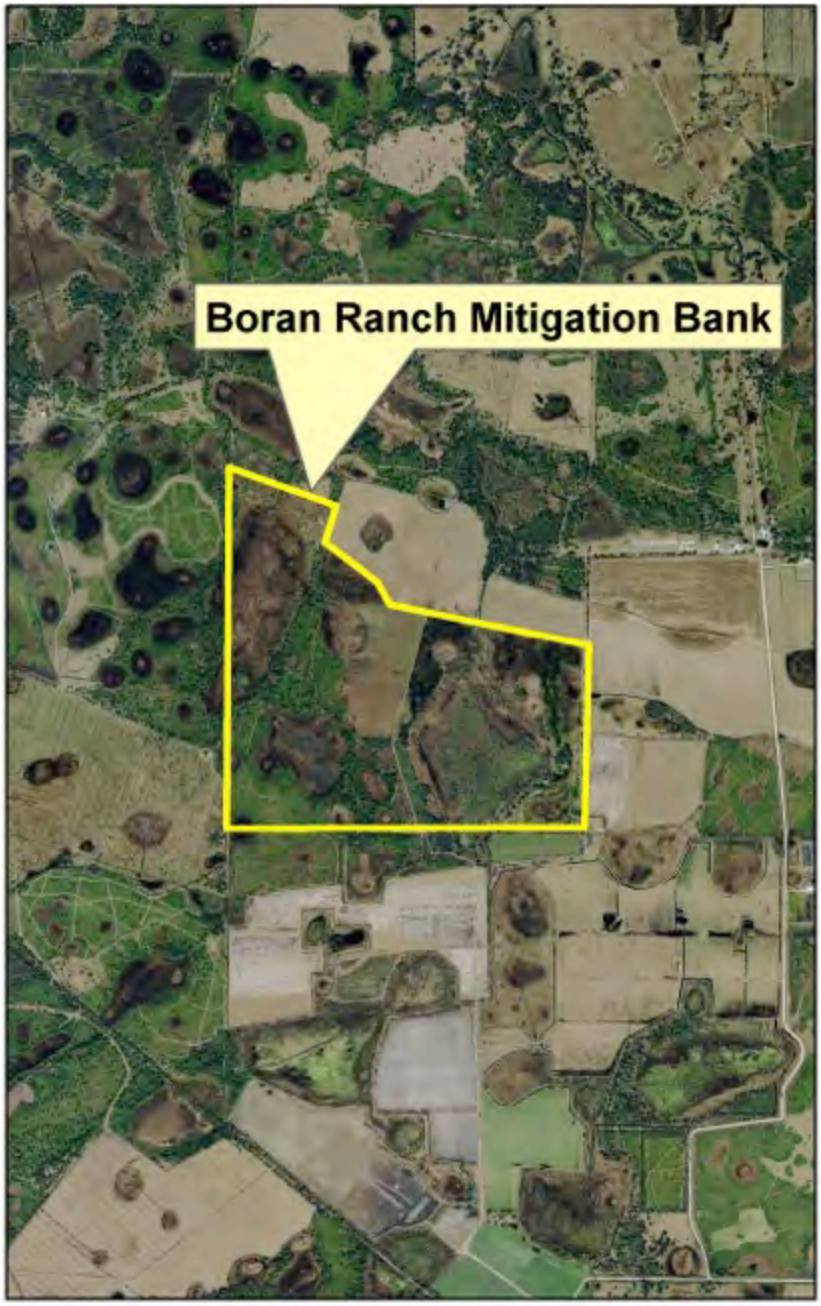
Entity responsible for perpetual management: Boran Ranch Mitigation Bank

Total Cost for FDOT Mitigation Including O&M: $760,510

ATTACHMENTS

1. Figure A-Location

SW 53 - Boran Ranch Mitigation Bank
Figure A - Location



Legend

Project Location

2011 Aerial

Miles

0 0.125 0.25 0.5

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-54 ANCLOTE PARCEL MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Anclote Parcel	**Project Number**	SW-54
Project Type	Wetland enhancement, preservation; Upland Enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Pasco	**Watershed**	Upper Coastal
Water bodies	Anclote River	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 2		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	7,18/26S/17E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Anclote River	2563361	SR 54 Mitchell to Gunn	6.60	43016251.002	1999-05202
Anclote River	2563391	SR 54 Suncoast to US 41	7.00	43016251.000	1995-04576
		Total Impact Acreage:	**13.60**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
River, mixed hardwood floodplain forest, mixed forested wetland, pine flatwoods, oak hammocks	Enhancement and Preservation	Anclote River	179
Freshwater marsh	Creation	Anclote River	6
		Total:	**185**

PROJECT DESCRIPTION

A. Overall project goals: Public agency (SWFWMD) acquisition, enhancement, and long-term management of 179 acres of high quality habitat including a portion of the Anclote River and associated mixed hardwood floodplain forest, mixed forested wetland (cypress dominant), buffers of pine flatwoods, and oak hammocks. Mitigation also includes creation of 6-acres of freshwater marsh (Figure B) in a borrow pit that existed on the property. Perpetual management primarily includes prescribed burns.

B. Brief description of pre-construction habitat conditions: Prior to public acquisition, the tract's habitats were in relatively high quality condition except for the borrow pit and the lack of prescribed burn management in the uplands. Wetland and upland conditions adjacent to the Anclote River includes high quality habitat characteristics that form wildlife habitat and corridors connecting to adjacent public lands associated with over 18,000 acres of property owned and managed by the SWFWMD (Figure A - J.B. Starkey Wilderness Preserve and Serenova Tract). The mixed forested wetland habitat includes a diversity of tree species such as bald cypress, water oak, laurel oak, swamp tupelo and red maple. The wetlands are bordered by pine flatwoods and live oak hammocks.

C. Brief description of construction activities and current habitat conditions: For preservation mitigation credit, the FDOT mitigation program reimbursed the WMD for the 185-acre acquisition. A 10-acre borrow pit was filled to provide 6 acres of marsh habitat for FDOT mitigation, surrounded by a 4-acre perimeter of planted cypress used as County mitigation for Starkey Blvd. The uplands have been enhanced by implementing a prescribed burn management plan as an extension of adjacent SWFWMD property with a burn cycle of 4-5 years.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The mitigation creates and preserves wetlands providing functions similar to those lost due to the expansion of two SR 54 roadway segments located two miles south of the mitigation area. The preserved wetlands are buffered by the preservation and enhancement of upland habitat. There are no additional wetland impacts associated with other roadway projects proposed for mitigation at the Anclote Parcel. The acquisition, preservation, and enhancement of this 185 acre tract appropriately and adequately mitigates for the 13.60 acres of wetland impact at a cumulative ratio of approximately 14 to 1.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: No mitigation banks were proposed in the Upper Coastal drainage basin during mitigation selection.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: No SWIM projects were proposed in the Upper Coastal basin during the mitigation selection process.

PROJECT IMPLEMENTATION

- Project commencement: July, 1999
- Parcel acquired: April, 2000
- Perpetual management: Ongoing

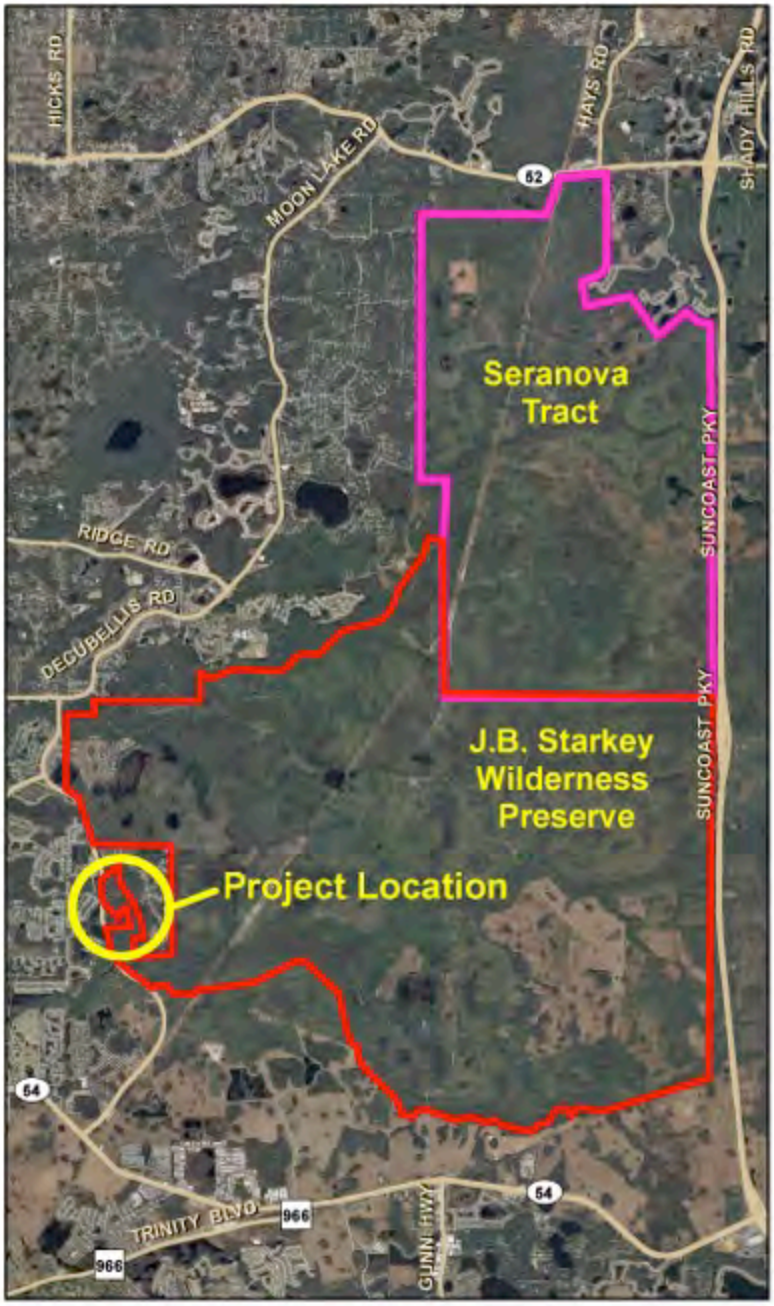
Entity responsible for perpetual management: Southwest Florida Water Management District.

Total Cost for FDOT Mitigation Including O&M: $765,000

ATTACHMENTS

1. Figure A-Location
2. Figure B-Habitat Conditions (2009)
3. Photographs

SW 54 - Anclote Parcel
Figure A - Location (7,18/26S/17E)



Legend

- Project Location
- J.B. Starkey Wilderness Preserve
- Seranova Tract

2011 Aerial

Miles
0 0.475 0.95 1.9

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

SW 54 - Anclote Parcel
Figure B - Habitat Conditions (2009)

Legend

Project Location

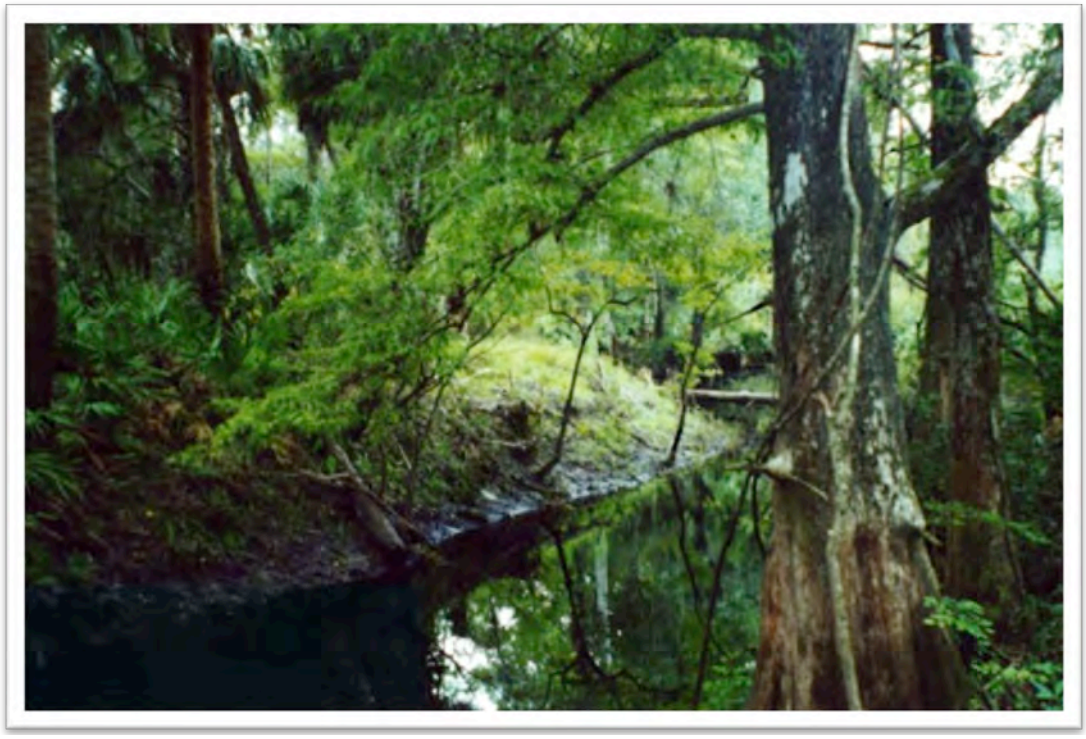
Miles

0 0.05 0.1 0.2

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

The mixed forested wetland within the northern portion of the tract is dominated by bald cypress, with additional dense canopy coverage provided by red maple, tupelo, dahoon holly, and a perimeter of water and laurel oaks.



The Anclote River meanders through the southern portion of the site. The river has an incised channel predominantly bordered with forested wetlands dominated by laurel oak, red maple and cabbage palm.

One of the flatwood communities at the site. These areas have not received prescribed burns for several years, allowing the overgrowth of palmetto and generation of wax myrtle and oak species.

One of several small oak hammocks located along the perimeter of some wetlands and sand deposits formed due to periodic overflow of the Anclote River.

SW-54 UPPER HILLSBOROUGH 4 & 5 MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Upper Hillsborough 4 & 5	**Project Number**	SW-55
Project Type	Wetland Enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Pasco	**Watershed**	Hillsborough River
Water bodies	Hillsborough River	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	27,28,29/25S/22E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Hillsborough River	2012081	I-4 - County Line to Memorial Blvd. -Sec. 1	13.55	43011869.009	1995-01846
		Total Impact Acreage:	**13.55**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Mixed forested and herbaceous wetlands	Enhancement	Hillsborough River	142.65
Herbaceous and forested wetlands	Restoration	Hillsborough River	12.00
		Total:	**157.62**

PROJECT DESCRIPTION

A. Overall project goals: Prior to restoration, the SWFWMD's Upper Hillsborough property had a large drainage ditch (1.4 miles total) and adjacent elevated berm constructed through and along the perimeter of wetland habitats. The ditch severely diverted groundwater and surface water flow away from adjacent wetlands, discharging the diverted water into the headwater wetland floodplain of the Hillsborough River. The goal was to grade the berm to backfill the ditch, restoring appropriate wetland grade elevations and associated hydrology to enhance existing wetland habitats, while restoring wetlands within the footprint of the berm and ditch.

B. Brief description of pre-construction habitat conditions: The designated project area (320 acres) included the most northern portion of the SWFWMD's Upper Hillsborough tract, which is also contiguous to thousands of acres of the SWFWMD's Green Swamp Wilderness Preserve (Figure A). The drainage ditch was large (30-40 ft. wide, 5-8 ft. in depth), draining shallow groundwater associated with the adjacent wetlands. The adjacent berm (15-20 ft. wide, 3-5 ft. above natural grade) was located along the north side of the ditch. The berm diverted surface water away from the historic drainage pattern that contributed to wetlands south of the ditch (Figure B). Approximately 142.65 acres of the enhanced wetlands are cypress and mixed forested systems, and 8.55 acres of two non-forested wetlands are established in historic borrow pits. The enhanced wetlands exhibited various signs of stress from decreased water levels such as tree fall, soil loss, upland species encroachment and changes in plant species composition. For example, laurel oak and red maple recruited and generated within the cypress/tupelo-dominated forested wetlands, and nuisance upland species such as pokeweed and dog fennel invaded the forested wetlands and the marshes.

C. Brief description of construction activities and current habitat conditions: The ditches were backfilled from adjacent berm material during the spring and summer of 2001. Some of the restored wetland grades were planted with cypress to aid in restoring 12 acres of marsh and forested wetlands within the footprint of the former ditch & tram road. Hardwood and cypress saplings have also naturally recruited within the restored wetland footprint. Eleven surficial aquifer monitor wells were installed within the proposed wetland enhancement areas during the construction period in Spring 2001, during which time there was no groundwater within six feet of the surface grade elevation at each of the associated wetlands. Since completion of construction, the groundwater and surficial hydrology flow patterns have been restored to historic conditions (Figure C, photos), with appropriate surface water hydroperiods during the rainy seasons. The restored hydrology has resulted in the mortality of nuisance and upland species, allowing for the recruitment and natural regeneration of hardwood species, maidencane, ferns, and other appropriate hydrophytic species within the enhanced and restored wetland areas. Cypress saplings planted in 2001 achieved heights of 25-30 feet by 2009. The restored and enhanced wetland habitats have resulted in an increase in wildlife diversity and access, providing additional foraging and denning opportunities. Exotic vegetation is maintained below 1% coverage within the enhanced and restored wetlands. All success criteria was achieved by 2009. Herbicide maintenance to eradicate nuisance & exotic vegetation is conducted as necessary to maintain success criteria. Normal land management activities include periodic prescribed burns within adjacent flatwood habitats.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The 13.5 acres of wetland impacts associated with the roadway improvements, located in a dense industrial area of western Polk County, were very low quality systems. Restoration construction within the Upper Hillsborough tract has resulted in large-scale, regional improvements to wetland functions and ecological benefits that adequately compensate for the low quality wetland impacts. No wetland impacts other than those associated with the construction of the above referenced segment of I-4 in Polk County are designated for mitigation at the Upper Hillsborough 4 & 5 project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: No mitigation banks were existing or proposed in the Hillsborough River drainage basin during the selection of mitigation for the I-4 wetland impacts.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The only SWIM project within the basin at the time of mitigation selection was Lake Thonotasassa (SW 34), which provides mitigation to offset wetland impacts associated with another FDOT project.

PROJECT IMPLEMENTATION

- Planning and Design: 1999
- Construction completion: September, 2001
- Perpetual Management: Ongoing

Entity responsible for construction: Southwest Florida Water Management District.

Entity responsible for monitoring and maintenance: Southwest Florida Water Management District.

Entity responsible for perpetual management: Southwest Florida Water Management District.

Total Cost for FDOT Mitigation Including O&M: $248,948

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1970s)
3. Figure C-Post-construction (2006)
4. Photographs (2000, 2001, 2009)

SW 55 - Upper Hillsborough 4 & 5
Figure A - Location (27,28,29/25S/22E)

Legend

Project Location

2011 Aerial

Miles
0 0.275 0.55 1.1

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 55 - Upper Hillsborough 4 & 5
Figure B - Post-Construction (2006)

Legend

Project Location

Feet
0 500 1,000 2,000

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

View of the 1.3 mile east-west ditch prior to construction. The associated road fill material is located adjacent to the road (right). The substantial ditch dewatered the adjacent wetlands and the road fill diverted historic wetland drainage flow patterns. (Spring 2001)

Same view as above, the ditch has been backfilled with the road fill material. Ground and surface water sheet flow hydrology and associated hydroperiods have been restored to adjacent wetlands and within the footprint of the ditch and road. (Summer, 2001)

Same view as the previous photos. The restored wetland grade has naturally generated with herbs such as maidencane and broomsedge. Planted cypress and recruited hardwoods and shrubs (e.g. red maple, sweet gum, wax myrtle) are present along the forested wetland edge (left). (Summer 2009)

The majority of the cypress planted within the filled ditch has grown to heights taller than 20 ft., with hardwood saplings recruiting within herbs. (Summer 2009)

The ditch was located along the perimeter of some wetlands and bisected others (right), with associated deposited fill (left) blocking and diverting contributing flow to the wetlands. (Summer 2000)

Same view of ditch segment after backfilling spoil material into the ditch. Some oak trees (left) were preserved from the earthwork activity. (Summer 2001)

The preserved laurel oak on the slight mound (center) was present along the lower inner edge of the road. The removed road (left) and filled ditch (right) has naturally generated ephemeral wetland habitat with slash pine and maple recruited over generated sedges. (Summer 2009)

This filled ditch and removed road segment has generated dense coverage of maidencane and soft rush that recruited from an adjacent cypress dome. (Summer 2009)

Prior to construction, monitor wells installed within wetlands had water levels consistently 4-5 feet below grade. No water stains on the well casings indicate the lack of appropriate hydroperiods. (Summer 2000)

As evident by the water stains on the well casing, restored hydrology has resulted in appropriate surface water hydroperiods within the wetlands during the rainy season. (Summer 2009)

SW-56 COCKROACH BAY (FRESHWATER) MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Cockroach Bay-Freshwater	**Project Number**	SW-56
Project Type	Wetland creation and Upland enhancement		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay, Cockroach Bay	**Water body Designations**	SWIM water body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 7		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	21,22/32S/18E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2555991	SR 676 (Causeway)-US 301 to US 41[1]	1.40	43027063.000	2004-05583
Tampa Bay Drainage	2557031	SR 60 Cypress St. to Fish Creek[2]	0.80	43002958.004	2002-05816
Tampa Bay Drainage	2558881	US 301- Sligh to Tampa Canal[1]	3.00	43024246.000	2002-06711
Tampa Bay Drainage	2568812	US 19 (SR 55) – Seville Dr. to SR 60	0.20	44025287.002	2006-2199
Tampa Bay Drainage	2569571	US 19 SR 60 (Drew) to Railroad Crossing	0.50	44011760.000	1994-00606
Tampa Bay Drainage	2569941	CR 296 Connector, 40th St. to 28th St	1.00	43008898.006	2003-01070
Tampa Bay Drainage	2569942	CR 296 Connector, NB I-275 (Ramp P) to WB SR 686	1.10	43018980.001	2004-09454
		Total Impact Acreage:	**8.00**		

[1] Wetland impacts are also offset at SW-71 Boyd Hill Nature Park.
[2] Wetland impacts are also offset at SW-62 Tappan Tract, SW-75 Cockroach Bay (Saltwater) and SW-67 Apollo Beach.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Freshwater marsh/wet prairie	Creation	Tampa Bay Drainage	26
Coastal Hammock	Restoration	Tampa Bay Drainage	7
		Total:	**33**

PROJECT DESCRIPTION

A. Overall project goals: Cockroach Bay includes a multi-agency (USACOE, SWFWMD, FDEP, AND Hillsborough County) effort of habitat creation and restoration on property acquired by Hillsborough County (total 651 acres, Figure A). The SWFWMD primarily assisted the County with managing the design, construction and creation of the wetland habitats. This designated mitigation area includes freshwater marsh/wet prairie habitat creation (26 acres) that is buffered by the restoration of coastal hammock habitat buffer (7 acres).

B. Brief description of pre-construction habitat conditions: The project site was historically converted from flatwood habitat to row crops. After public acquisition, agricultural activities discontinued and the area was allowed to go fallow, resulting in a dominance of nuisance and exotic species such as Brazilian pepper, elderberry, ragweed, fennel, and various nuisance grass species.

C. Brief description of construction activities and current habitat conditions: The wetland creation and buffer enahncement activities were constructed in two separated from each other by a 20-acre upland area. The initial activity included site clearing to remove nuisance and exotic species. Groundwater monitoring conducted at the sites for a couple years prior to construction aided in determining the appropriate wetland grade elevations necessary to achieve variable hydroperiods within the marshes. Planting of appropriate species within the marsh/wet prairie wetlands was conducted after construction, as well as planting of coastal hammock habitat to provide improved buffers for the wetlands. Supplemental plantings within the marsh/wet prairie habitat was conducted in 2006, and routine herbicide maintenance eradicates any recruited and generated exotic and nuisance vegetation, which has been primarily limited to minimal cattail populations.

In the post-construction condition, the dominant vegetation in the emergent marsh zones of both sites includes black needle rush (*Juncus roemericanus*) and soft-stem bulrush (*Scirpus validus*). Subdominant species include arrowhead (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), water hyssops (*Bacopa monnieri*), water pennywort (*Hydrocotyle umbellate*), saltmash aster (*Aster subsulatus*), and ludwigia (*Ludwigia leptocarpa*). Dominant vegetation in the high marsh/wet prairie includes sand cordgrass (*Spartina bakeri*), marsh-hay cordgrass (*Spartina patens*), salt grass (*Distichlis spicata*), hairawn muhly (*Muhlenbergia capillaries*). Subdominant species include seaside oxeye (*Borriachia frutescens*). Cabbage palm (*Sabal palmetto*), saw palmetto (*Serenoa repens*) and various sedge species provide the dominant species in the coastal hammock buffers of the constructed marshes. Cattails (*Typha* spp.) comprise less than 1% total coverage. Appropriate wetland hydrology and hydroperiods are present within the created marsh habitat, providing ephemeral marsh habitats of variable hydroperiods and concentrated emergent zones during the dry seasons. Success criteria include a total 85% cover of planted and recruited desirable species, and less than 5% exotic and nuisance species cover. The site's success conditions consistently exceed the success criteria.

The concentration and variation of surface waters in the marshes provides substantial foraging opportunities for wildlife use. Observed and documented wildlife use of the project sites is extensive, evident by the substantial foraging opportunities available to the extensive bird populations that visit the created marsh habitats. Commonly observed species include red-winged blackbird (*Agelaius phoeniceus*), anhinga (*Anhinga anhinga*), great blue heron (*Ardea herodiaa*), cattle egret (*Bubulcus ibis*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great egret (*Casmerodius albus*), turkey vulture (*Cathartes aura*), belted kingfisher (*Ceryle alcyon*), killdeer (*Charadrius vociferous*), black vulture (*Coragyps atratus*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), common moorhen (*Gallinula chloropus*), Florida sandhill crane (*Grus canadensis*), woodstork (*Mycteria americana*), white pelican (*Pelecanus erythrorhynchos*), double-crested cormorant (*Phalacorcorax auritus*), roseate spoonbill (*Platalea ajaja*), glossy ibis (*Plegadis falcinellus*), common grackle (*Quiscalus quiscula*), royal tern (*Stema maxima*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), mosquito fish (*Gambusia holbrooki*), and raccoon (*Procyon lotor*).

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of the roadway wetland impacts included low quality marsh habitat. The creation of freshwater marsh/wet prairie habitat (26 acres) and restoration of coastal hammock buffer (7 acres) appropriately and adequately mitigate for the wetland impacts at a cumulative ratio of 4.3 to 1. Other than the wetland impacts associated with the seven roadway projects listed above, no additional wetland impacts will be proposed for mitigation within this project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The only mitigation bank in the basin at the time of mitigation selection was the Tampa Bay Mitigation Bank, which is also within the Cockroach Bay area. However, the mitigation bank was not constructed and did not have available mitigation credits during the period of mitigation selection for the wetland impacts.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This habitat project is part of a large County and SWFWMD SWIM Program effort to create and restore habitat within the Cockroach Bay property. The Cockroach Bay restoration effort is guided by the Cockroach Bay Restoration Alliance, made up of stakeholders including agencies, landowners, and the Tampa Bay Mitigation Bank. Even though there are various restoration phases throughout the Cockroach Bay Habitat Restoration area, they are all inter-related based on site conditions. Ecosystems transition from upland to wetland habitat, followed by salinity gradients of freshwater to estuarine wetlands. A braided tidal wetland creation project was also selected north of this project area and constructed in 2005 for the FDOT mitigation program (SW 75 - Cockroach Bay Restoration – Saltwater).

PROJECT IMPLEMENTATION

- Design and Permitting: 2002-2003
- Construction and Planting: 2003-2005
- Monitoring: Complete 2008
- Maintenance: Complete 2010
- Perpetual management: Ongoing

Entity responsible for construction: Contractors working for the SWFWMD-SWIM Section.

Entity responsible for monitoring and maintenance: SWFWMD, Hillsborough County and contractor.

Entity responsible for perpetual management: Hillsborough County.

Total Cost for FDOT Mitigation Including O&M: $779,777

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-During-construction (2004)
4. Photographs (2002, 2009, 2013)

SW 56 - Cockroach Bay Restoration (Freshwater)
Figure A - Location (21,22/32S/18E)

Legend

Project Location

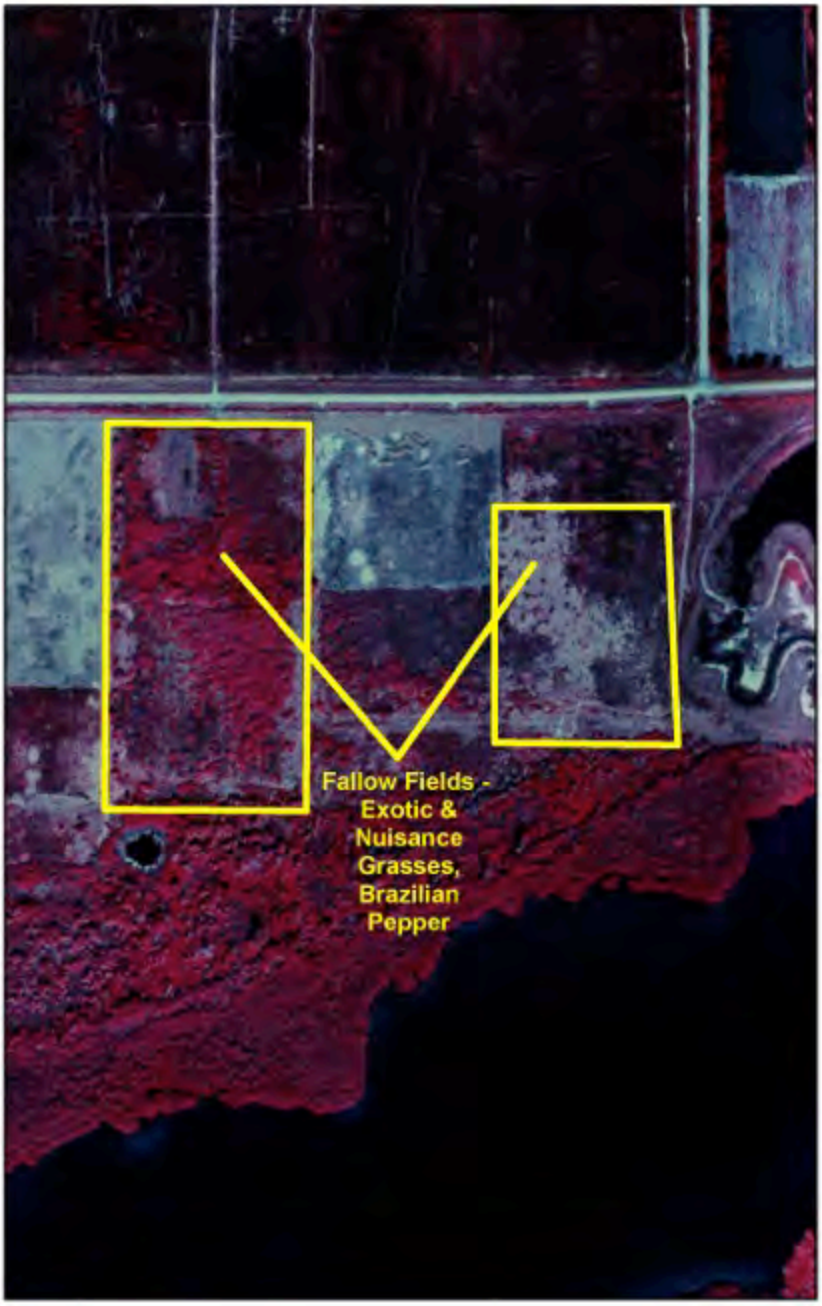
2011 Aerial

Miles
0 0.1 0.2 0.4

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 56 - Cockroach Bay Restoration (Freshwater)
Figure B - Pre-Construction (1999)



Legend

Project Location

Feet
0 170 340 680

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 56 - Cockroach Bay Restoration (Freshwater)
Figure C - During Construction (2004)

Legend

Project Location

Feet
0 170 340 680

2014 FDOT Mitigation Plan

Southwest Florida
Water Management District

Pre-Construction – Previously a row crop field prior to public acquisition, the site had generated extensive coverage of exotic and nuisance species such as Brazilian pepper, dog fennel, ragweed and ruderal grass species such as Guinea grass and Australian pine. (2002)

Pre-Construction – View from Cockroach Bay Road looking south over the site. The low quality ruderal habitat would have eventually transformed into a dense thicket of Brazilian pepper. Scattered cabbage palms (right) were preserved within the marsh creation design and coastal hammock buffer restoration activities. (2002)

Post-Construction – Created emergent marsh zones have dominant coverage provided by bulrush and black-rush, with additional coverage provided by pickerelweed, arrowhead and water hyssops. The emergent zones have concentrated shallow surface water during the dry season, providing foraging opportunities for many wading bird and waterfowl species. (2009)

Post-Construction – Created wet prairies have dominant coverage provided by sand cordgrass, saltgrass, broomsedge and hairawn muhly. These ephemeral zones provide foraging, nesting and denning opportunities for wildlife species that also utilize the emergent zones and adjacent upland habitats. The project's southern limits and adjacent coastal hammock habitat bordering Cockroach Bay are evident in the background. (2009)

Post-Construction wet prairie conditions. (2013)

Post-construction wet prairie conditions. (2013)

SW-57 LAKE PANASOFFKEE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Lake Panasoffkee	**Project Number**	SW-57
Project Type	Wetland enhancement		
Landowner	Southwest Florida Water Management District (adjacent land)	**Management Entity**	Southwest Florida Water Management District
County	Sumter	**Watershed**	Withlacoochee River
Water bodies	Lake Panasoffkee	**Water body Designations**	SWIM water body, Outstanding Florida Water
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	16,21/20S/22E – disposal site		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Withlacoochee River	4063291	I-75 - Lake Panasoffkee Bridge	5.93	4320508.000	2000-00754
		Total Impact Acreage:	**5.93**		

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Open Water	Restoration	Withlacoochee River	75
		Total:	**75**

PROJECT DESCRIPTION

A. Overall project goals: Restoration of Lake Panasoffkee fisheries habitat was the primary goal of the project, with secondary objectives of eradicating exotic and nuisance vegetation.

B. Brief description of pre-construction habitat conditions: Prior to restoration construction, Lake Panasoffkee suffered extensive buildup of inorganic sediments and shallowing of the lake that resulted in the destruction of extensive fisheries spawning and habitat as well as substantial generation of nuisance and exotic emergent vegetation in the lake. The restoration plan incorporated several steps to improve the fisheries habitat, restore the shoreline, and facilitate navigation.

C. Brief description of construction activities and current habitat conditions: The Lake Panasoffkee Restoration Council recommended removal of the inorganic sediments from the lake bottom, with hydraulic dredging the major element of the restoration plan. The dredging followed a six step approach presented in the Lake Panasoffkee Restoration Plan. STEP 1 included a Pilot Project of dredging completed in the summer of 2000. The dredging plan included various grade depths associated with the lake. STEP 2 included dredging almost 5 million cubic yards of sediments from approximately 1,010 acres (30% of the lake bottom grade) to hard bottom. Approximately 75 acres of this dredging phase was selected to provide mitigation for the open water wetland impacts associated with the construction of the I-75 bridge crossing over Lake Panasoffkee. This dredging phase was conducted in 2004, and the entire lake dredging project was completed in 2008.

This project restored critical open water habitat in Lake Panasoffkee, an Outstanding Florida Water. The bottom elevations are deep enough to exclude emergent species, thus ensuring the persistence of open water habitat necessary to restore the desired fish habitat. Therefore, it was determined monitoring and success criteria were not necessary. Maintenance is primarily related to control of invasive aquatic vegetation, however only the dredging activity was designated for FDOT mitigation credit.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The FDOT project impacts included open water habitat associated with the area between the two I-75 bridge spans that cross along the southeast portion of Lake Panasoffkee (Figure A). The open water impacts and location match the habitat improvements associated with Lake Panasoffkee. This I-75 Bridge project resulted in the only wetland impacts designated for mitigation at the Lake Panasoffkee Restoration project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection, there wasn't an existing or proposed mitigation bank within the Withlacoochee River Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: Lake Panasoffkee is a SWIM water body and the FDOT mitigation program provided much needed funds to this multi-million dollar project while adequately and appropriately compensating for unavoidable open water impacts to the lake.

PROJECT IMPLEMENTATION

- Dredging/Construction: 2004
- Perpetual management: Ongoing

Entity responsible for construction: Contractor selected by the SWFWMD.

Entity responsible for monitoring and maintenance: Contractor selected by the SWFWMD.

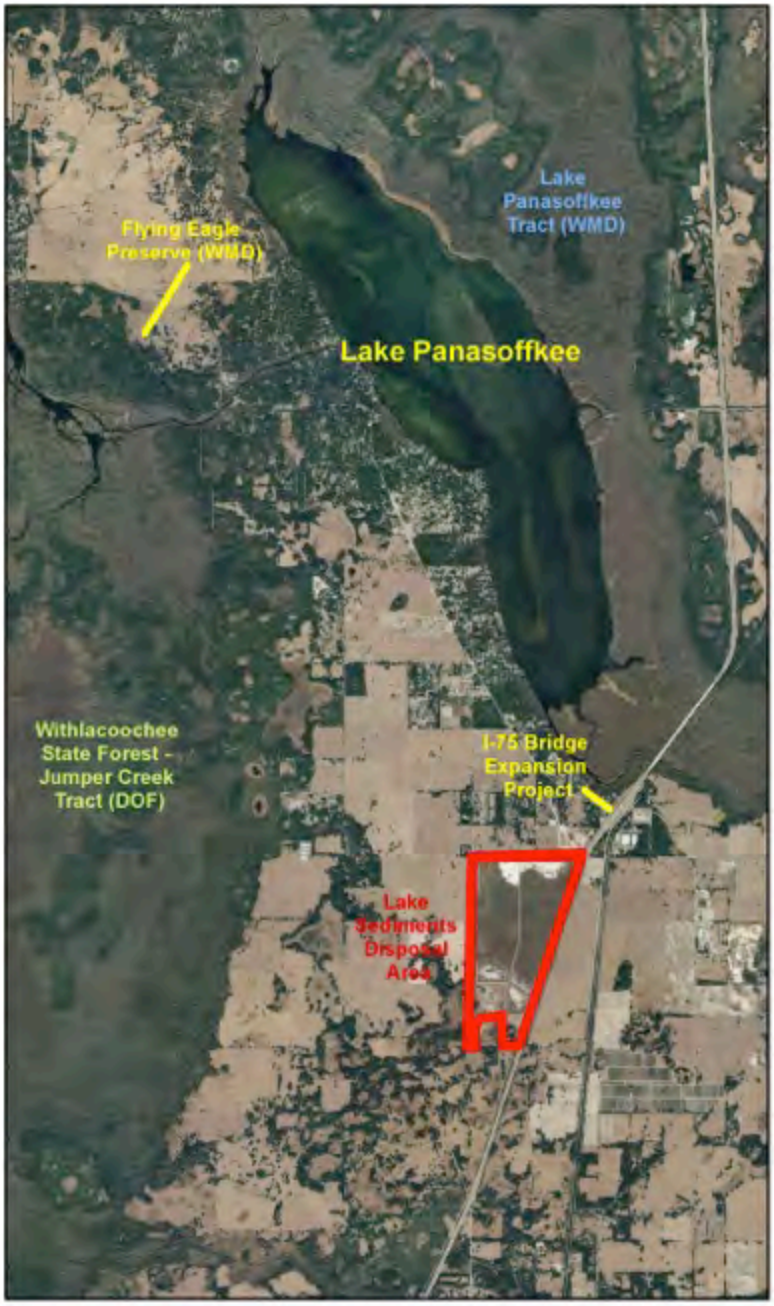
Entity responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $473,463

ATTACHMENTS

1. Figure A-Location
2. Photographs (2008, 2009)

SW 57 - Lake Panasoffkee Restoration
Figure A - Location



Legend

Sediment Disposal Area

Miles
0 0.35 0.7 1.4

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

View of the barge used to hydraulically dredge the inorganic sediments accumulated in Lake Panasoffkee. (2008)

Aerial view of the sediment disposal cells constructed south of the lake (top of photo), the I-75 bridge wetland crossing being mitigated with this project is on the top right side of the photo. (2009)

SW-58 BARR HAMMOCK – LEDWITH PRAIRIE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Barr Hammock – Ledwith Prairie	**Project Number**	SW-58
Project Type	Wetland Preservation		
Landowner	Alachua County	**Management Entity**	Alachua County
County	Alachua	**Watershed**	Ocklawaha River
Water bodies	Ledwith Lake	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	25/11S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Ocklawaha River	238641	US 27 Levy Co. Line to SR 326	3.50	43014024.002	No permit required
Ocklawaha River	238679	US 27 SR 326 to CR 225a	1.09	43008697.001	1997-02099
Ocklawaha River	238719	SR 40 CR 328 to SW 80th	0.08	44022268.000	No permit required
		Total Impact Acreage:	**4.67**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Marsh prairie	Preservation	Ocklawaha River	60
Mixed forested wetland	Preservation	Ocklawaha River	10
		Total:	**70**

PROJECT DESCRIPTION

A. Overall project goals: As part of the Alachua County Forever land acquisition program, the project goal includes the public acquisition, preservation, and enhancement of 2,303 acres of high quality upland and wetland habitat (Figure A). The acquisition includes a 353-acre portion of an approximately 1,800-acre marsh prairie referred to as Ledwith Lake (of which 70 acres was designated for FDOT mitigation) (Figures B & C). The northern boundary of the tract adjoins another large marsh prairie (Levy Lake), a 3,100-acre marsh covered by a conservation easement through the NRCS – Wetland Reserve Program. In turn, the Levy Lake property is contiguous to several thousand acres of regionally significant preserved habitat associated with Paynes Prairie State Preserve (Figure B). The Ocklawaha basin has minimal coverage of wetland habitat, with the majority associated with Ledwith and Levy Lakes. As a result, acquisition and preservation of the Barr Hammock - Ledwith Prairie property was considered an important and critical pursuit to protect important and rare water and wetland resources in the basin. The nomination and selection of this tract to the FDOT mitigation program was conducted in 2001, with the acquisition finalized by Alachua County in September, 2006.

B. Brief description of pre-construction habitat conditions: The northern portion of the tract includes a mixture of upland mixed coniferous/hardwood habitat, along with mixed hardwood wetland

forests. The forested wetland habitat has a diverse canopy coverage provided by sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), loblolly bay (*Gordonia lasianthus*), laurel oak (*Quercus laurifolia*), swamp chestnut oak (*Quercus michauxii*) and other hardwood species. The forested upland component includes pignut hickory (*Carya glabra*), live oak (*Quercus virginiana*) and pine (*Pinus taeda*). The Ledwith Lake marsh prairie has a few pockets of open water and extensive herb coverage provided by pickerelweed (*Pontederia cordota*), smartweed (*Polygonum* spp.), maidencane (*Panicum hemitomon*), spatterdock (*Nuphar lutea*), and soft rush (*Juncus effusus*) (refer to photos). Extensive vegetative diversity and wildlife presence have been documented in the marsh and adjacent upland habitat. Natural resource evaluations were conducted and are available from Alachua County and the FDOT Mitigation Program Manager

C. Brief description of construction activities and current habitat conditions: This Barr Hammock - Ledwith Prairie acquisition is part of an east-west corridor of proposed public land acquisitions between Ocala National Forest and the Waccasassa River. A hydrologic evaluation of Levy Lake and Ledwith Lake will determine if and when the surface water elevations should be revised with the existing culverts and flashboard risers in order to enhance wetland hydroperiods (photos). Other enhancement activities include the elimination of cattle grazing within the marsh prairie to minimize encroachment of nuisance vegetation, eradication of exotic and nuisance species, and adopting a prescribed fire management plan for the tract.

In collaboration with FDEP, Alachua County has prepared and implemented a perpetual management plan that includes appropriate land management activities such as eradication of exotic and nuisance species and a prescribed fire management plan. A long-term maintenance plan is not included as part of this mitigation plan since only preservation credit is applied for the FDOT mitigation credit.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): With the minimal presence of public lands and few wetlands within this predominantly upland basin, there are very limited wetland enhancement & restoration opportunities in this basin. The Ledwith Lake marsh prairie is one of the few and largest wetlands within the basin and exhibits high quality wetland functions and. The marsh and adjacent forested wetland and upland habitats provide appropriate mitigation for the wetland impacts. After acquisition was final, the SWFWMD reimbursed Alachua County for the costs associated with acquiring 60-acres of marsh prairie and 10-acres of mixed forested wetland habitat (70 acres x $4,352 per acre = $304,640). To date, all of the anticipated FDOT wetland impacts in the basin are associated with non-forested habitat. However, reimbursement for a proportion of forested wetland habitat was provided in case there are forested wetland habitat impacts associated with future FDOT projects. The reimbursement of the land acquisition costs associated with 70 acres of the tract provides more than adequate and appropriate preservation mitigation credit to compensate for the permitted FDOT wetland impacts.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection and reimbursement to Alachua County, there were no existing or proposed mitigation banks within this basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: There are no SWIM projects or SWIM water bodies within this basin.

PROJECT IMPLEMENTATION

- Planning: 2001
- Acquisition: 2006
- Perpetual management : Ongoing

Entity responsible for acquisition: No construction necessary for FDOT mitigation portion of the project, land acquisition only by Alachua County.

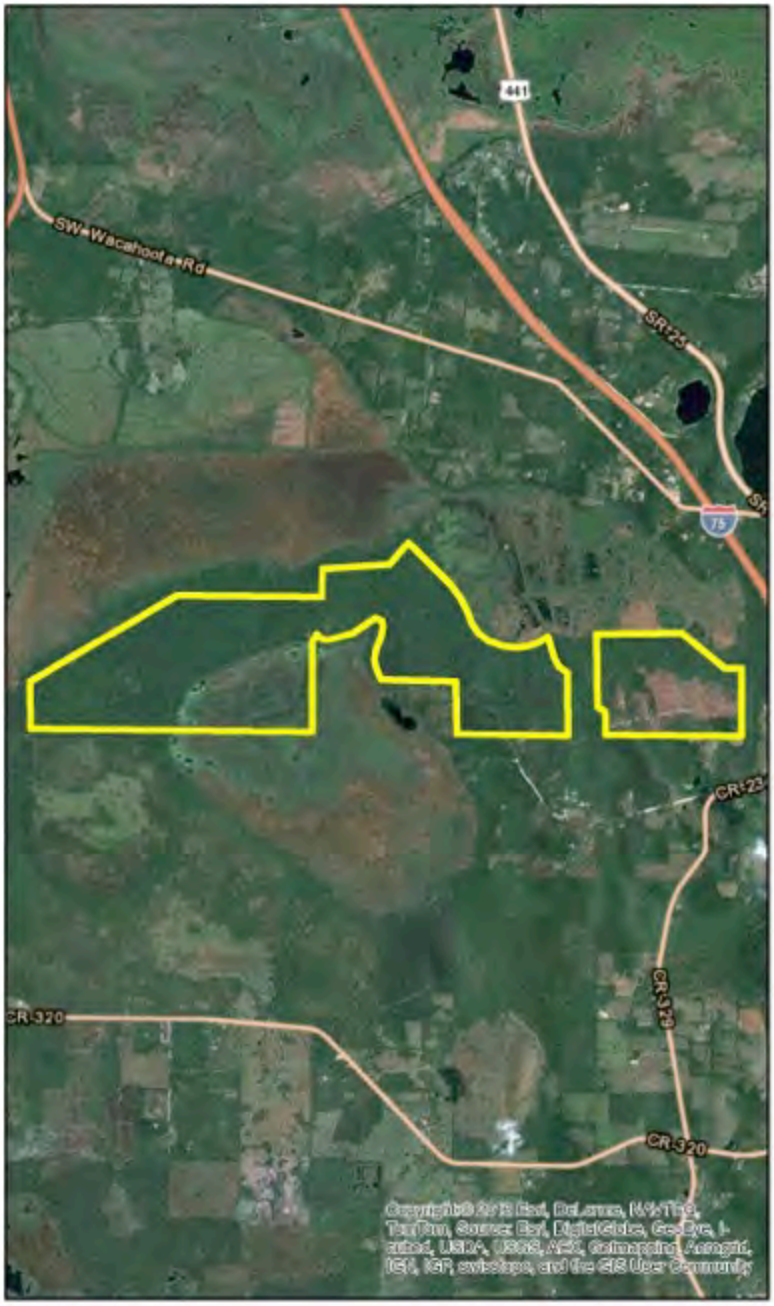
Entity responsible for monitoring and maintenance: Monitoring is not necessary or proposed for the preservation mitigation credit.

Entity responsible for perpetual management: Alachua County

Total Cost for FDOT Mitigation Including O&M: $354,640

ATTACHMENTS
1. Figure A-Location
2. Photographs

SW 58 - Barr Hammock - Ledwith Prairie
Figure A - Location (25/11S/19E)



Legend

Project Location

2013 aerial

Miles

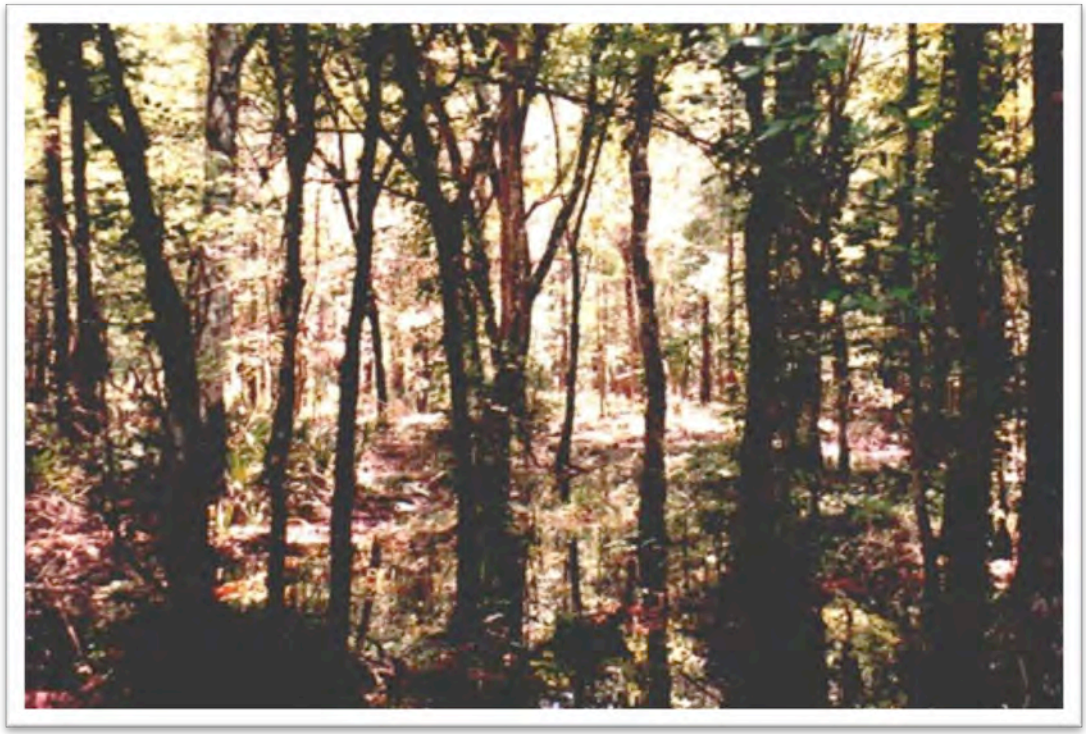
0 0.275 0.55 1.1

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

View of Ledwith Lake from the western marsh boundary. The marsh prairie has diverse vegetative cover including a dominance of pickerelweed, floating pennywort, smartweed, spatterdock, soft rush and maidencane.

Open water areas in Ledwith Lake are few and are predominantly located within the perimeter of the marsh prairie. Hardwood wetlands rim portions of the marsh, providing short transitions to upland hardwood hammocks.



Some wetland hardwoods rim Ledwith Lake and within the hydrologic connection between Levy lake and Ledwith Lake (shown above), with a dominance of laurel oak, red maple, sweetgum and swamp chestnut oak that transition to upland hardwood hammocks of pignut hickory and live oak.

Ledwith Lake outfall structures with flashboard risers that control the water elevation and flow north to Levy Lake.

SW-59 HAMPTON TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Hampton Tract	**Project Number**	SW-59
Project Type	Wetland Enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Polk	**Watershed**	Withlacoochee River
Water bodies	Gator Creek, Colt Creek, Sapling Drain, Bee Tree Drain	**Water body Designations**	None
Project implementation status: (As of December 2013):	Maintenance and Monitoring		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 2		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	2,3,10,11/26S/23E; 22,23,25,26,27,34,35,36/25S/23E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Withlacoochee River	2012041	I-4 East of CR 557 to Osceola County (Sec. 6-7,9)[1]	3.88	43011896.032	1994-03591
Withlacoochee River	2012092	I-4 East of US 98 to East of CR 557 (Sec. 3-5)[2]	18.88	43011896.026	2002-04891
		Total Impact Acreage:	**22.76**		

[1] Segment 7 of this project is in the Kissimmee Ridge Basin and the wetland impacts are mitigated at SW-49 Reedy Creek Mitigation Bank. Wetland impacts in the Ocklawaha River Basin are offset at SW-76 Lake Lowery.

[2] A portion of this project is located in the Peace River Basin and wetland impacts are being mitigated at SW-47 Tenoroc-Bridgewater Tract.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetlands	Enhancement	Withlacoochee River	1223.10
Non-forested wetlands	Enhancement	Withlacoochee River	37.68
		Total:	**1260.78**

PROJECT DESCRIPTION

A. Overall project goals: The Hampton Tract was acquired by the SWFWMD in 1999. Located adjacent to over 260,000 acres of public lands, the Hampton Tract was an important acquisition for the protection, restoration and enhancement of native habitat within the Green Swamp. The tract has a 22 mile ditch network that has extensively dewatered and drained many of the wetland habitats on the property. The goal of this project is to restore historic drainage patterns and to enhance the function of 1,606 acres of impacted wetlands, with secondary benefits to other wetland and upland habitats within the property.

B. Brief description of pre-construction habitat conditions: The site is located within the Green Swamp (Designated Area of Critical State Concern), over 60% of the adjacent property (north and west) is also under public ownership by the SWFWMD, referred to as "Green Swamp Wilderness Preserve" (Figure A). The tract's habitat and land use is dominated by approximately 2,400 wetland acres

(predominantly mixed forested and cypress systems), 4,200 acres of pine flatwood & upland hardwood hammocks, and 1,000 acres of previously improved pasture that have been gradually converted to pine silviculture operations since the SWFWMD's acquisition of the property in 1999.

The site's historic drainage pattern meandered from east to west, receiving contributing flows from property east of the Hampton Tract. During the late 1940's and early 1950's, the construction of large drainage ditches (Colt Creek Drain, Sapling Drain, Bee Tree Drain) and smaller connecting ditches resulted in a more direct drainage and discharge of surface and ground water to connect with the ditched Gator Creek, located along the project's western boundary. The Gator Creek ditch is a major drainage feature within the western Green Swamp, crossing north through the Hampton Tract, other public lands (Green Swamp-East, Colt Creek State Park, Green Swamp-West), then outfalling into the Withlacoochee River. The northern perimeter of the Hampton Tract is adjacent to the forested wetland floodplain associated with the Withlacoochee River. These ditched drainage systems have directly impacted the hydroperiod and vegetative composition of a large percentage of the tract's wetlands, particularly resulting in the transition of obligate to more facultative species within the wetlands, and allowing undesirable upland and nuisance species to encroach within the wetlands. Blackberry and grapevine in particular have become problematic nuisance species. Figure B depicts the major ditches, proposed ditch block locations and primary wetland enhancement areas. Additional wetlands within the property will receive secondary enhancement; however, those systems have not been proposed for mitigation credits.

Large ditch block construction will be conducted to restore hydrology and subsequently enhance the ditched wetlands, resulting in mortality of upland and nuisance species and the regeneration of more obligate species that have gradually decreased from the wetlands. This construction will also restore historic surficial and groundwater hydrology for the entire tract. The ditch blocks were constructed with the adjacent spoil material from the original dredging operations, and the majority of the blocks were constructed where the upland-cut ditch sections outfall from wetlands. Extended dry season ground and surface water conditions not only stress and degrade vegetative characteristics, but the ditches deplete water sources necessary for all wildlife species. Even though the wetlands have natural cycles of below grade water elevations, the opportunity to maintain some surface water within the ditches without resulting in groundwater drawdown will allow the availability of an important water resource for wildlife use during dry seasons. The extended ditch blocks will also provide easier access for wildlife to cross back and forth between wetlands and uplands. The following information describes the wetland enhancement aspects associated with each major drainage system.

Colt Creek Drain: This drain includes a combination of both historically isolated and connected forested wetland tributaries within the northern portion of the property. The highest concentration of former isolated and partially connected wetlands for the entire Hampton Tract is associated in cypress systems within the northeastern area of the property. Historically, many of these wetlands only had hydrologic connectivity via surface water that sheet flowed through minor sloughs and hydric flatwoods during the wet season. The high concentration of perimeter ditches around the wetlands have connected and substantially altered the drainage patterns and wetland hydroperiods, diverting flow away from wetlands and directing water through upland-cut ditches instead of the natural meandering drainage patterns. In order to restore the drainage patterns within each of these wetlands, over half of the 52 total ditch blocks are associated with the Colt Creek Drain.

As previously noted, the SWFWMD has converted the land use of the northeast upland pastures to silviculture. However, pines were planted at a minimum buffer of 50 feet from the wetlands so that with the restored wetland hydrology can naturally generate hydrophytic sedges and rushes to replace bahiagrass. With the introduction of pines to replace open pasture, restoration of the meandering alignment of the wetland strands, and additional vegetative cover, wildlife movement and corridors will increase between upland and wetland habitats.

A large ditch and adjacent spoil berm was historically constructed along the northeastern two-mile boundary of the Hampton Tract. This berm acts as a levee, blocking the historic westward drainage pattern of water flow through the property and resulting in surface water impoundment and flooding within private property east of the berm. By constructing two breaches within the spoil berm, historic flow patterns will be restored that will benefit the on-site wetlands while decreasing the periodic flood conditions that occur on the private property.

Sapling Drain: This drain is a large, straight, east-west ditch that conveys substantial quantities of water from the contributing watershed. Historically, flow meandered through a cypress strand located less than a few hundred feet north of the ditch drain. Historic aerials indicate the majority of the existing central fallow field north and south of the remnant cypress strand was historically marsh and wet prairie habitat where sheet flow attenuated in the wet season. The current vegetative cover in the field is bahia, fennel and pine trees with shallow collector cross-ditches dominated by soft rush. The surface water model for Sapling Drain has determined that hydrologic improvements can restore a minimum 40 acres of marsh habitat; however, it is anticipated to result in 60-100 acres of additional wet prairie restoration. Secondary benefits, which are not included in mitigation credits for this project, are anticipated to result in the generation of an additional 50-100 acres of ephemeral marsh and wet prairie habitat restoration. The restoration of the Sapling Drain marsh system is particularly beneficial since the vast majority of non-forested wetland habitats in the western portion of the Green Swamp were historically converted to improved pastures as a result of drainage ditches.

Bee Tree Drain: This drain was dredged across a meandering mixed forested wetland and through the adjacent upland habitat, short-circuiting the meandering wetland flow pattern westward to instead discharge directly into Gator Creek. Similar to the Colt Creek Drain, restoring the wetland flow patterns will be conducted by constructing blocks at the wetland/upland boundary interface.

Gator Creek Drain: Gator Creek is one of the major ditch drainage features in the Green Swamp, extending many miles from Interstate-4 to the Withlacoochee River. The ditch itself was dredged through uplands and wetlands to connect with a natural creek floodplain located a few miles south of the Hampton Tract. Historically, the creek floodplain within the Hampton Tract itself had minimal definition of an actual creek channel, resulting in sheet flow similar to other wetland strands on the property. As depicted on Figure A, the portion of the Gator Creek ditch crosses the southwestern portion of the property, and the reduced hydroperiods have transitioned the floodplain wetland to a mesic hammock, resulting in the recruitment and generation of facultative species such as laurel oak even within the lowest grade elevations of the wetland floodplain.

Due to the close proximity of adjacent upstream residential development south of the Hampton Tract, constructing blocks within the Gator Creek ditch section to restore drainage patterns would adversely impact off-site drainage patterns and increase offsite flood potential. However, by constructing two ditch blocks in Bee Tree and Sapling Drains prior to their connection to Gator Creek, the majority of ditch flow will be retained to restore adequate and appropriate wetland hydrology within a portion of the Gator Creek floodplain on the Hampton Tract. By retaining more surface water within the Hampton Tract, contributing flow to the Gator Creek ditch itself will be reduced, allowing more flow north. In turn, this will reduce flood potential on property to the south.

C. Brief description of construction activities and current habitat conditions: A surface water model evaluation was conducted to determine design features necessary to restore and enhance the hydrology and associated hydroperiods for the majority of the wetlands within the Hampton Tract. The study indicated that these hydrologic improvements could be conducted by constructing 52 blocks within designated ditch locations to redirect and restore historic hydrology in the wetlands. Figure B depicts the proposed block locations and the primary wetland enhancement areas as a result of the hydrologic restoration. Ten monitor wells were installed within drained wetlands in 2009 to document pre-construction ground and surface water elevations and durations. These wells have continuous automatic recorders that document the ground and surface water levels every 15 minutes, and the data collection will continue to be monitored for a period of at least five years post-construction.

Maintenance activities will be predominantly associated with evaluating and ensuring the structural integrity and suitability of the proposed ditch blocks and inspections and maintenance will be perpetually conducted as part of a normal land management practices for the Hampton Tract. One of the primary components of the tract's management plan includes prescribed burns. Currently such burns can periodically encroach too far into drained forested wetlands, resulting in vegetative impacts and loss of organic topsoil. With the restored hydrology of drained wetlands, the prescribed burns will only encroach along the transitional perimeters of the forested wetlands. These transitional areas often become dense with vegetative species such as wax myrtle and vines, restricting wildlife movement. The prescribed burns will reduce plant density in transitional areas, resulting in improved wildlife access to and use of all habitat areas.

Pre-construction hydrologic monitoring commenced in January, 2009 and includes downloads of water table data provided from continuous recorders installed within ten monitoring wells. These wells are located within wetlands associated with the Colt Creek Drain (5 wells), Sapling Drain (3 wells), and Bee Tree Drain (2 wells), with two wells located where Sapling & where Bee Tree intersect with the Gator Creek floodplain. These wells will continue to be monitored for a minimum five years post-construction and after success criteria has been met. This will provide at least two years of pre-construction hydrologic monitoring to compare with minimum five year post-construction monitoring to evaluate the restored surface water hydrology and document any potential problems. Monitoring also includes semi-annual (dry and wet season observations) qualitative habitat evaluations and documentation of general wetlands associated with the Colt Creek, Sapling Drain, Bee Tree Drain, and Gator Creek floodplains. The qualitative evaluation will include descriptive and photographic documentation of vegetative and habitat conditions, with particular notation of transitional shifts of flora & fauna as a result of the restored and enhanced drainage improvements. This information will be compiled into annual monitoring reports for a minimum five years post-construction.

Success criteria includes demonstration that all the structures function as proposed, and that proper stabilization has occurred and will be maintained around the structures. This documentation will need to demonstrate that the ditch blocks are stabilized and divert flow into the wetlands as designed.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The Hampton Tract was selected to provide mitigation for all the anticipated wetland impacts associated with the ultimate build-out of I-4 through the Withlacoochee basin portion in Polk County, including the high-speed rail facility when it was proposed in 2001 and subsequently removed from FDOT's work program in 2011. The majority of the I-4 wetland impacts include forested wetland habitat, and the remnant non-forested wetlands within the corridor were historically forested wetlands that are maintained by FDOT as non-forested systems due to required vehicular safety zones. The Hampton Tract will receive primary hydrologic restoration for 1,223.10-acres of forested wetlands and 37.68-acres of non-forested wetlands (total 1,260.78-acres). Wetlands without direct hydrologic enhancement are not accounted for in mitigation credits. The substantial wetland enhancement within a regionally significant tract will adequately and appropriately mitigate for wetland impacts associated with I-4.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the period of mitigation selection, there were no established or proposed mitigation banks within the Withlacoochee River Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: During the period of mitigation selection, the only SWIM-sponsored project within the Withlacoochee River Basin included restoration activities within Lake Panasoffkee (SW 57), which was selected for mitigation of wetland impacts associated with the I-75 bridge expansion within the Lake Panasoffkee floodplain.

PROJECT IMPLEMENTATION

- Planning, Modeling and Design: 2006-2010
- Monitor well installation: January, 2009
- Construction: 2011-2012
- Maintenance and Monitoring: 2013-2017
- Perpetual management: Begin 2018

Entity responsible for construction: Southwest Florida Water Management District.

Entity responsible for monitoring and maintenance: Southwest Florida Water Management District.

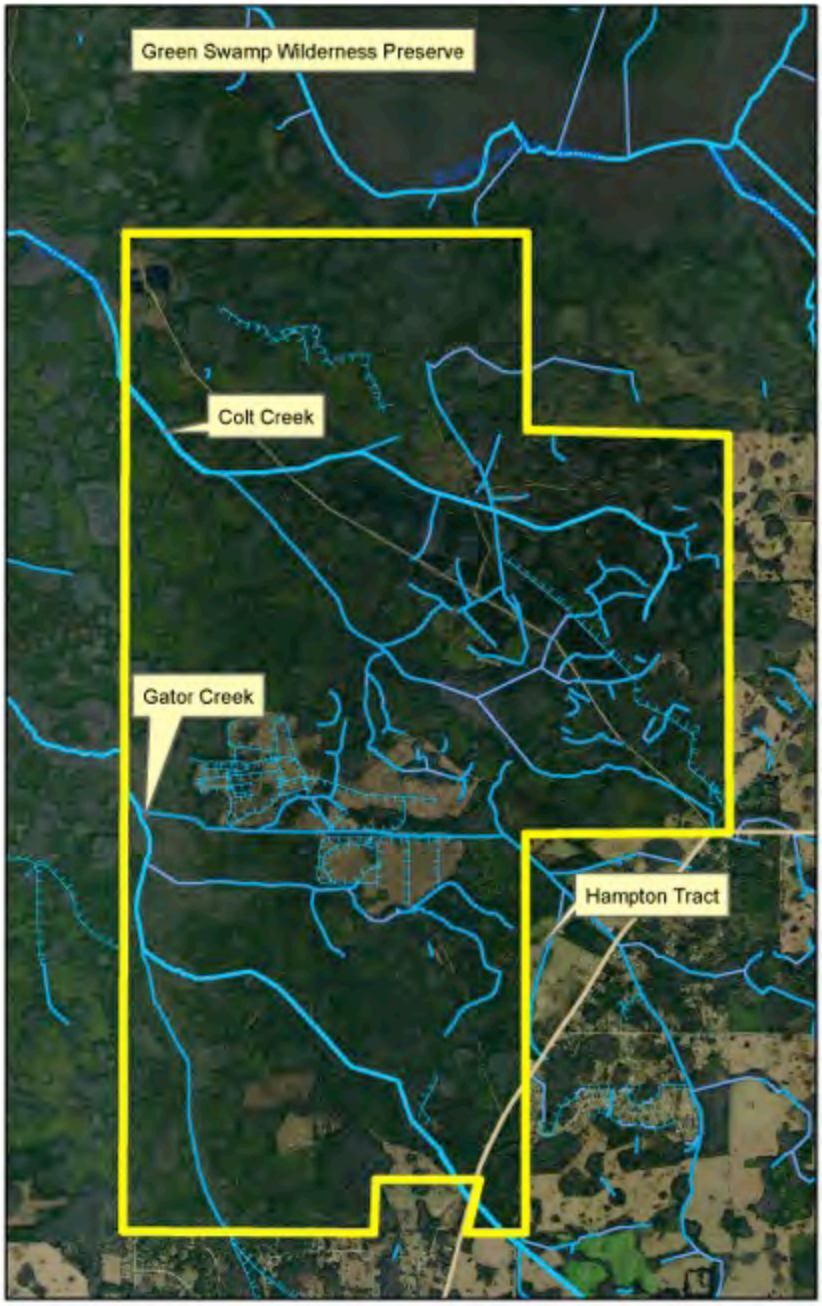
Entity responsible for perpetual management: Southwest Florida Water Management District.

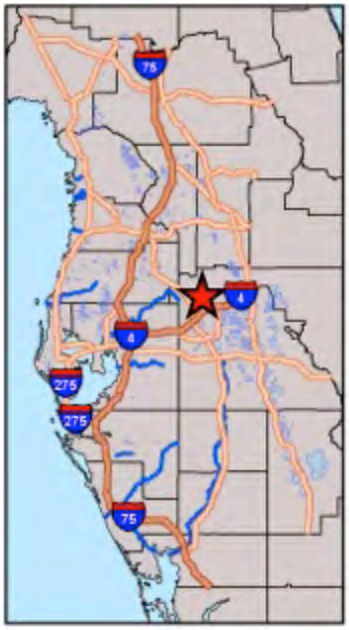
Total Cost for FDOT Mitigation Including O&M: $888,526

ATTACHMENTS

1. Figure A-Location
2. Figure B-Wetland Restoration Areas
3. Photographs (2012)

SW 59 - Hampton Tract
Figure A - Location (STR 2,3,10,11/26S/23E;22,23,25,26,27,34,35,36/25S/23E)





Legend

Project Area

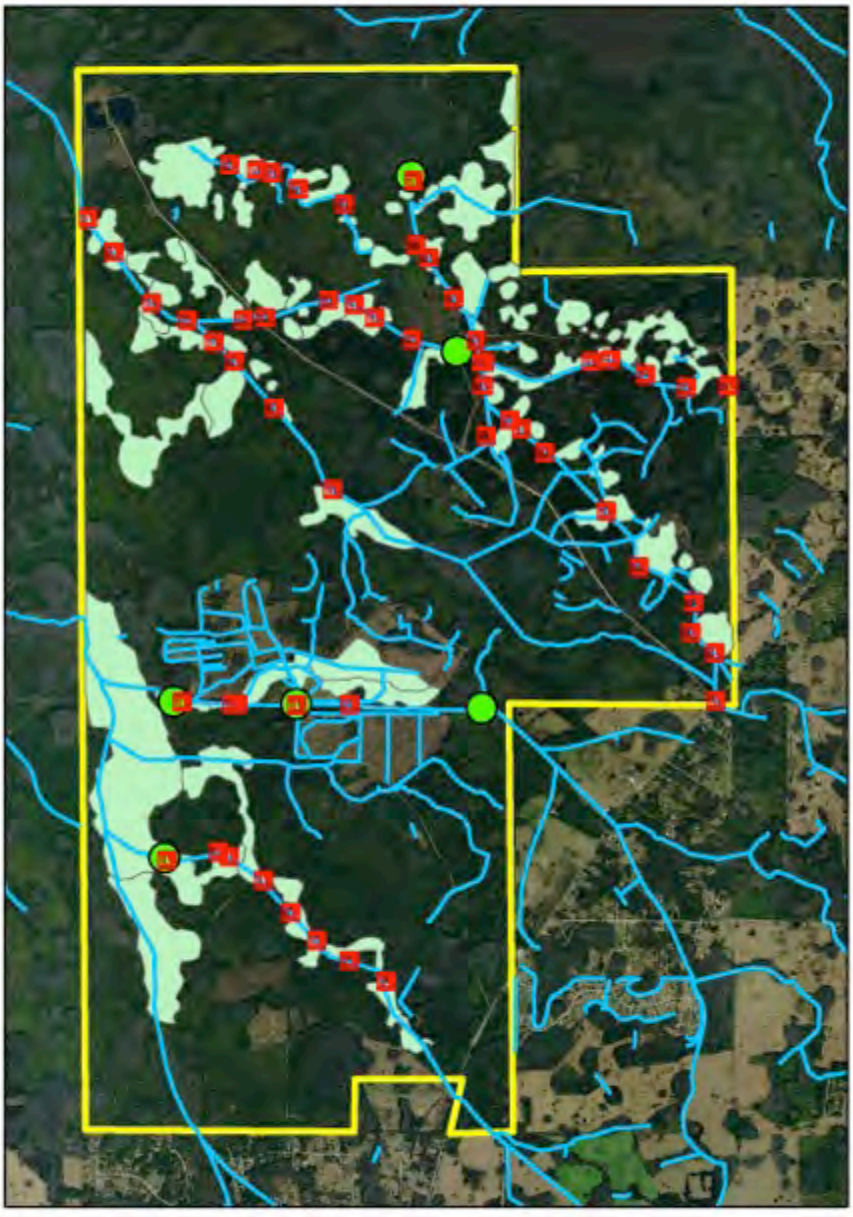
2011 Aerial

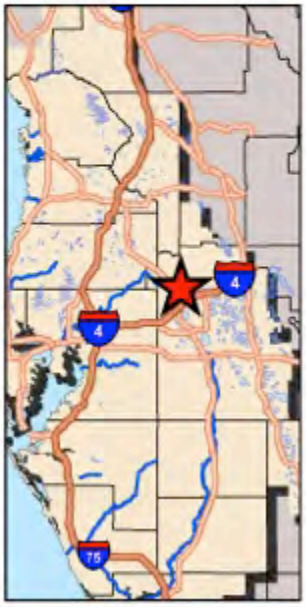
Miles
0 0.175 0.35 0.7

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 59 - Hampton Tract
Figure B - Wetland Restoration Areas





Legend

- Ditch Block Locations
- Road Failure Locations
- Enhanced Wetlands
- Project Location

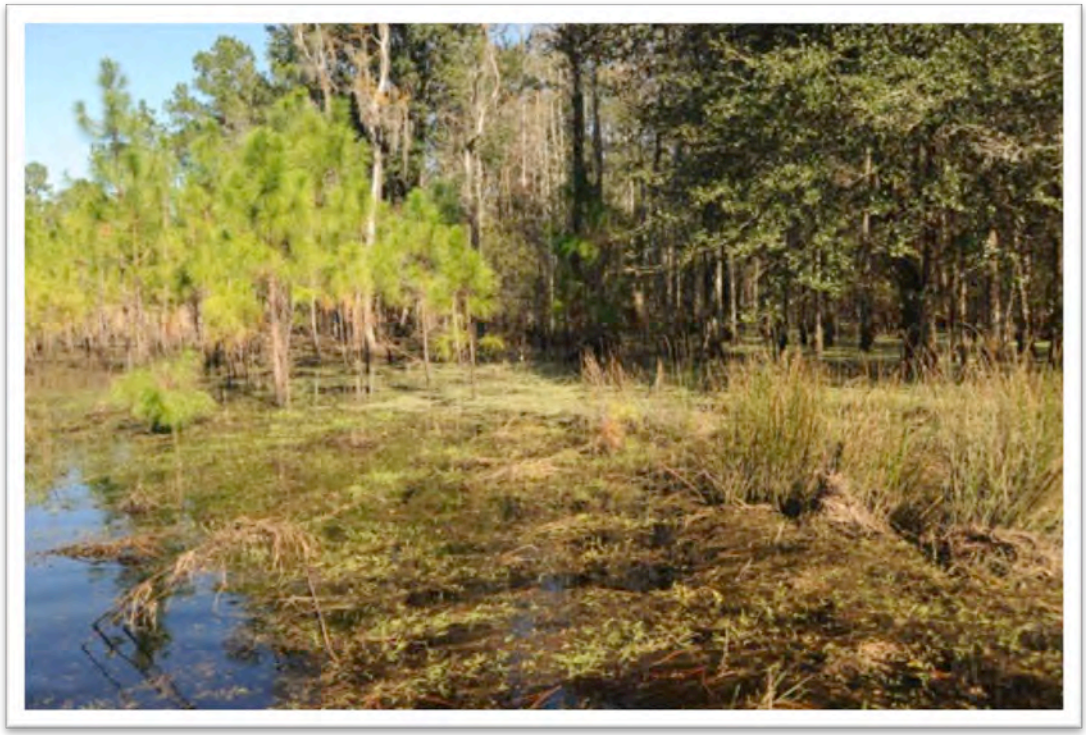
2011 Aerial

Miles
0 0.2 0.4 0.8

Southwest Florida Water Management District

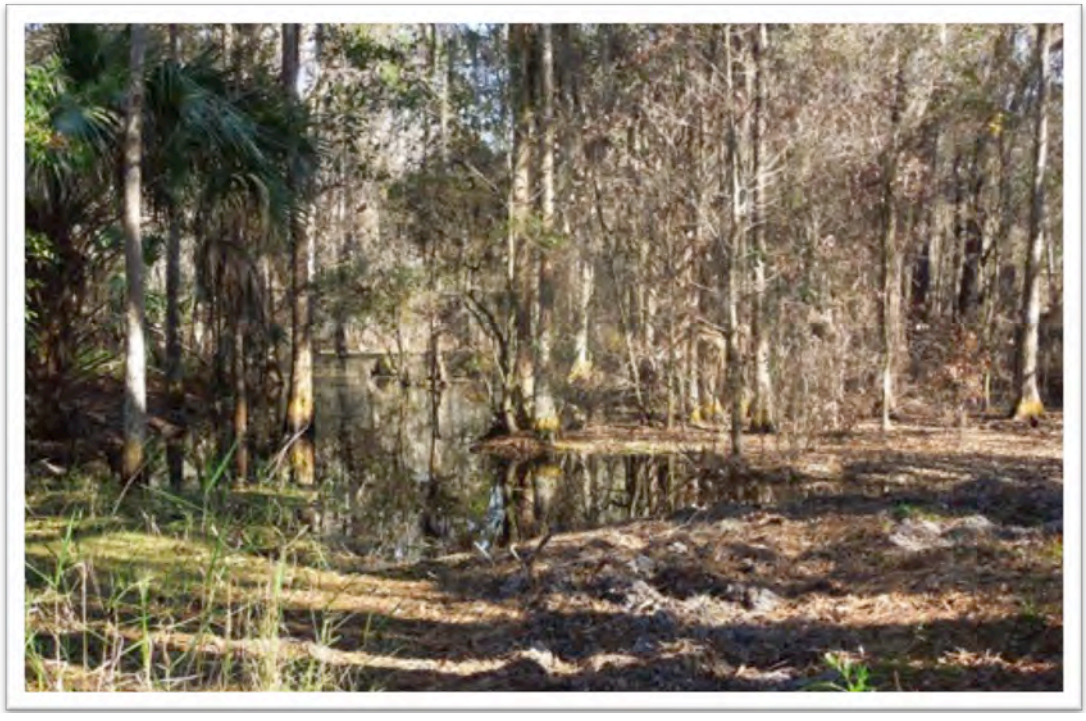
2014 FDOT Mitigation Plan

Hampton Tract showing inundation of historically impacted wetland following the ditch blocks in the ditch network. (2012)



Hampton Tract showing inundation of forested wetland with pine encroachment within the wetland. (2012)

Hampton Tract showing the top of one of the 50 ditch blocks and recruited maidencane. (2012)



Hampton Tract showing inundated wetland in the background with ditch block in the foreground. (2012)

SW-61 CYPRESS CREEK PRESERVE, WEST – JENNINGS TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Cypress Creek Preserve West, Jennings Tract	**Project Number**	SW-61
Project Type	Wetland enhancement, preservation; Upland enhancement, preservation		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Hillsborough River
Water bodies	Cypress Creek	**Water body Designations**	Hillsborough River
Project implementation status: (As of December 2013):	Construction		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 10		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	4,5/27S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Hillsborough River	2012171	I-4 West of Memorial Blvd. to west of US 98 - Sec. 2	4.30	43011896.028	1995-02569
Hillsborough River	2555361	SR 39, Blackwater Creek Bridge Replacement	2.10	43020526.000	2000-00574
Hillsborough River	2558591	SR 678 (Bearss Ave.) Florida Ave. to Nebraska	0.10	44019802.002	2001-01181
Hillsborough River	2578071	Bruce B. Downs Bike Path Amberly Dr. - Hunter's Green	0.50	44018710.000	1998-03683
Hillsborough River	2578072	Bruce B. Downs Bike Path Tampa Limits to Amberly Dr.	0.20	44021434.000	2001-01187
Hillsborough River	2578391	Alexander Street US 92 to I-4	2.60	43011896.025	2000-03012
Hillsborough River	2584131	SR 93 (I-275) US 41 to Pasco Co. Line	7.60	44024745.005	2003-02685
Hillsborough River	2584491	I-4 (SR 400) at Alexander Street Ramp	1.70	43011896.025	2000-03012
Hillsborough River	2587341	SR 56, Cypress Creek to CR 581 (B.B. Downs)	5.30	43012944.004	1995-00079
Hillsborough River	4084602	I-75 Off-Ramp at CR 581	0.50	44021639.000	1998-03683
		Total Impact Acreage:	**24.90**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Pine flatwoods	Restoration	Hillsborough River	19
Pine flatwoods	Enhancement	Hillsborough River	17
Palmetto prairie	Enhancement	Hillsborough River	14
Mixed forested wetlands	Preservation	Hillsborough River	153
Hardwood hammock uplands	Preservation	Hillsborough River	95
		Total:	**298**

PROJECT DESCRIPTION

A. Overall project goals: The preservation and habitat improvements of the 298-acre project area includes a high quality mosaic of native upland and wetland habitat within the Cypress Creek floodplain. The property was a high priority public land acquisition within Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP). The Jennings Tract is adjacent to several hundred acres of other County-owned property to the north and to the east.

B. Brief description of pre-construction habitat conditions: The native habitat components of the site represent high quality value and functions relative to wildlife habitat, species richness and diversity and connectivity additional on- and off-site habitat. There are mixed forested wetlands (153 acres) surrounding mesic hardwood hammocks (95 acres), pine flatwoods (17 acres), and palmetto prairies (14 acres). The only non-native habitat is a bahia pasture (19 acres), along the western edge of the parcel (Figure B).

In addition to preservation 153 acres of high quality mixed forested wetland and 95 acres of hardwood hammock uplands, the mitigation activities include 17 acres of enhancement of pine flatwoods, 14 acres of palmetto prairie, and restoration of 19 acres of improved Bahia pasture to pine flatwoods. Due to the scale limitations and dense canopy cover, the presence of several mesic hardwood hammocks are not easily observed on the aerials. The diverse combination and adjacent proximity of upland and wetland habitat communities provides substantial foraging and denning opportunities for many wildlife species.

The hardwood hammocks include a dominance of live oak, Southern magnolia, sweet gum, water oak, a sub-canopy of saw palmetto, cabbage palm, beautyberry, salt-bush, buckthorn and ground cover dominated by small panicums (*Dicanthelium spp.*). Due to the range of forested wetland grade elevations, there is diverse canopy and sub-canopy coverage dominated by laurel oak, sweet gum, red maple, bald cypress, American elm, sweet bay, cabbage palm, tupelo and ironwood. Ground cover is dense in the transitional wetland areas and minimal in the obligate zones where rainy season water levels are typically above surface grades. Dominant ground cover species include cabbage palm saplings, various sedges and rushes, wild coffee, Jack-in-the-Pulpit, and shield fern. The palmetto prairie and pine flatwoods have a dominance of slash pine (in the flatwoods) over saw palmetto, rabbit tobacco, paw-paw, and Bahia grass. The density of palmetto is generally moderate to low, but has increased in cover since the removal of cattle. Wildlife diversity is high within the forested areas with evidence of deer, raccoon, opossum, armadillo, rabbit and many avian species. Several gopher tortoises inhabit the pasture.

Hillsborough County has previously conducted habitat improvements within the Jennings Tract. Various habitat enhancement and restoration activities are being conducted within the Bahia pasture, palmetto prairie, and overgrown pine flatwoods. Restoration activities within the pasture commenced in 2007 with herbicide application to the Bahia and a prescribed burn. Eradication of Bahia is being conducted along with direct seeding of upland native species and longleaf pine. The palmetto prairie has Bahia mixed in with the palmetto and desired native species. Selective herbicide treatments and prescribed burns have minimized the Bahia coverage in the palmetto prairie. The overgrown pine flatwoods receive selective herbicide treatment of invasive exotic species (primarily skunkvine) and prescribed burns on a 3-5 year rotation to decrease some of the woody understory.

C. Brief description of construction activities and current habitat conditions: The FDOT mitigation activities included the acquisition of property to preserve and manage high quality forested wetland and upland hardwood hammock habitat. At the request of Hillsborough County, a conservation

easement was recorded for the tract and conveyed to the SWFWMD. In 2005, some enhancement of the palmetto prairie habitat commenced with pine plantings. Herbicide eradication and prescribed burning of the bahia pasture was conducted in 2007, followed by native species seeding and plantings of wiregrass and longleaf pine, to implement flatwoods restoration. The pine flatwoods were overgrown at the time of acquisition and receive prescribed burn management. County Conservation staff conduct the majority of these activities, with the periodic assistance of contractors for seed collection, plant nursery stock and herbicide applications.

Maintenance activities are primarily associated with implementing the prescribed burn management plan when necessary to maintain habitat conditions. Depending on the growth rate of vegetation cover within the enhanced and restored upland habitat, these burns are conducted on a 3-5 year cycle, and 10-15 year cycle for the upland hardwood hammocks. Herbicide eradication of existing and generated exotic and nuisance species, primarily bahia, Chinaberry and skunkvine, are conducted as necessary.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority (80%) of the 24.9 acres of wetland impacts designated for mitigation at the Jennings Tract are associated with forested wetlands. The mitigation project not only includes preservation of 248 acres of high quality mixed forested wetlands and hardwood hammocks, but an additional 50 acres of upland habitat enhancement and restoration that buffer the wetlands. No additional wetland impacts associated with other roadway projects will be proposed for mitigation at the Jennings Tract. This mitigation project adequately and appropriately mitigates for the designated wetland impacts with a cumulative mitigation ratio of 12 acres of compensation for every acre of wetland impact.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the selection of the mitigation for the proposed wetland impacts, there were no existing or proposed private mitigation banks in the Hillsborough River basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: During mitigation selection, the only SWIM sponsored project in the Hillsborough River watershed was the Lake Thonotasassa Restoration Project (SW 34). The habitat improvements associated with that project are providing mitigation for wetland impacts associated with another FDOT roadway project.

PROJECT IMPLEMENTATION

- Land acquisition: Summer, 2000
- Pine plantings: 2005
- Pasture restoration: 2007
- Monitoring Complete: 2008
- Perpetual Management: Ongoing

Entity responsible for construction: Minor construction and planting activities conducted by Hillsborough County Conservation Services staff and contractors working for the County.

Entity responsible for monitoring and maintenance: Private consultants on contract with SWFWMD, SWFWMD staff and Hillsborough County staff.

Entity responsible for perpetual management: Hillsborough County.

Total Cost for FDOT Mitigation Including O&M: $1,561,992

ATTACHMENTS

1. Figure A-Location
2. Figure B-Habitats (2008)
3. Photographs (2007)

SW 61 - Cypress Creek Preserve West - Jennings Tract
Figure A - Location (STR 4,5/27S/19E)

Legend

Project Location

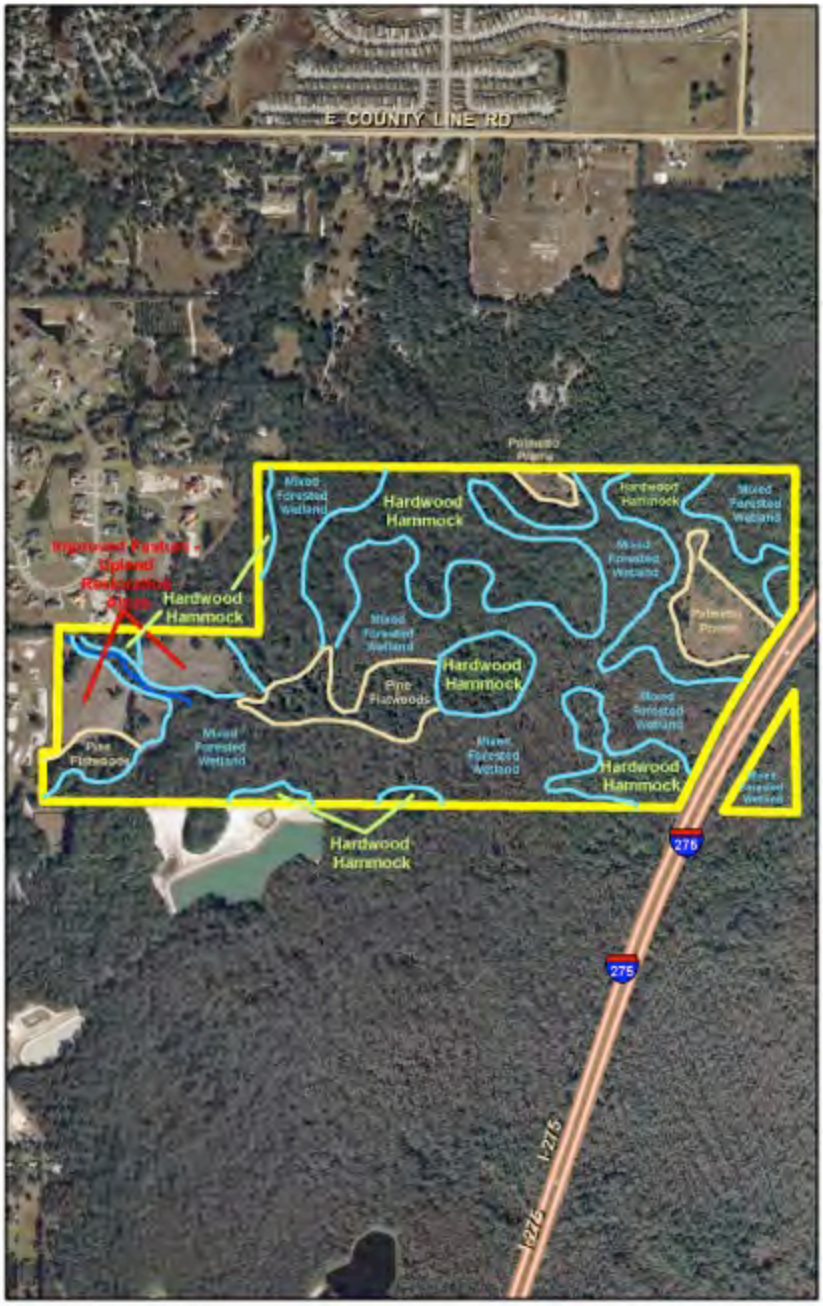
2011 Aerial

Feet
0 550 1,100 2,200

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 61 - Cypress Creek Preserve West - Jennings Tract
Figure B - Habitats (2008)



Legend

- Project Location
- Flatwoods-Prairie
- Mixed Forested Wetland

Feet
0 370 740 1,480

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

Upland Hardwood Hammock – The hardwood hammocks have diverse canopy species, dominated by live oak, water oak, Southern magnolia, sweet gum over saw palmetto, beautyberry and buckthorn. (2007)

Upland Hardwood Hammock – Transitional area depicting the upland hammock with sweet gum over saw palmetto, dropping in grade elevation to the mixed forested wetland with cabbage palm, laurel oak and maples. (2007)

Mixed Forested Wetland- View of one of the lower grade elevations that becomes inundated with surface waters during the rainy season. Tupelos and cypress are more common here than at higher elevations. (2007)

Mixed Forested Wetland-The higher grade elevations are more prevalent than the lower elevations. Mixed hardwoods (laurel oak, sweet gum, American elm, ironwood) are the most common species. (2007)

Palmetto prairies have been enhanced with pine plantings, bahia herbicide treatments and incorporating a prescribed fire program. (2007)

Upland restoration activities within the western side of the tract have incorporated a combination of herbicide treatments, prescribed fire program and native species seeding and planting. (2007)

SW-62 TAPPAN TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Tappan Tract	**Project Number**	SW-62
Project Type	Wetland Creation and Enhancement and Upland Enhancement		
Landowner	City of Tampa	**Management Entity**	City of Tampa
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	17/30S/18E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2557031	SR 60 Cypress St. to Fish Creek[1]	5.10	43002958.003	2002-05816
		Total Impact Acreage:	**5.10**		

[1] Mitigation for the saltwater marsh impacts is provided at the SW-67 Apollo Beach and SW-77 Cockroach Bay – Saltwater. The freshwater marsh impacts are mitigated at the SW-56 Cockroach Bay – Freshwater.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Tidal pool	Creation	Tampa Bay	0.41
Salt marsh	Creation	Tampa Bay	1.19
Freshwater ephemeral marsh	Creation	Tampa Bay	0.55
Saltern	Enhancement	Tampa Bay	0.53
Tidal pool/creek	Enhancement	Tampa Bay	1.18
Mangroves	Enhancement	Tampa Bay	0.77
Salt marsh	Enhancement	Tampa Bay	2.55
Coastal hardwood hammock	Restoration	Tampa Bay	1.20
		Total:	**8.38**

PROJECT DESCRIPTION

A. Overall project goals: The Tappan Tract is a SWIM-sponsored project constructed on property owned by the City of Tampa along the eastern shoreline of Old Tampa Bay (Figure A). The goal of the project is to provide unique wetland and upland habitat on public lands adjacent to existing mangrove habitat along Tampa Bay (Figures A-D). The project includes the creation of tidal pool (0.41 ac.), salt marsh (1.19 ac.), and freshwater ephemeral marsh (0.55 ac.) habitats (total 2.15 acres of wetland creation). Enhancement occurred in saltern habitat (0.53 ac.), tidal pool/creek (1.18 ac.), mangrove habitat (0.77 ac.) and salt marsh (2.55 ac.) (total 5.03 acres of wetland enhancement). Upland areas and spoil mounds were regraded for restoration to coastal hardwood hammock habitat (1.20 ac.).

B. Brief description of pre-construction habitat conditions: The Tappan Tract property covers approximately 33 acres, including 9 upland acres and 24 wetland acres. This site was historically a coastal pine flatwood adjacent to a mangrove fringe along Tampa Bay. The habitat construction and

restoration activities occurred only in the eastern portion of the property, which is the only area providing FDOT mitigation credit. Prior to construction in 2003, the upland area within the east central portion of the site was primarily a mowed open field with a dominant cover of grasses, sedges, scattered cabbage palm, exotic species (especially Brazilian pepper and Melaleuca), and a few live oaks along the eastern boundary (Figure B/1999 aerial, site photos). A ridge of stockpiled spoil material was located along the north and northwestern perimeter of the construction area, approximately 10 ft. above natural grade, and was covered with a dense stand of exotic and nuisance species such as Brazilian pepper, Melaleuca, pokeweed, caesarweed, and elderberry. A shallow-scraped upland area in the southern portion of the property generated some high salt-marsh characteristics. Overall, the project area represented low quality habitat conditions for wildlife use.

As part of the initiative of the SWFWMD Surface Water Improvement and Management Program (SWIM) and the Tampa Bay National Estuary Program (TBNEP), this site was selected to not only restore upland habitat, but to create and enhance estuarine wetlands that are tidally connected to Tampa Bay. This project was one of the proposed habitat creation and restoration projects under consideration along Tampa Bay, referred to as the South Tampa Greenway, and the site is owned by the City of Tampa.

C. Brief description of construction activities and current habitat conditions: Construction was conducted in 2003 and 2004, commencing with exotic species eradication, followed by earthwork grading to remove the spoil and some upland soil material to create a tidal pool & creeks, salt marsh, and an ephemeral freshwater marsh (Figure C/2004 aerial). Salt marsh enhancement was conducted through lowering the grade in some areas and using the two constructed tidal pool & creek systems to increase hydrologic connections and flow to the marsh habitat (Figure D 2008 post-construction and current conditions aerial). Some of the removed spoil and open field area was restored to upland flatwood habitat, with supplemental planting conducted to enhance the remnant oak hammock along the east side of the project. Native tree, shrub and herb species were planted in the upland and wetland habitats, followed by routine herbicide treatments to aid in maintaining the habitat conditions.

Two tidal pool and creek systems were created through earthwork to decrease grade in an area bordered by salt-marsh and saltern habitat (Figure C/2004 aerial, site photos). This grading also increased tidal connection and flow regimes to the existing salt-marsh habitat. Species such as smooth cordgrass (*Spartina alterniflora*), marshhay cordgrass (*Spartina patens*), cordgrass (*Spartina bakeri*), seashore dropseed (*Sporobolus virginicus*), and seaside paspalum (*Paspalum vaginatum*) were planted in the salt-marsh creation. With the seed transport provided by the tidal pools & creeks, mangrove species (*Rhizophora mangle, Avicenna germinans, Laguncularia racemosa*), and salt-grass (*Distichlis spicata*) have naturally recruited and generated within the salt-marsh habitat. Much of the salt-marsh habitat was purposely graded to elevations at and slightly above high tide elevations. This condition results in irregular flushing with salt water that established rare and unique saltern habitat (Figure D, site photos). Salterns typically have minimal vegetative coverage due to the concentrated salt on the surface, but are productive ecosystems for birds and mammals that commonly forage for crabs, invertebrates, and other species that inhabit the area.

The ephemeral freshwater marsh is separated from tidal influence, and was planted with maidencane (*Panicum hemitomon*), American bulrush (*Scirpus tabernaemontani*), white bacopa (*Bacopa monnieri*), and creeping primrose (*Ludwigia repens*). These species are present with bulrush being the dominant cover. Some of the upland field and fill material were graded to contribute surface water runoff into the ephemeral marsh, then mulched and planted with coastal hammock and flatwood species such as slash pine (*Pinus elliottii*), Florida privet (*Forestiera segregate*), live oak (*Quercus virginiana*), firebush (*Hamelia patens*), beach sunflower (*Helianthus debilis*), red cedar (*Juniperus virginiana*), muhly grass (*Muhlenbergia capillaries*), Christmas berry (*Lycium carolinianum*), beach sunflower (*Helianthus debilis*), and tropical sage (*Salvia coccinea*).

The wetland and upland habitats at the Tappan Tract have appropriate hydrology, substantial coverage of desirable species, minimal exotic vegetation, and substantial wildlife use. Commonly observed species include fiddler crab (*Uca pugilator*), blue crab (*Callinectes sapidus*), killifish (*Fundulus* sp.), and raccoon (*Procyon lotor*), red-shouldered hawk (*Buteo lineatus*), belted kingfisher *(Ceryle alcyon*), killdeer (*Charadrius vociferous*), little blue heron (*Egretta caerulea*), oystercatcher *(Haematopus palliates*), snowy

egret (*Egretta thula*), white ibis (*Eudocimus albus*), wood stork (*Mycteria americana*), and other wading bird species.

Maintenance is primarily conducted to remove garbage and debris from the site and to eradicate exotics generated within the site, which are predominantly saplings of Brazilian pepper and melaleuca in the upland areas. Quarterly herbicide maintenance was conducted by private consultants contracted through the SWFWMD through 2009. Perpetual maintenance is conducted when necessary by the City of Tampa to maintain successful habitat conditions. The success criteria included 90% survivorship for planted material, a total of 85% coverage of desirable species, and less than 5% coverage by exotic and nuisance species.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of the wetland impacts designated for mitigation at the Tappan Tract were associated with low quality ditches, with the remaining wetland impacts mitigated at Cockroach Bay (SW 56 - Freshwater and SW 75 - Saltwater sites) and Apollo Beach (SW 67). The mangrove enhancement on the Tappan Tract (0.77 ac.) compensates for the 0.3 acre of mangrove impact. Additional mangrove generation has naturally occurred within the enhanced and constructed salt marsh. For the 3.5 acres of saltwater ditch impacts, the mitigation includes salt salt-marsh creation (1.19 ac.), salt-marsh enhancement (3.06 ac.), tidal pool creation (0.41ac.), saltern enhancement (0.53 ac.), and tidal pool enhancement (0.72 ac.). For the 0.6 acre of freshwater ditch impacts, the mitigation includes freshwater marsh creation (0.55 ac.) and hardwood hammock enhancement (1.20 acres). Considering 94% of the wetland impacts were associated with ditches, the mitigation is considered appropriate to compensate for these low quality wetland and other surface water impacts.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The only mitigation bank in the Tampa Bay Drainage Basin is the Tampa Bay Mitigation Bank (TBMB), which was not permitted at the time that mitigation selection was designated for this FDOT project.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This is a SWIM – sponsored habitat improvement project conducted on property owned and managed by the City of Tampa.

PROJECT IMPLEMENTATION

- Design: 2000
- Construction: 2003-2004
- Monitoring and maintenance: Completed 2009
- Perpetual Management: Ongoing

Entity responsible for construction: Earthwork conducted by SWFWMD, planting by private contractor.

Entity responsible for monitoring and maintenance: Private consultant on contract to the SWFWMD.

Entity responsible for perpetual management: City of Tampa.

Total Cost for FDOT Mitigation Including O&M: $409,701

ATTACHMENTS
1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-During-construction (2004)
4. Figure D-Post-construction (2008)
5. Photographs (2012)

SW 62 - Tappan Tract
Figure A - Location (STR 14/30S/19E)

Legend

Project Location

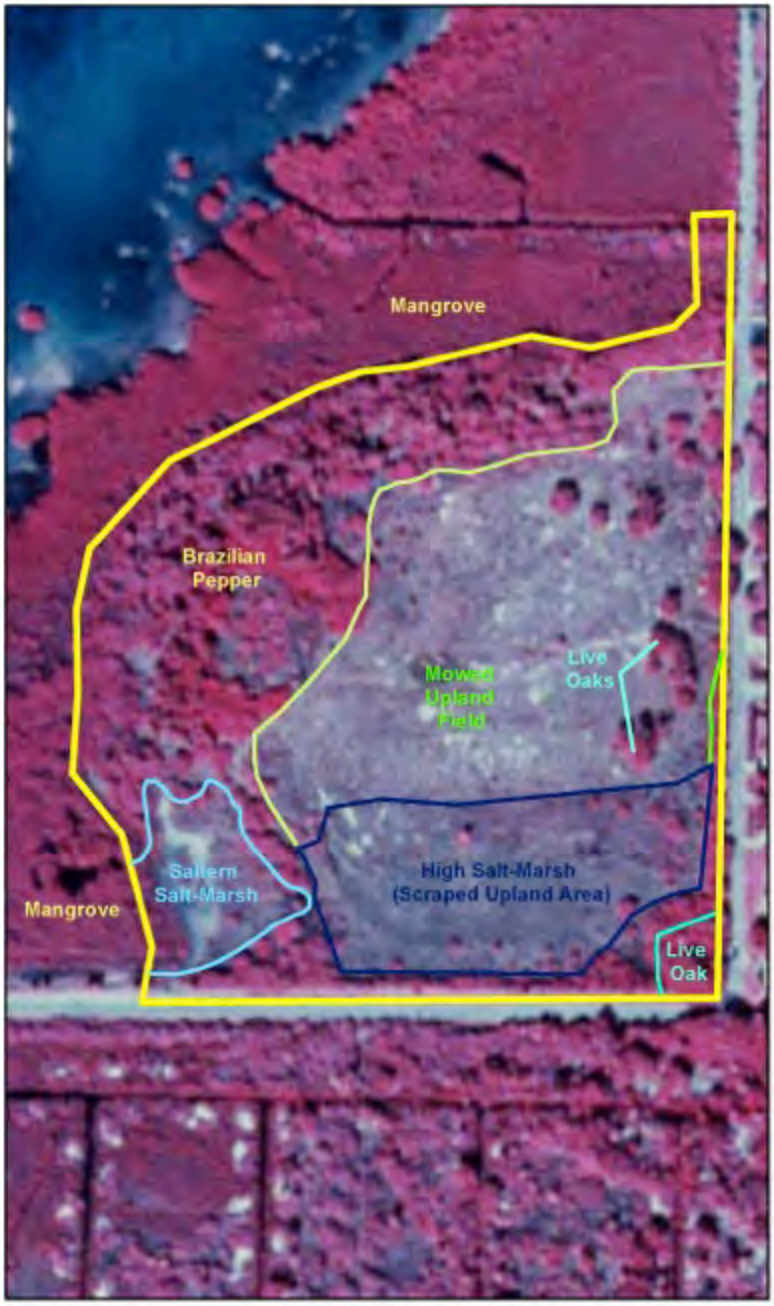
2011 Aerial

Miles
0 0.1 0.2 0.4

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 62 - Tappan Tract
Figure B - Pre-Construction (1999)



Legend

Project Location

0 70 140 280 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 62 - Tappan Tract
Figure C - During Construction (2004)

Legend

Project Location

Feet

0 70 140 260

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 62 - Tappan Tract
Figure D - Post-Construction (2008)

Legend

Project Location

Feet
0 70 140 260

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Tidal lagoon and creek on north boundary. (2012)

Ephemeral marsh in the western portion of the tract. (2012)

Created tidal lagoon and creek. (2012)

Created tidal lagoon and creek. (2012)

SW-63 HILLSBOROUGH RIVER CORRIDOR MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Hillsborough River Corridor	**Project Number**	SW-63
Project Type	Wetland Preservation		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Pasco	**Watershed**	Hillsborough River
Water bodies	Hillsborough River	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	30/26S/22E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Hillsborough River	2563151	US 41 Bell Lake to Tower Road	1.10	4418030.002	1992-41273
		Total Impact Acreage:	**1.10**		

[1] Mitigation for the saltwater marsh impacts is provided at the SW-67 Apollo Beach and SW-77 Cockroach Bay – Saltwater. The freshwater marsh impacts are mitigated at the SW-56 Cockroach Bay – Freshwater.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Mixed forested wetland	Preservation	Hillsborough River	10
		Total:	**10**

PROJECT DESCRIPTION

A. Overall project goals: Acquisition and preservation of a 10-acre mixed forested wetland parcel within the Hillsborough River floodplain that is part of a high quality river habitat corridor connecting to adjacent property already owned by the SWFWMD (Upper Hillsborough Tract, Figure A).

B. Brief description of pre-construction habitat conditions: The entire 10 acres is mixed forested wetland floodplain with the Hillsborough River meandering through the southern portion of the site (refer to photos). The overstory is dominated by red maple, American elm and laurel oak. Sub-dominants include sweet gum, hackberry, ironwood, bald cypress and pop ash. Several small natural channels with cypress exist where the river overflows during flood events. A shrub canopy, in combination with the overstory, provides a dense cumulative canopy but still relatively open understory to provide easy wildlife movement. Shrub species include the same canopy species with a dominance of elm and additional cover of cabbage palm, Virginia willow and wax myrtle. Understory vegetation includes smilax, poison ivy, Virginia creeper, wild coffee, and various, small *Panicum spp.* Observed wildlife species include deer, racoon, squirrels and substantial bird activity. Periodic review of the site will be conducted by the SWFWMD to ensure these high quality habitat conditions are maintained and that no adjacent land use activity encroaches or impacts the habitat.

C. Brief description of construction activities and current habitat conditions: The site is periodically reviewed for security and to ensure high quality habitat conditions are maintained. Acquisition of the adjacent 20 acre outparcel of floodplain forest east of this tract would finalize a corridor

connection to the main Upper Hillsborough Tract (Figure A). No monitoring, maintenance or success criteria were required or proposed due to the high quality habitat conditions. Normal land management activities are conducted to preserve and maintain the habitat conditions.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The Hillsborough River floodplain is an important corridor for wildlife habitat, water quality treatment and flood attenuation. Only one wetland impact area associated with one roadway project is designated for mitigation with this tract, resulting in the preservation mitigation credit of 10 acres to compensate for 1.1 acres of wetland impact.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of selection, a mitigation bank was not present or proposed within the Hillsborough River basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of selection, the only SWIM-sponsored project within this basin was the Lake Thonotasassa Shoreline Restoration Project, which was selected to mitigate for wetland impacts associated with another FDOT project.

PROJECT IMPLEMENTATION

- Project initiation: Summer, 2000
- Land Acquisition: April, 2001

Entity responsible for construction: No construction activities are necessary.

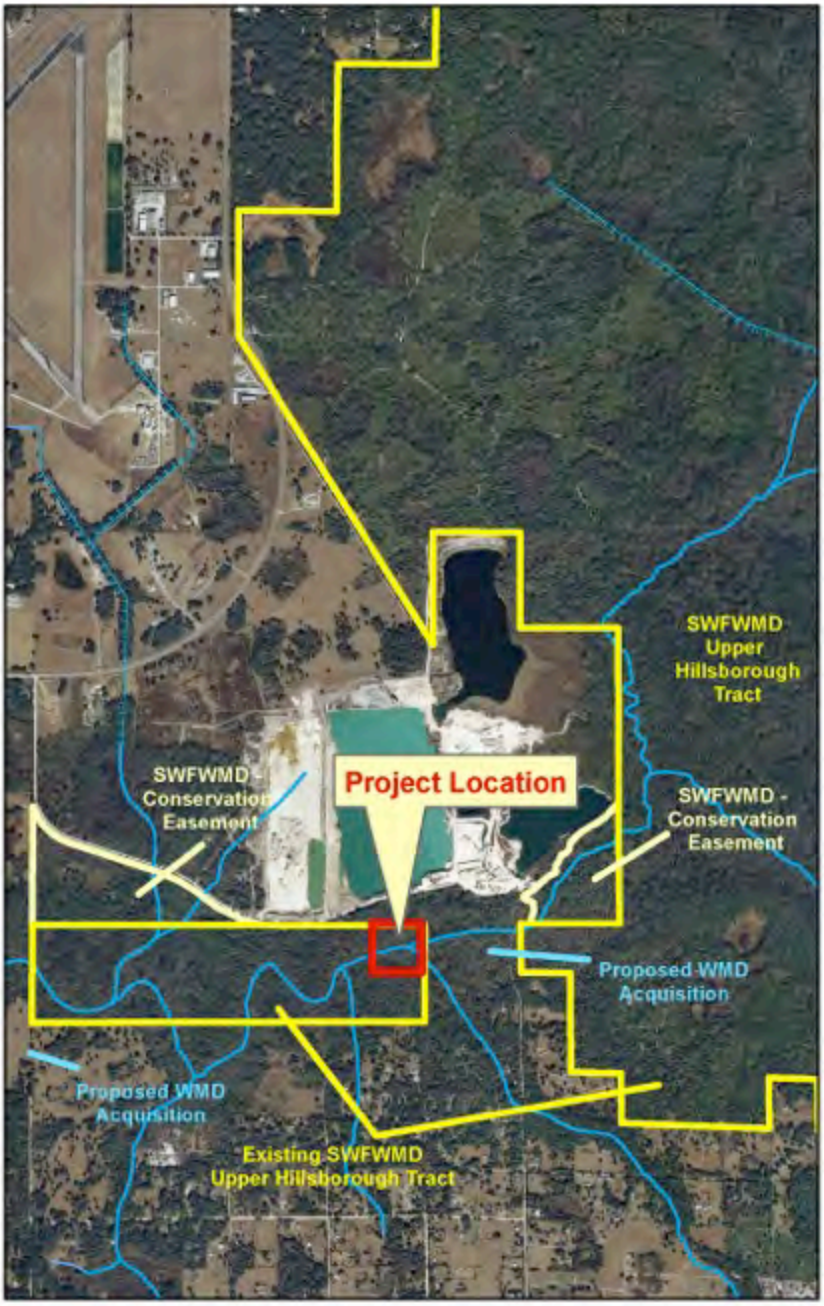
Entity responsible for monitoring and maintenance: No monitoring or maintenance activities were necessary.

Entity responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $64,458

ATTACHMENTS
1. Figure A-Location
2. Photographs

SW 63 - Hillsborough River Corridor
Figure A - Tract Location (STR 30/26S/22E)



Legend

Project Location

2011 Aerial

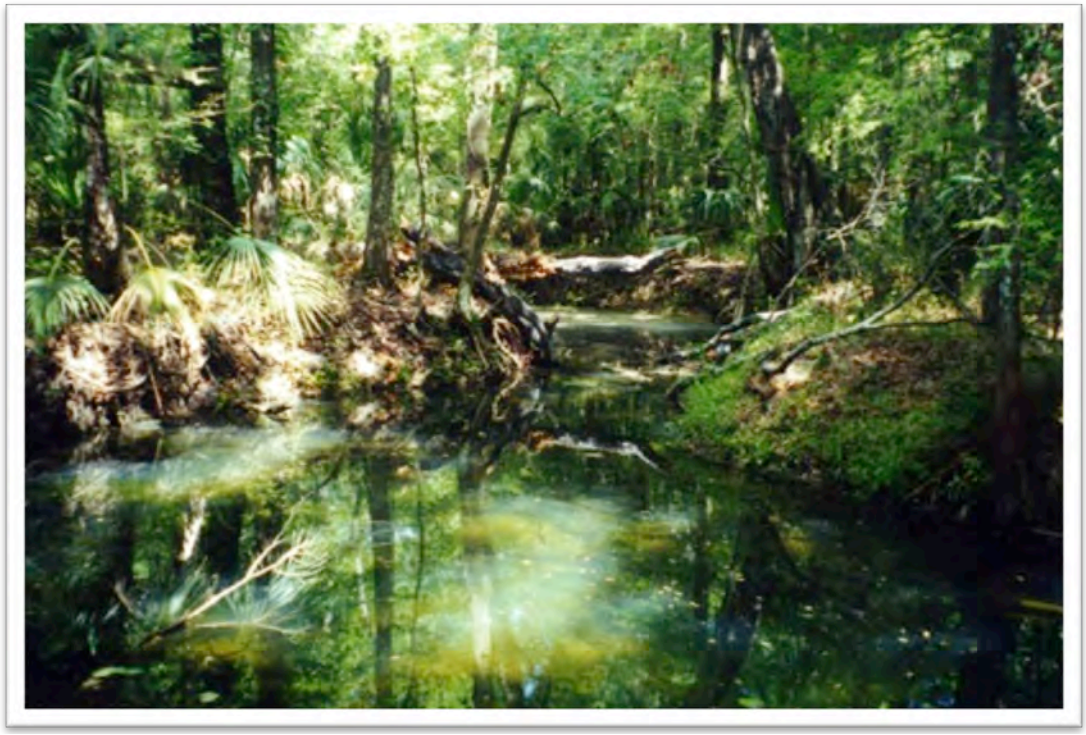
Miles
0 0.1 0.2 0.4

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

View depicting dense canopy and subcanopy coverage with open ground area for wildlife movement. The white lichens on the cypress (left) delineate a flood elevation a few feet above surface grade.

Background depicts an area of very dense subcanopy with small pockets of less canopy (foreground) allowing substantial cover of various herbaceous species.



View of the Hillsborough River that meanders through the property, averaging 40-60 ft. wide, with very clear water.

One of the many overflow channels within the floodplain. Cypress tend to be concentrated along the channels with various wetland hardwood species dominating the remaining floodplain area.

SW-64 WITHLACOOCHEE STATE FOREST – BAIRD TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Withlacoochee State Forest – Baird Tract	**Project Number**	SW-64
Project Type	Wetland Enhancement		
Landowner	Trustees of the Internal Improvement Trust Fund, Division of Forestry	**Management Entity**	Florida Department of Agriculture and Consumer Services Division of Forestry (FDOF)
County	Sumter	**Watershed**	Withlacoochee River
Water bodies	Giddon Lake, Merritt Pond, Goose Pond, Little Withlacoochee River	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 4		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	34,35,36/22S/23E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Withlacoochee River	2571631	SR 44 US 41 to CR 470	7.90	4310152.003	1996-06491
Withlacoochee River	2571641	SR 44 CR 470 to Withlacoochee River	13.90	4310152.004	1996-06491
Withlacoochee River	2571841	US 41 (SR 45) Watson St. to SR 44 East	0.10	44024198.000	2002-06293
Withlacoochee River	4092071	CR 470 (Gospel Isle)	0.30	44027068.000	2004-06915
		Total Impact Acreage:	**22.20**		

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetlands	Restoration and Enhancement	Withlacoochee River	2,267
Non-forested wetlands	Restoration and Enhancement	Withlacoochee River	158
		Total:	**2,425**

PROJECT DESCRIPTION

A. Overall project goals: The Baird Tract (11,567 acres) is within a portion of the Richloam Management Area (49,000 acres), one of several tracts that make up the Division of Foresty's Withlacoochee State Forest. Prior to public acquisition in 1995, the Baird Tract had extensive alterations to natural drainage patterns as a result of constructed ditches, berms, swales, fire breaks, silviculture bedding, insufficient culverts, railroad berms and off-site contributing watershed drainage alterations. The proposed project includes the construction and implementation of 72 drainage improvements to restore natural flow patterns within 14 designated surface water management project areas. The project goal is to primarily restore and enhance drainage conditions to enhance over 2,425 acres of wetland habitats.

B. Brief description of pre-construction habitat conditions: The Baird Tract is located within the state-designated "Green Swamp Area of Critical Concern," a region the headwaters of four major riverine systems form (Withlacoochee, Hillsborough, Peace, Ocklawaha). The Baird Tract adjoins over 200,000

acres of other public lands that were primarily acquired by the state to protect and enhance wetlands and associated water resources (Figure A). The Baird Tract has an extensive mosaic of wetland systems, slash pine plantations and pine flatwoods managed through the Florida Division of Forestry (FDOF). The wetland systems include a dominance of mixed forested wetlands, forested stream swamps and cypress strands. However, unlike the majority of the wetland habitats in the Green Swamp that are primarily forested ecosystems, there are also large ephemeral and emergent marshes located on the property (e.g. Gidden Lake, Merritt Pond, Revel Pond, Goose Pond). The historic network of ditches and elevated roads effectively drain surface water more rapidly to the south and west into the Little Withlacoochee River. This has resulted in decreasing the depth and duration of surface water hydroperiods associated with many wetlands within the Baird Tract. Subsequently, this alteration has reduced other wetland properties and functions, such as the presence of appropriate and diverse flora and fauna, water quality treatment, flood attenuation and groundwater recharge.

C. Brief description of construction activities and current habitat conditions: Pre-construction activities included extensive wetland habitat and drainage evaluation, data collection, and incorporation of this information in a surface water model (ICPR). This evaluation resulted in planned improvements to 14 individual surface water management project areas. Seventy-two structures were implemented to achieve the desired hydrologic restoration associated with the 14 projects. These 72 structures include 45 ditch blocks and addition or replacement of 27 culverts. As a result, the actual footprint of construction-related activities will be minimal; however, there will be extensive ecological benefits associated with restored and enhanced wetland hydrology. From a habitat perspective, the restoration will result in improved hydrologic conditions that will result in gradual mortality and eradication of inappropriate species to be displaced by regeneration and recruitment of appropriate hydrophytic species. The restored hydrology and appropriate vegetative conditions will provide wetland habitat functions and benefits that will attract more diversity and utilization by wildlife species. The restored hydrology will also provide more water quality treatment, flood attenuation and groundwater recharge. Success criteria include less than 5% coverage by exotic and nuisance species within the wetlands proposed for hydrologic restoration.

Long-term maintenance will be include periodic monitoring, maintenance and managing the proposed construction areas (i.e. ditch blocks, culverts, etc.) to ensure that they are properly functioning as proposed, and that there are no problems with structure erosion or stabilization.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): Of the total 22 acres of wetland impacts designated for mitigation through wetland enhancement at the Baird Tract, the habitats include 12 acres of mixed forested wetland habitats, 7 acres of marsh, and 3 acres of shrub wetlands. The proposed wetland hydrologic restoration and enhancement will result in biological (flora & fauna) improvements to various wetland habitats at Baird that are adequate and appropriate to compensate for these wetland impacts within the same Withlacoochee River Basin. Of the total 2,425 acres of primary wetland hydrologic restoration designated to provide mitigation at Baird, 2,267 acres are associated with forested wetlands and 158 acres are non-forested wetlands. There will be secondary hydrologic benefits to other wetlands as well as uplands within the property; however, those are not accounted for in FDOT mitigation credits. Due to the large-scale habitat improvements at Baird Tract, the loss of the roadway wetland habitats will be compensated by the significant ecosystem benefits from the proposed activities.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: There were no existing or proposed mitigation banks within the Withlacoochee River Basin at the time of mitigation selection for the wetland impacts associated with the proposed roadway projects,.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, the only SWIM-sponsored project within this watershed was the Lake Panasoffkee Restoration project (SW 57), which was selected to provide mitigation to compensate for wetland impacts associated with widening the I-75 bridge crossing of Lake Panasoffkee. Additional wetland hydrologic restoration projects within adjacent public lands have been selected for the FDOT mitigation program 15 miles south of the Baird Tract, including SW 55 – Upper Hillsborough 4&5

(Hillsborough Basin), SW 59 – Hampton Tract (Withlacoochee Basin), and SW 84 – Colt Creek State Park (Hillsborough & Withlacoochee Basins).

PROJECT IMPLEMENTATION

- Planning and Design: 2001-2009
- Perpetual Management: Project is conducted by FDEP

Entity responsible for construction: Private contractor selected by Florida Department of Environmental Protection (FDEP) & FDOF

Entities responsible for monitoring and maintenance: FDEP and FDOF

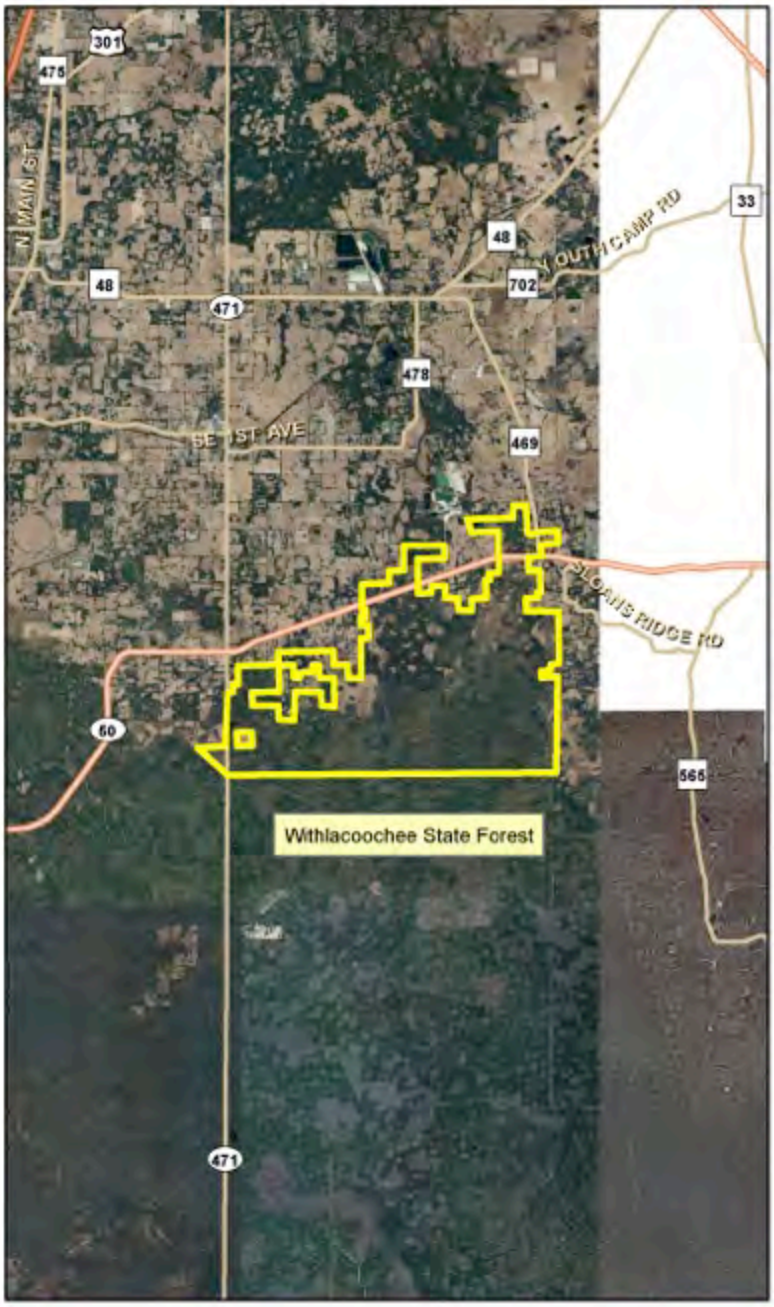
Entities responsible for perpetual management: FDEP and FDOF

Total FDOT Mitigation Cost Including O&M: Paid directly by FDOT to FDEP

ATTACHMENTS

1. Figure A-Location
2. Photographs (2012)

SW 64 - Withlacoochee State Forest - Baird Tract
Figure A - Location (STR 12-15,20-36/22S/23E)



Legend

Project Location

2011 Aerial

Miles

0 0.75 1.5 3

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2014 FDOT Mitigation Plan

Withlacoochee State Forest – Baird Tract-Photo depicts wetland hardwood swamp adjacent to Giddon Canal.

Withlacoochee State Forest – Baird Tract-Photo shows Giddon Canal following ditch block installation and rehydrated wetland hardwoods.

Withlacoochee State Forest – Baird Tract-Photo shows Giddon Canal following ditch block installation and rehydrated wetland hardwoods.

Withlacoochee State Forest – Baird Tract: Photo depicts culverts installed on the berm near Giddon Canal.

SW-65 RUTLAND RANCH - SOUTH TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Rutland Ranch – South Tract	**Project Number**	SW-65
Project Type	Wetland restoration and enhancement; upland enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Manatee	**Watershed**	Manatee River
Water bodies	Not named	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 4		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	23,25,26,27,34/34S/20E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Manatee River	1960221	SR 64 (Seg. 1) I-75 to Lena Rd.	2.42	43002058.009	1999-01379
Manatee River	1960223	SR 64 (Seg. 2) Lena Rd. to Lakewood Ranch Rd.	0.84	44016872.018	2004-2700
Manatee River	1961211	SR 70 (Seg. 1) I-75 to Lakewood Ranch Rd.	1.40	44025920.001	2003-11659
Manatee River	4043232	SR 70 (Seg. 2) Lake Ranch Rd. to Lorraine Road	3.62	43025920.002	2004-00032
		Total Impact Acreage:	**8.28**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested and non-forested wetlands	Restoration and enhancement	Manatee River	73
Freshwater marsh	Restoration	Manatee River	5
Palmetto prairie	Restoration	Manatee River	10
Upland buffers	Enhancement	Manatee River	25
		Total:	**113**

PROJECT DESCRIPTION

A. Overall project goals: The Rutland Ranch property (also referred to as “Chance Reserve”) is owned and managed by the SWFWMD. The property includes two parcels separated by private lands along Gilley Creek, with the FDOT mitigation project conducted within the southern tract (Figure A). Prior to public acquisition, over half of the 900-acre south tract was historically used for row crops and cattle production (Figure B). The site has 15 wetland areas and the majority are marshes interconnected with large ditches that substantially altered the wetland hydrology and vegetative composition. The project goal included completely filling some ditches and constructing blocks in other ditches to restore ground and surface water hydrology, and to subsequently enhance and restore appropriate wetland habitat. Upland buffers around the wetlands and filled ditches were allowed to regenerate native vegetation and

were supplemented with plantings to enhance habitat conditions and wildlife corridors between the marshes.

B. Brief description of pre-construction habitat conditions: The SWFWMD acquired the Rutland Ranch property in 1998 for several purposes. The tract is located within the Southern Water Use Caution Area (SWUCA), a designated area where groundwater resources are at critical levels that require limitations of water well withdrawals. The property, located less than a mile from the Manatee River and Lake Manatee Reservoir contributes surface and ground water to these water bodies. Land use changes from row crops to less intensive agricultural operations (e.g. cattle grazing) not only place less strain on consumptive use (water quantity) but results in a reduction of nutrients (water quality) that contribute to the watershed and the Manatee River. Acquiring the property also provided the opportunity to restore and enhance wetland and upland habitats in the basin.

The SWFWMD discontinued the row crop operations and implemented a reduced production cattle lease on the tract, with the long-term plan to gradually conduct additional upland restoration and enhancement activities. The pastures on the property are so extensive that restoring them to flatwoods will require time, so a smaller population of cattle was allowed so the pastures don't become overgrown with nuisance vegetation. The cattle production was not only reduced but the cows were dispersed over the entire tract. Palmetto prairie dominates the western one-third and southeast corner of the tract. The vegetation of these prairies includes dominance by saw palmetto, broomsedge, and wiregrass.

Ditches excessively drained surface and ground water from the uplands and the majority of marshes located within the pastures (particularly Wetlands 5-11 and 13). These marshes are shallow ephemeral wet prairie wetland systems, with a dominant cover of maidencane and moderate coverage of St. John's-wort. Ditches vary in size with the smaller ditches averaging 10-15 ft. wide and 2-3 ft. deep, moderate size drainage ditches are 20-25 ft. wide and 5-8 ft. deep and the large drainage ditches were 25-30 ft. wide and 6-8 ft. deep. Ditch sizes increased as the ditches progressed downstream (south) conveying large volumes of water off-site. Prior to construction, the marshes had very minimal hydroperiods due to the ditches and the marshes transitioned from maidencane-dominated systems to upland and facultative vegetative species such as broomsedge (*Andropogon virginicus*). The most extensively ditched marsh was Wetland 12, which had few relic indicators of wetland functions and no evidence that it had retained any surface water for many years. Remnant pockets of maidencane within the cross-ditches were present due to intermittent periods of surface water draining into the large interior collector ditch. Other upland species that recruited into Wetland 12 include gallberry, wax myrtle, and scattered pine. There are five wetlands that had upland spoil ridges present as a result of ditch construction. These spoil areas were covered with bahiagrass and saltbush.

C. Brief description of construction activities and current habitat conditions: Initial activities included herbicide treatment of exotic and nuisance species within the ditches (predominantly cattails), followed by construction activity to backfill the majority of the ditches and to install ditch blocks to restore ground and surficial hydrology for the majority of on-site wetlands (Figure C – 2010 aerial, post-construction photos). Earthwork construction and planting activities were conducted in the spring and summer of 2002. Herb planting was conducted in the exposed earthwork areas of those wetlands where the spoil was cut to backfill the ditches; including the extensive "fish-bone" ditches throughout the largest wetland (Wetland 12). The upland buffers around Wetlands 1-4 and 12 were planted with scattered longleaf pine to improve buffer habitat. Supplemental herb planting, cypress and maple were planted within Wetland 12 in 2004. A total of 2,500 trees and 56,420 herbs were planted and successfully established in association with the habitat improvements. Quarterly herbicide maintenance events and semi-annual monitoring continued through 2009. Perpetual management includes maintenance events, including herbicide treatments and prescribed fire within the palmetto prairie.

The original construction plan proposed utilizing a dominance of blocks within the ditches to restore wetland in the palmetto prairie; however, upon evaluation during major flood events, it was determined that ditch blocks alone could not offset the substantial volume of groundwater drawdown caused by the deep ditches located adjacent to Wetlands 7-9. Therefore, total backfill of those ditch segments were conducted during July 2002. In addition, total filling was conducted for the ditch segment crossing through Wetland 5 and a portion of Wetland 6. Ditch blocks were constructed in order to protect existing trees and shrubs generated on the spoil while restoring hydrology in Wetland 6. The ditch block option

also provides an open water source in the remaining ditch segments for wildlife use during the dry season. After ditch backfill, herb generation and seed recruitment from adjacent native habitat occurred and provides over 90% ground cover of desirable vegetation, resulting in 10 acres of upland habitat restoration in the footprint of the ditches and adjacent spoil material.

After the current cattle lease commenced in late 2002, former row crop fields planted with bahiagrass. In order to reduce cattle use of the marshes for a water source, three large cattle ponds were excavated in the pastures. The pre-existing upland habitat buffers of palmetto around Wetlands 1-4 and 12 were not allowed to be removed as part of the cattle lease. Supplemental plantings of longleaf pines were planted within these palmetto buffers. An average 50 ft. wide upland corridor of native habitat has been enhanced between Wetlands 3, 4, and 12. Existing palmetto, pines, and myrtles located on spoil material within this corridor were preserved from the construction activity necessary to fill the adjacent ditches. Supplemental trees and native grass seed have replaced the deep ditches with desirable upland vegetation, resulting in two acres of pine flatwood restoration to replace the upland-cut ditches. Pine planting provides 23 acres of upland buffer enhancement around Wetlands 1-4, and 12. There is evidence that the removal of the large upland ditches have provided substantial wildlife movement and corridor connection between the buffer cover along the Gilley Creek tributary north of the site (Wetland 15) to the forested ditch south of the property (Figure C). The corridors and low cattle stocking rates have allowed wildlife to roam and forage throughout the tract.

Once the spoil areas in wetland marshes were graded to fill the adjacent ditches, herb plantings were conducted within the earthwork areas. After the ditches were backfilled in 2002, an initial planting of herbs was conducted in the footprint of the ditches and spoil. These plantings included predominantly soft rush for exposed soil in the more ephemeral Wetlands 2, 4, 5, and 6, and arrowhead, pickerelweed and bulrush in Wetland 12. A supplemental planting of herbs and trees occurred in the remaining portions of Wetland 12 and included bulrush, alligator flag, pickerelweed, arrowhead, spikerush, sawgrass, spatterdock, cypress, and red maple. An older spoil ridge through the middle of Wetland 12 was covered with oak trees that were left to result in mortality from the restored hydrology to create snags for wildlife use.

Hydrologic restoration and enhancement of the marshes have resulted in the enhancement of other wetland functions and attributes. Vegetative shifts transitioned to more desirable and appropriate wetland species and provide foraging opportunities for wildlife. Prior to construction, the marshes within the proximity of the pastures had such limited hydroperiods that they transitioned to vegetative characteristics more indicative of fallow fields (particularly Wetland 12), with minimal wildlife food resources. Opportunities for foraging wading birds were primarily limited to the few, small isolated marshes within the western palmetto prairie. Water and aquatic food resources within the pasture area were primarily limited to high nutrient ditch water. Restoring the isolated systems has increased the water quality treatment opportunities compared to the pre-existing drainage ditches that directly discharged into a nearby potable water source (Lake Manatee Reservoir). Retaining surface water on-site has also resulted in soil infiltration that improves water quality and groundwater recharge. Success criteria required 90% survivorship of planted stock, less than 10% coverage of exotic and nuisance species, and a minimum 85% coverage of desirable species within the enhanced and restored marshes and designated upland buffers.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The mitigation activities resulted in 73 acres of wetland enhancement associated from the hydrologic restoration. The largest wetland (22 acres) had the most altered habitat pre-construction, with minimal functions to even qualify as a wetland. There were also 5 acres of wetland restoration within the footprint of where ditches and adjacent spoil material were graded to match historic wetland grade elevations and planted with herbs. The activities also included 10 acres of upland habitat restoration from grading ditches in the palmetto prairie, and 25 acres of upland habitat enhancement that buffer Wetlands 1-4 and 12. This results in a total mitigation acreage of 113 acres that adequately and appropriately mitigate for the 7.92 acres of roadway wetland impacts. No additional roadway projects have been or will be proposed for mitigation at Rutland Ranch.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection in 2001, there were no existing or proposed mitigation banks within the Manatee River Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of selection, the only SWIM-sponsored project in this basin was Terra Ceia (SW 50). The Terra Ceia project includes restoration and enhancement of salt-water and estuarine habitat, and is providing appropriate FDOT mitigation for salt-water wetland impacts.

PROJECT IMPLEMENTATION

- Planning and design: Spring, 2001
- Construction and first planting: 2002
- Supplemental Wetland 12 planting: 2004
- Maintenance and monitoring: 2004-2009
- Perpetual management: Ongoing

Entity responsible for construction: SWFWMD.

Entity responsible for monitoring and maintenance: Private consultants and contractors working for the SWFWMD.

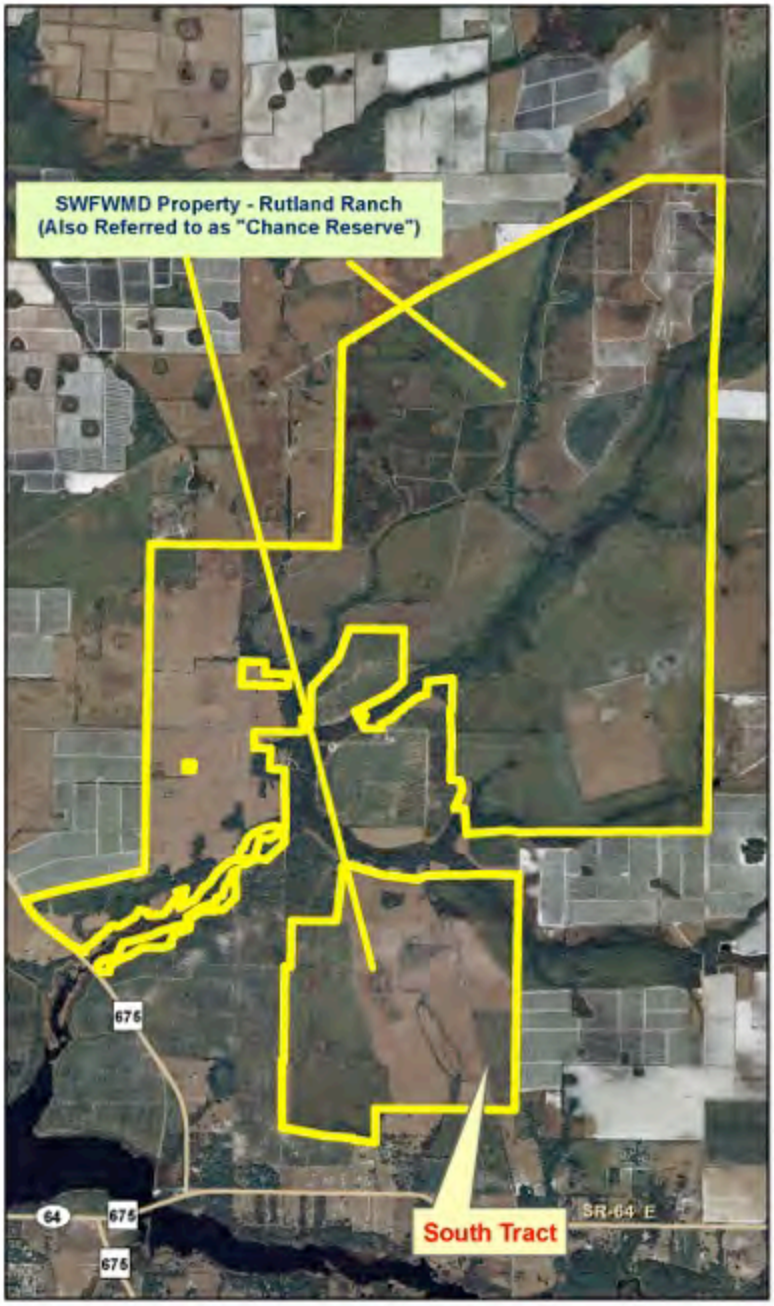
Entity responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $261,933

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1994)
3. Figure C-Post-construction (2010)
4. Photographs (2001, 2002, 2009)

SW 65 - Rutland Ranch - South Tract
Figure A - Location (STR 23,25,26,27,34/34S/20E)



Legend

Project Location

2011 Aerial

Miles
0 0.225 0.45 0.9

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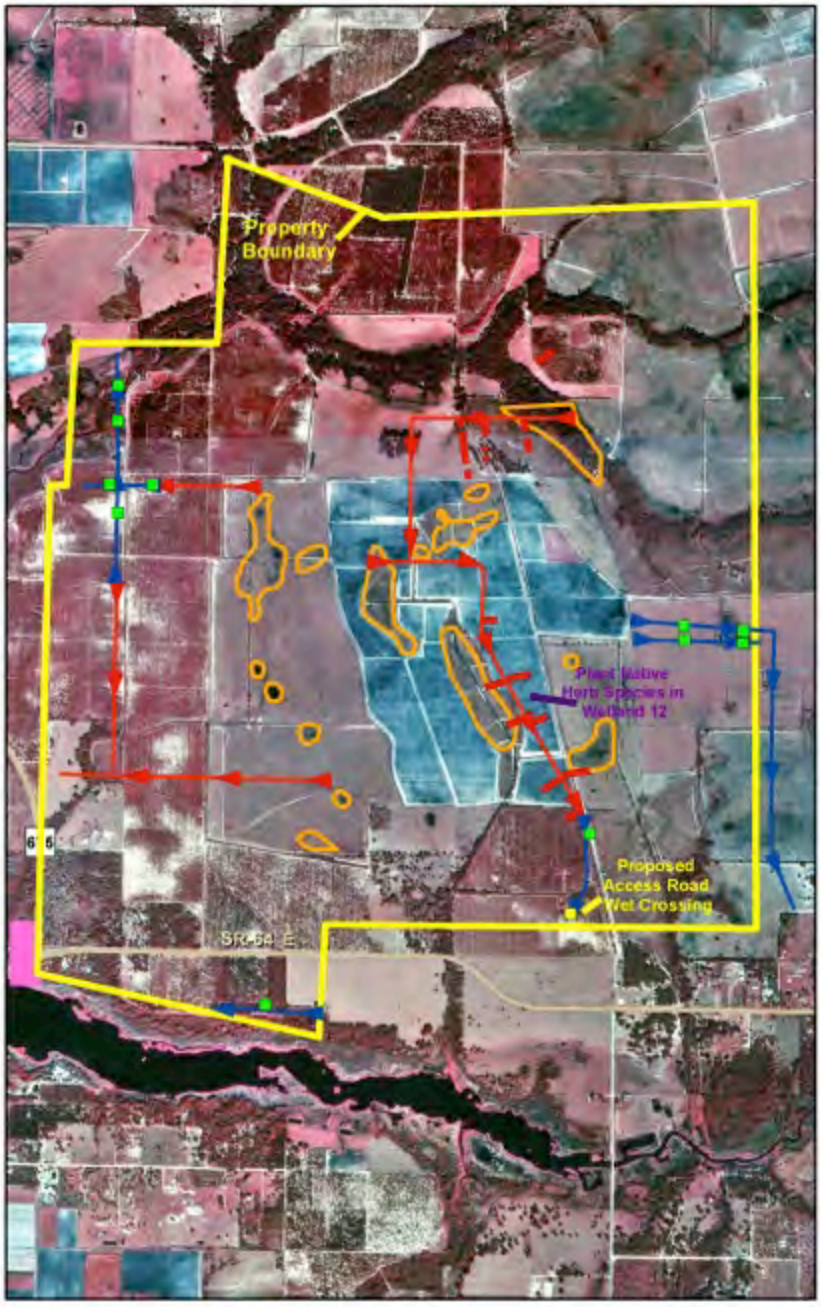
SW 65 - Rutland Ranch - South Tract
Figure B - Pre-Construction Conditions (1994)



Legend

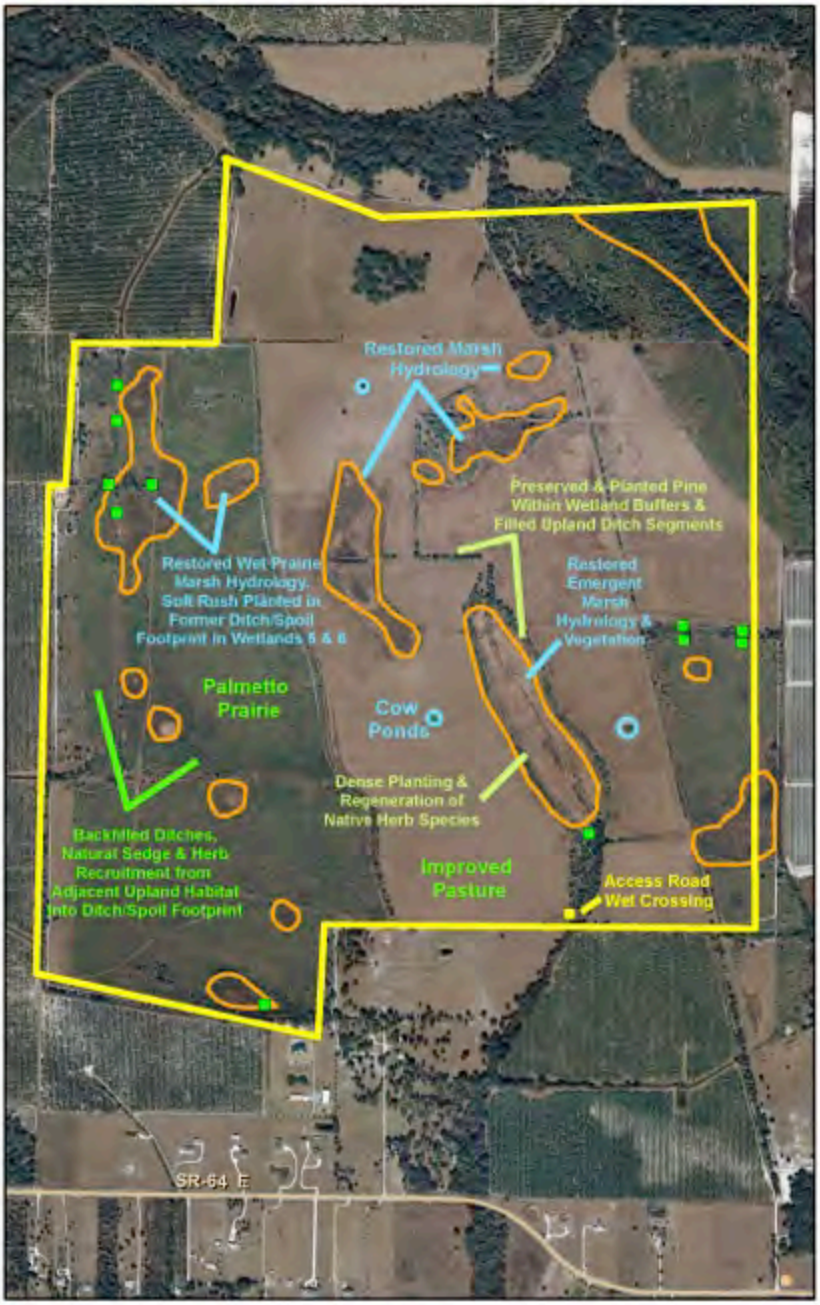
- Project Location
- Ditches to be Blocked
- Ditches Proposed for Backfill
- Ditch Blocks
- Wetlands

0 750 1,500 3,000 Feet

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

SW 65 - Rutland Ranch - South Tract
Figure C - Post-Construction Conditions (2011)



Legend

- Project Area
- Ditch Blocks
- Wetlands

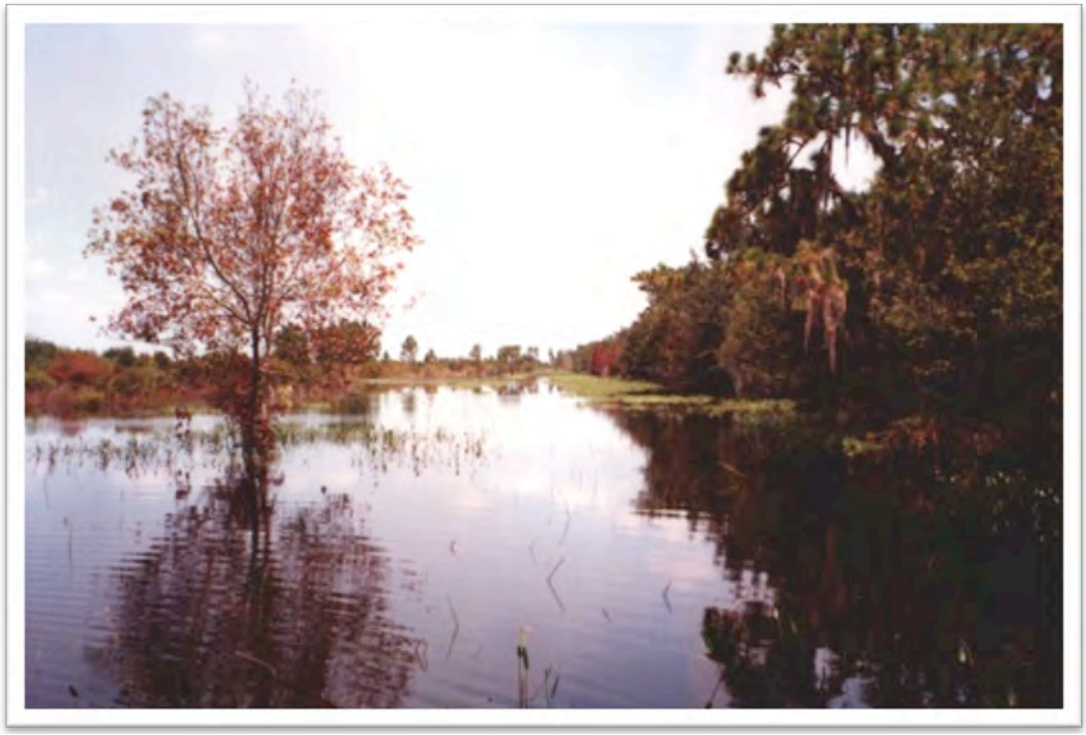
Feet
0 365 730 1,460

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Wetland 12 – Pre-construction view of habitat conditions. The marsh is dominated by upland and facultative species such as broomsedge, gallberry, dog fennel, wax myrtle and scattered slash pine due to the substantial water table drawdown associated with the ditch network. (2001)

Wetland 12 – View from the southern terminus of the marsh looking north over the western half of the 22-acre marsh and filled central ditch. Trees on right are located on remnant spoil material not used for backfill. (Spring 2002)



Wetland 12 – Summer rains have restored appropriate emergent marsh hydrology, resulting in mortality of upland vegetation and natural generation of hydrophytic herbs. (Summer 2002)

Wetland 12 – With herb plantings in the filled ditches in 2002, supplemental plantings throughout the marsh in 2004 and recruited herbs, the marsh has gradually filled in with dense coverage of species dominated by pickerelweed, arrowhead and fireflag. Some live trees and snags are still present on the remnant spoil mounds. (Summer 2009)

Wetland 6 – Pre-construction view of habitat conditions from the eastern portion of the marsh looking west. Under natural conditions, the ephemeral wet prairie marshes have shallow and short duration hydroperiods, allowing even small ditches (center) to draw down the water table and substantially reduce the hydroperiod, resulting in the establishment of facultative species such as broomsedge, gallberry, dog fennel and wax myrtle. (2001)

Wetland 6 – Same western view over the earthwork area of the graded spoil material and backfilled ditch. (Spring 2002)

Wetland 6 – Summer rains have restored appropriate wetland hydrology. The graded area has been planted with soft rush. (Summer 2002)

Wetland 6 – The restored ephemeral hydrology has provided longer hydroperiods of shallow surface water, resulting in more desirable and diverse vegetative and habitat conditions utilized by more wildlife compared to before restoration. Of particular note is the regeneration and proliferation of St. John's-wort. (Summer 2009)

SW-66 CIRCLE B BAR RESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Circle B Bar Reserve	**Project Number**	SW-66
Project Type	Wetland creation, restoration and enhancement; upland restoration		
Landowner	Polk County, Southwest Florida Water Management District	**Management Entity**	Polk County
County	Polk	**Watershed**	Peace River
Water bodies	Banana Creek Canal, Lake Hancock	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 13		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	1,2/29S/24E;6/29S/25E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Peace River	1938991	US 17 Livingston to Hardee County Line	11.59	43022736.000	2001-05669
Peace River	1940931	US 17 (SR 35) Peace River to Tropicana Rd.	4.42	43016955.001	2001-02990
Peace River	1971681	SR 60A (Van Fleet Dr.) CR 555 to Broadway Ave.	0.46	44023032.000	2002-00069
Peace River	1975331	US 27 Towerview Rd. to SR 540	3.90	43023834.002	2002-05668
Peace River	1976381	US 98 - Carpenter's Way to Daugherty Road	0.10	44013552.003	2002-06904
Peace River	1976791	US 27 SR 544 to Blue Heron Bay[1]	1.50	43023431.000	2002-02574
Peace River	1977014	SR 559 Extension SR 655 (Recker Hwy) to Derby Ave.	0.39	44035330.000	2009-04277
Peace River	1977051	US 27 SR 60 to Towerview Blvd.	0.19	44023431.003	2004-02920
Peace River	1977061	US 27 SR 540 to SR 542	3.94	43023431.007	2008-02283
Peace River	1977071	US 27 SR 542 to CR 546	0.60	44021373.000	2006-00538
Peace River	4082685	US 98 Manor Drive to CR 540A	0.63	44029183.004	2009-04276
Peace River	4110391	US 27 CR 546 to SR 544	1.96	43033368.000	2008-01942
Peace River	4251371	SR 17 @ Mountain Lake Cutoff Intersection Improvements	0.16	44023020.001	No permit required
		Total Impact Acreage:	**29.84**		

[1] Additional impacts for this project are within the Ocklawaha Basin and associated mitigation conducted at SW-76 Lake Lowery.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetland	Enhancement	Peace River	91
Forested wetland	Restoration	Peace River	64
Marsh	Restoration	Peace River	362
Marsh	Creation	Peace River	4
Marsh (obligate)	Restoration	Peace River	83
		Total:	**604**

PROJECT DESCRIPTION

A. Overall project goals: In late 2000, Polk County and SWFWMD co-purchased approximately 1,256 acres (formerly Circle B Bar Ranch) to convert into a wildlife and passive recreational preserve with a long-term objective to restore and enhance upland and wetland habitat throughout the property. The core of the tract had the historic hydrology substantially altered by the construction of the Banana Creek Canal and contributing ditches, converting the majority of historic wetlands to improved pasture. Desired restoration and enhancement of wetlands were added to the FDOT mitigation program in 2001. Following site evaluation, design and permitting from 2001-2004, earthwork construction was conducted in 2005-2006 to remove levees along the western property boundary that blocked and diverted contributing flow from Banana Lake, backfill the majority of the Banana Creek Canal and conveyance ditches to restore sheet flow hydrology, reinforce and elevate two access roads and install culverts to aid in restoring sheet flow hydrology, eradicate pasture grasses, conduct extensive planting and conduct perpetual herbicide maintenance activities.

B. Brief description of pre-construction habitat conditions: Historically, surface water from Banana Lake maintained a sheet flow hydrology connectivity east through forested and marsh wetland habitat, ultimately flowing into Lake Hancock. During the 1940's, the construction of the Banana Creek Canal between the two lakes, along with connecting tributary ditches, substantially drained the area to convert wetlands into improved pasture. In addition, a large levee was constructed along the western property boundary (Figure B). This impounded water in the forested wetland west of the project area, diverted the ground and surface water away from the wetlands in the Reserve, and forced water to flow directly into the canal. Spoil material rimmed each side of the canal, resulting water in contributing conveyance ditches being pumped over the berms into the canal to flow directly into Lake Hancock. The several decades of extensive drainage and dewatering converted the majority of the historic wetland acreage to improved pastures for intensive cattle grazing (refer to site photos). Prior to restoration construction, the majority of the remnant wetlands were associated with a few forested wetlands bordering the pastures and scattered small ephemeral marsh pockets within the improved pastures. Historically there were additional forested wetlands that were lost as a result of the altered drainage and subsequent muck oxidation resulting in tree fall.

C. Brief description of construction activities and current habitat conditions: After the cattle lease was discontinued in 2001, the dewatering pump system was removed and all pumped drainage ceased being conveyed into the canal in order to commence partial hydrologic restoration necessary to achieve the desired bahiagrass mortality and regeneration of hydrophytic vegetation. Two pre-existing north-south berms were substantially regraded to provide necessary structural stability and culverts were installed at appropriate locations and elevations to convey and restore the natural sheet-flow wetland hydrology and appropriate hydroperiods. Fill material for the road berm construction was obtained from widening the existing borrow pit within the north side of the property and creating the 2-acre "Gator Pond" marsh within an adjacent upland area. The western access road is a wet crossing constructed with crushed concrete to match adjacent surface grade elevations. After the two access road berms and culverts were constructed, the spoil rim material was used to backfill the Banana Creek Canal segment west of the Center Road and the western boundary levee was removed to restore sheet flow patterns throughout the wetland floodplain.

Restoration of the historic western-to-eastern sheet flow was commenced with backfilling the western half of Banana Creek Canal, collector ditches, and the western levee. The construction of the western road

included placement of crushed concrete to match adjacent grade elevations in order to not restrict the restored sheet flow. The construction of the two berms into the Center and Eastern Roads resulted in top-of-road elevations averaging 1-2 feet above the adjacent water elevations. Eight culvert sets were placed at 500 ft. intervals along the Center and Eastern roads. Each culvert set includes four 24-inch culverts installed at slightly different elevations to provide a 12-inch fluctuation range of water elevations. The culvert invert elevations decrease an average of 6 inches between the culverts in the Center, Eastern and Lakeshore berm roads. With the historic muck oxidation altering grade elevations, there are areas of deeper water pockets, particularly the 3-4 ft. depth adjacent to the southern section of the Center Road. These areas provide valuable open-water and obligate marsh habitat for waterfowl, amphibians, fish and reptile species. Other portions of the restored wetlands have more facultative habitat conditions, with variable surface water depths ranging 6-18 inches for hydroperiod durations of 4-8 months.

Subsequent to the Circle B Bar Ranch acquisition, additional public land acquisition has occurred around Lake Hancock as part of an effort to partially restore the normal water elevations of the lake by raising the lake's water elevation by 12 inches. With the planned construction of a new lake outfall structure, sheet-flow within the restored wetlands at the Reserve will not be altered; however, the wetlands closest to the lake (primarily east of the Eastern Access Road) will have more stable and longer duration hydroperiods. In turn, this will provide a longer and more stable duration for wildlife foraging opportunities. There are also two 48-inch culverts installed in the middle of both the Center and Eastern Roads. These culverts, which include slide gates, were installed to allow emergency overflow into the remnant eastern portion of the Banana Creek Canal.

Approximately half of the historic western forested wetland areas, earthwork areas and much of the open water areas were further restored with the planting of trees and shrubs. Along with the wetland restoration, pines and myrtles were planted within an adjacent upland buffer where there were no existing forested habitats buffering the south-central boundary of the marsh habitat. Dominant trees planted include cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica* var. *biflora*), pop ash (*Fraxinus caroliniana*), and red maple (*Acer rubrum*). Additional tree species planted include sweet bay (*Magnolia virginiana*), American holly (*Illex cassine*), sweet gum (*Liquidambar styraciflua*), laurel oak (*Quercus laurifolia*), American elm (*Ulmus americana*). Planted shrubs include buttonbush (*Cephalanthus occidentalis*), with wax myrtle (*Myrica cerifera*) in the higher elevations. Along with the natural regeneration of desirable herbs, there were additional plantings of arrowhead (*Sagittaria lancifolia*), bulrush (*Scirpus validus*), duck potato (*Sagittaria latifolia*), fireflag (*Thalia geniculata*), pickerelweed (*Pontederia cordata*), soft rush, sand cordgrass (*Spartina bakeri*), spikerush (*Eleocharis interstincta*), and spatterdock (*Nuphar luteum*). To provide a habitat buffer, the non-forested upland area adjacent to the south-central perimeter of the restored wetland area near the Gator Pond was planted with dense spacings of longleaf pine (*Pinus palustris*), live oak (*Quercus virginiana*), and wax myrtle.

The Reserve is now considered by Audubon as one of the premier waterfowl and wading bird destinations in the region, and there is substantial use by a diverse assemblage of wildlife species. Wildlife use of the restored and enhanced wetlands has exceeded expectations, with more species represented than any of the designated FDOT mitigation projects currently on the program. Aububon Christmas bird counts and eBird data collection have documented 112 bird species, including large flocks of migratory wading birds and unusually high populations of rare species such as the migratory American white pelicans (*Pelecanus erythrorhynchos*) and wood storks (*Mycteria americana*). There is one active bald eagle (*Haliaeetus leucocephalus*) nest, and a multitude of amphibian, fish and reptile species routinely observed on the site.

Success criteria includes 70% coverage of desirable species and less than 10% cover of exotic species in the forested wetland and shallow marsh system, which has primarily included cattails and primrose willow. An 83-acre obligate & open water component of the marsh requires less than 10% vegetative coverage and provides less mitigation credit than the shallow marsh components. The restored forested wetlands require 20% canopy coverage a minimum height of 20 ft. with planted trees before associated mitigation credits can be debited from the ledger. Through 2013, the hydrologic restoration efforts have been successful and within the fluctuation and hydroperiod range necessary and appropriate to continue supporting the substantial wildlife populations that utilize the wetlands. The vegetative components and habitat conditions are also progressing well and except for a portion of the restored forested wetland canopy, exceed the success criteria many years in advance of potential credit release for FDOT's use.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of the wetland impacts are associated with disturbed marsh and mixed forested wetland fringes along FDOT right of way within the Peace River watershed, particularly along US Highway 27 and US Highway 17. The roadway wetland impacts have been appropriately and adequately compensated with the restoration and enhancement of large-scale, diverse and regionally-significant wetland ecosystems that benefit the Peace River watershed. The FDOT permits include Unified Mitigation Assessment Method (UMAM) assessments of the wetland impacts. This information is used to appropriately debit from the available UMAM credits associated with the mitigation habitats associated with this project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The permitted mitigation banks currently selling credits in the Peace River watershed basin include the Boran Ranch Mitigation Bank in DeSoto County and the Peace River Mitigation Bank in Hardee County (SW 53 & SW 85 in the FDOT plan). These banks have been selected to provide appropriate mitigation for wetland impacts associated with many roadway projects within the basin. Prior to the establishment of the Peace River Mitigation Bank and after all the available forested wetland mitigation credits were purchased from the Boran Ranch Mitigation Bank, it was necessary to add an additional mitigation project to the FDOT program that had forested wetland credits. This resulted in accepting Polk County's request to include the Circle B Bar Reserve in the FDOT mitigation program. At the time mitigation options were selected, it was estimated that the cost per credit was $30,000, making the Reserve the more cost-effective option.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: Even though enhancement and restoration of the wetland floodplain is not considered a specific SWIM sponsored project, the site is located between two SWIM-sponsored projects, Banana Lake Restoration (conducted in the late 1980's) and the ongoing improvements for Lake Hancock. By restoring and enhancing the wetland functions and values at the Reserve, additional water quality treatment and attenuation reduce the nutrients previously allowed to flow directly into Lake Hancock via the Banana Creek Canal. The enhancement of the entire Peace River watershed has required substantial emphasis on the hydrologic improvements to water quality and quantity within these headwater areas in the basin. In turn, these improvements result in improved water quality and quantity flowing into Charlotte Harbor, another designated SWIM water body.

PROJECT IMPLEMENTATION

- Planning and design: January 2001-Fall 2005
- Construction and planting: 2005-2006
- Maintenance and monitoring: 2006-2016
- Perpetual management: Begin 2016

Entity responsible for construction: SWFWMD Operations Department performed construction in 2005 and 2006.

Entity responsible for monitoring and maintenance: SWFWMD contract for monitoring & perpetual maintenance.

Entity responsible for perpetual management: Polk County.

Total Cost for FDOT Mitigation Including O&M: $2,181,784

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (1999)
3. Figure C-Post-construction (2009)
4. Photographs (2001, 2005, 2006, 2009, 2013)

SW 66 - Circle B Bar Reserve
Figure A - Location (STR 1,2/29S/24E; 6/29S/25E)

Legend

Project Location

2011 Aerial

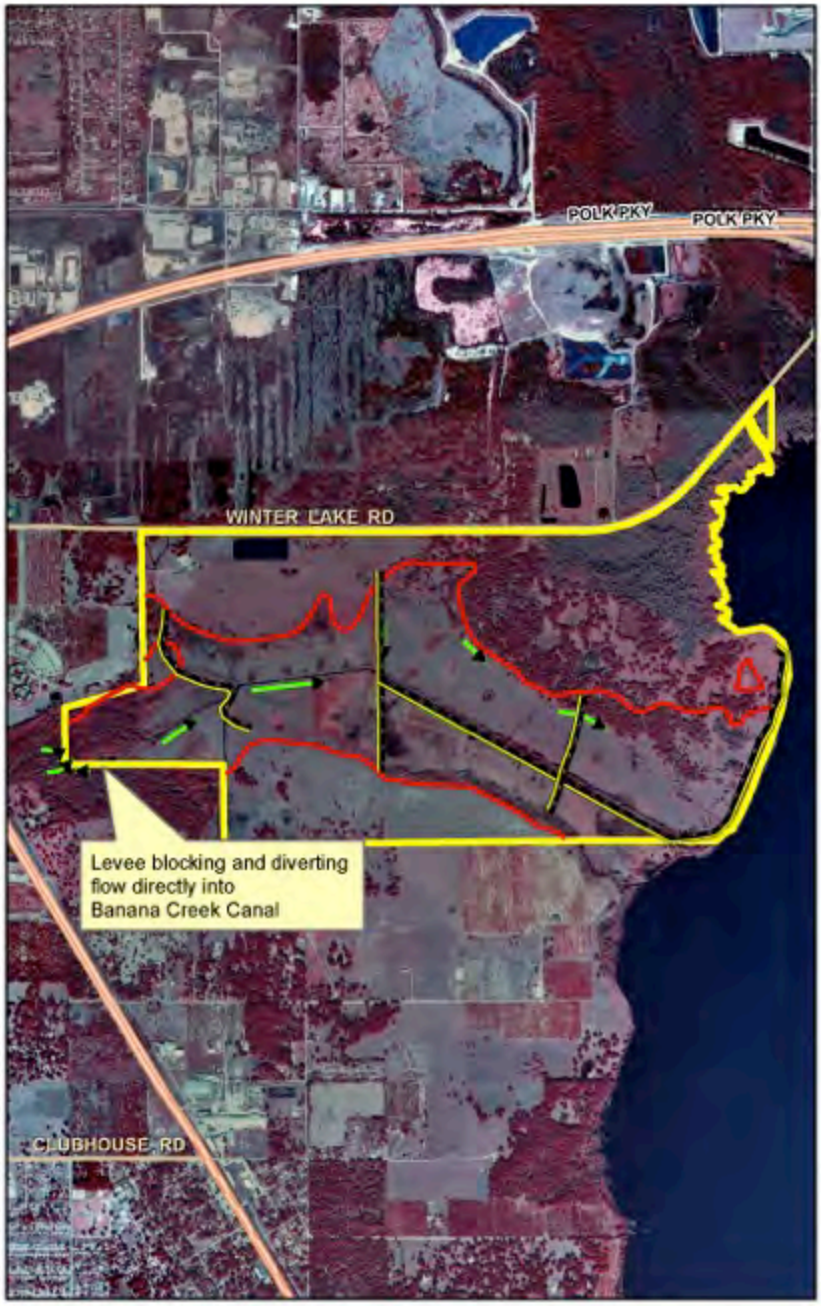
Miles

0 0.225 0.45 0.9

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 66 - Circle B Bar Reserve
Figure B - Pre-Construction Site Conditions (1999)



Legend

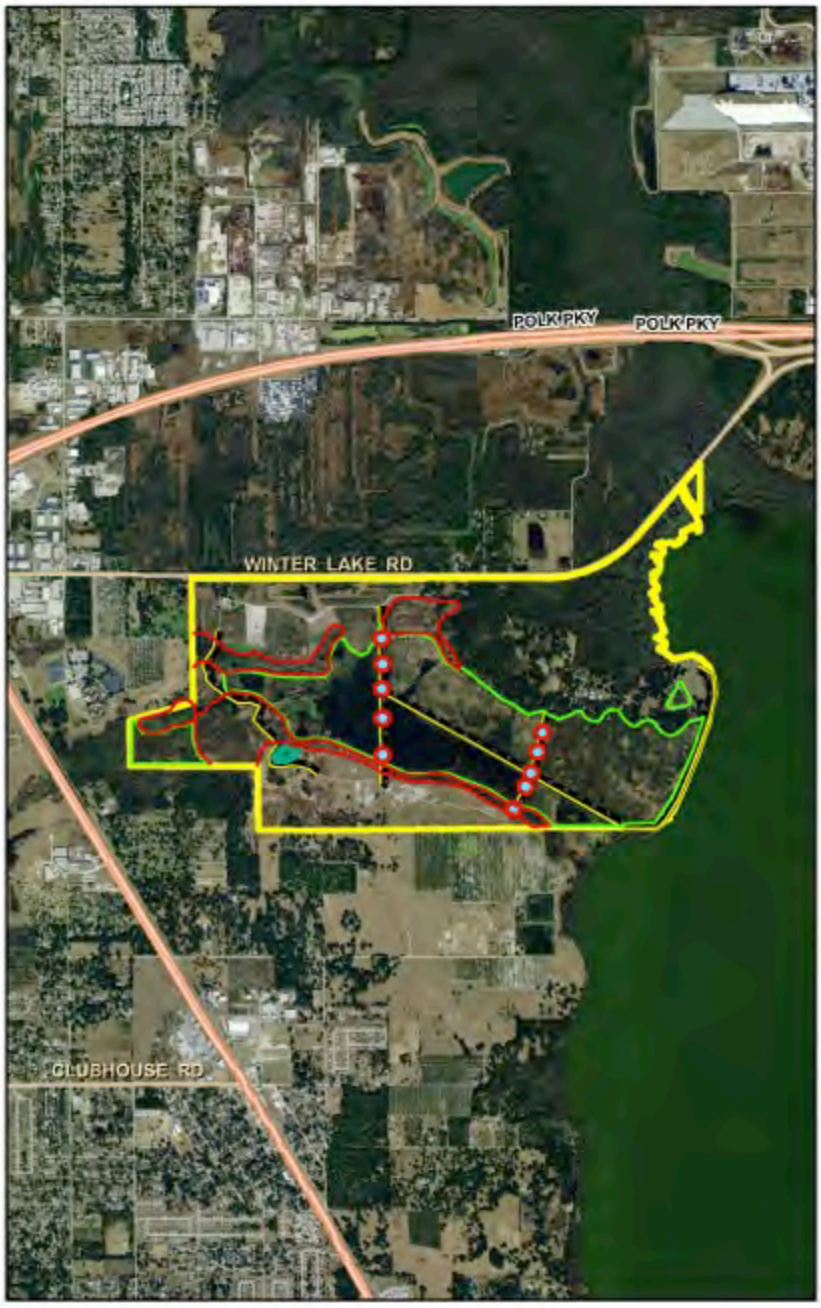
- Project Location
- Access Roads
- Approx. Restoration & Enhancement Area
- Flow Direction

Miles
0 0.1250.25 0.5

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 66 - Circle B Bar Reserve
Figure C - Post-Construction Site Conditions (2011)



Legend

- Culverts
- Herbaceous Wetland Mitigation
- Forested Wetland Mitigation
- Access Roads
- Constructed Pond
- Project Location

2011 Aerial

Miles
0 0.15 0.3 0.6

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Western Wetland Restoration – Pre-construction habitat conditions include improved pasture and remnant forested wetland (background). (2001)

Western Wetland Restoration – Construction equipment moving east, backfilling the western segment of the Banana Creek Canal and collector ditches. (2005)

Western Wetland Restoration – Canal has been filled and removal of western boundary levee has restored the sheet flow hydrology. (2006)

Western Wetland Restoration – The majority of this wetland area was historically forested and therefore appropriate tree and shrub species were planted along with herbs during 2006. (2009)

Center Wetland Restoration – Pre-construction view of the center spoil berm and adjacent collector ditch that conveyed water south to the Banana Creek canal. (2001)

Center Wetland Restoration – Pre-construction view from atop the center berm looking east over the improved pasture proposed for wetland restoration. (2001)

Center Wetland Restoration – Construction of the 2-acre “Gator Pond” in the adjacent southwestern upland pasture provided the fill material necessary to construct the Center Road and Eastern Road. (2005)

Center Wetland Restoration – Obligate marsh zones were planted with small islands of pickerelweed and arrowhead. Fish and other food resources are concentrated as water depth decreases during the dry season. (2009)

Eastern Wetland Restoration – Pre-construction view from the adjacent Lakeshore Road Berm, looking west over the improved pasture proposed for wetland restoration. (2001)

Eastern Wetland Restoration – Pre-construction view south toward the Banana Creek canal. This berm required additional fill to construct the Eastern Road and culverts were installed to restore sheet flow hydrology. (2001)

Eastern Wetland Restoration – Twin 48-inch culverts with slide gates were installed where the Center Road and Eastern Road cross the remnant Banana Creek canal. (2006)

Eastern Wetland Restoration – View from atop the Lakeshore Road berm, looking west over restored wetland marsh habitat. (2009)

Northwest Marsh – The plantings have matured and recruited to provide dense coverage. The marsh provides wildlife habitat as well as water quality benefits. (2009)

Substantial wildlife activity at the reserve includes over 112 avian species observed during monitoring and surveys. Three inactive and one active eagle nest are present within the reserve. (2006)

Obligate marsh zones created in the Center Wetland restoration area. (2013)

Control structures installed where the center road and the eastern road cross the remnant Banana Creek canal. (2013)

Upland habitat buffer restoration area. (2013)

SW-67 APOLLO BEACH NATURE PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Apollo Beach Nature Preserve	**Project Number**	SW-67
Project Type	Wetland restoration		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	16,17/31S/19E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2557031	SR 60 Cypress St. to Fish Creek[1]	10.70	43002958.003	2002-05816
		Total Impact Acreage:	**10.70**		

[1] Additional mitigation for other impacts associated with this project are provided at Cockroach Bay (Freshwater - SW-56), the Tappan Tract (SW-62) and Cockroach Bay (Saltwater - SW-75).

MITIGATION INFORMATION (As of October, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Intertidal low marsh and mangroves	Creation	Tampa Bay Drainage	13.8
		Total:	**13.8**

PROJECT DESCRIPTION

A. Overall project goals: This project involved the creation of various coastal habitats to replace an extensive spoil disposal area constructed in 1955 from adjacent dredged material from Tampa Bay. The total project area is 38 acres, on a site purchased through Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP). The tract is owned and managed by Hillsborough County, with the habitat creation constructed in collaboration with the SWFWMD SWIM section. The constructed habitats and associated acreage include intertidal low marsh and mangroves (13.8 acres), intertidal high marsh (7.2 acres), intertidal open water (10.8 acres), dunes (1.2 acres), and upland enhancement (5.0 acres). The designated area mitigating for the FDOT wetland impacts include only the13.8 acres of created low marsh, with mangrove species naturally recruiting in the low marsh.

B. Brief description of pre-construction habitat conditions: Prior to construction in 2004, the vast majority of the pre-construction site was low-quality upland habitat from numerous plant species that colonized the site in the 47 years since construction of the filled Apollo Beach peninsula. With sterile dredged soils creating a spoil "plateau" and minimal seed sources of desirable upland species, the "plateau" (average elev. 9-10 ft.) offered little opportunity for desirable species to colonize. Cogon grass (*Imperata brasiliensis*) was the most dominant ground cover species. Other herbs included purple sedge (*Cyperus ligularis*), hurricane grass (*Fimbristylis spathacea*), licorice weed (*Scoparia dulcis*), seaside evening primrose (*Oenothera humifusa*), and camphor daisy (*Haploppus phyllocephalus*). Shrub and tree species were present in the form of scattered individuals and small, dense pockets. Dominant species included Brazilian pepper (*Schinus terebinthifolius*), salt-bush (*Baccharis angustifolia*), wax myrtle (*Myrica*

cerifera), lantana (*Lantana camara*), cabbage palm (*Sabal palmetto*), and Australian pine (*Casuarina equisetifolia*). A narrow strip of intertidal wetland exists along the outer, waterward edge of the site. Woody vegetation in this zone consists mainly of white mangrove (*Lagucularia racemosa*) and black mangrove (*Avicennia germains*), with scattered Brazilian pepper and coinvine (*Dalbergia castaphyllum*). Herbs include sea purslane (*Sesuvium portulacastrum*), saltmeadow cordgrass (*Spartina patens*), and saltwort (*Batis maritima*).

C. Brief description of construction activities and current habitat conditions: In 2004, the majority of the spoil material was hauled off-site and the project site was graded to create low and high marsh habitat. The construction emphasized an interconnected network of open water channels and deeper pools, a myriad of planted marsh platforms at various elevations, saltern habitat, sinuous edge communities, and areas of upland enhancement and restoration. The open water component is particularly important in the design to provide feeding and resting habitat for the Florida manatee that frequent the area due to the neighboring warm-water discharge from the Tampa Electric Company's (TECO) Big Bend Power Station.

The intertidal low marsh and mangrove wetland zone (13.8 acres) is designated to mitigate for the FDOT wetland impacts. This zone (elevations 0.5 to +2.0 ft.) was planted with *Spartina alterniflora,* and mangrove species have naturally recruited and generated during the initial growing seasons (photographs). The existing eastern shoreline is dominated by mangroves and was preserved to inhibit erosion and provide a seed source for mangrove seedling recruitment.

Monitoring was conducted semi-annually through 2008, at which time success criteria were met with minimal need for maintenance. The success criteria included a total 85% cover of planted and recruited desirable species and less than 5% coverage of exotic species. The habitat conditions attract substantial diversity of wildlife and vegetation species.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The 5.9 acres of the saltwater marsh impacts associated with the above referenced FDOT project are mitigated by the creation of 13.8 acres of intertidal low marsh and mangrove habitat. The FDOT mitigation area is buffered with the creation of other estuarine habitats, increasing the ecological value and wildlife benefits of the designated mitigation. No additional FDOT wetland impacts are proposed for mitigation at the project site.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the selection of the mitigation, the Tampa Bay Mitigation Bank (TBMB) was the only proposed mitigation bank within the Tampa Bay Drainage Basin; however, the bank was not under construction nor did it have any credits available to sell.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The Apollo Beach restoration project is a SWIM project. Constructed through the SWFDWMD SWIM section, the site is owned and managed by Hillsborough County.

PROJECT IMPLEMENTATION

- Planning and design: Completed 2002
- Construction: 2003-2004
- Maintenance and monitoring: 2004-2008
- Perpetual management: Ongoing

Entity responsible for construction: A private contractor selected by the SWFWMD SWIM section.

Entity responsible for monitoring and maintenance: Consultant working for the SWFWMD.

Entity responsible for perpetual management: Hillsborough County.

Total Cost for FDOT Mitigation Including O&M: $490,000

ATTACHMENTS

1. Figure A-Location
2. Figure B-Post-construction (2011)
4. Photographs (2012)

SW 67 - Apollo Beach Nature Preserve
Figure A - Location (1999) (STR 16,17/31S/19E)

Legend

Project Location

1999 Aerial

Miles

0 0.05 0.1 0.2

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 67 - Apollo Beach Nature Preserve
Figure B - Post-Construction (2011)

Legend

Project Location

Feet
0 150 300 600

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

Northwest portion of the tract depicting areas of established mangroves and tidal lagoons. (2012)

Photo taken facing southeast depicting the established mangrove and tidal pools. (2012)

Photo taken facing southeast depicting the established mangrove and inter-tidal lagoon. (2012)

Photo taken facing southeast depicting the established mangrove and inter tidal lagoon. (2012)

SW-69 PEACE RIVER BRIDGE RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Peace River Bridge Restoration	**Project Number**	SW-69
Project Type	Wetland restoration and enhancement		
Landowner	State waters	**Management Entity**	None
County	Charlotte	**Watershed**	Peace River
Water bodies	Peace River	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	16,17/31S/19E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Peace River	4046971	I-75 Bridge Widening over Peace River[1]	3.31	43021917.000	NPR
		Total Impact Acreage:	**3.31**		

[1] The total proposed wetland impact associated with the bridge construction is 6.06 acres. In addition to the 3.31 acres of impact listed above, there will be 2.75 acres of mangrove & estuarine permanent impacts from shading that will be mitigated through the purchase of mangrove credits from the Little Pine Island Mitigation Bank (SW 52).

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Saltmarsh, mangroves	Restoration and Enhancement	Peace River	4.57
		Total:	**4.57**

PROJECT DESCRIPTION

A. Overall project goals: FDOT constructed a new northbound I-75 bridge over the Peace River in 2002-2004. The new span is located between the existing southbound bridge and removed northbound bridge. To remove the northbound bridge span, construction equipment needed access adjacent to the eastern side of the existing span, resulting in 2.51 acres of temporary wetland impact. After the bridge span was removed, the pre- existing non-vegetated, shaded area under the removed span (2.06 ac.) and temporary impact area (2.51 ac.) were planted with white mangrove, saltmarsh bulrush, and black needle rush.

B. Brief description of pre-construction habitat conditions: Prior to the new bridge construction, there was a dominance of non-vegetated, exposed sand conditions beneath the former northbound bridge span due to shade. Trimmed mangroves were dominant within the proposed temporary impact area of Site C (Figure A). The temporary impact area at Site B (Bird Key) had some small trimmed mangroves, scattered leather-fern, and primarily non-vegetated areas where previously cut limbs were prevalent over the ground (photo). The temporary impact area at Site A included a mixture of white and red mangroves with a dominance of black rush.

C. Brief description of construction activities and current habitat conditions: The bridge contractor constructed the new bridge span before removing the existing northbound span. After the previous northbound span was removed, the contractor conducted additional earthwork to restore pre-construction grade elevations within the temporary impact zones. The enhanced wetlands (under the

previous bridge) and restored wetlands (within the temporary impact zone) were planted in July, 2004 with white mangrove, black rush and saltmarsh bulrush. The planting supplemented the natural regeneration of these same species that had already commenced in these areas after construction. Dense, high quality mangrove coverage excluded generation of exotic and nuisance species by 2005. Success criteria required a minimum 80% cumulative cover of desirable vegetation, since ground cover within mature mangrove systems are generally sparse. With the proper grading, tidal waters restrict the generation of exotic/nuisance species, which were eradicated during a 2-year monitoring period.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): For the on-site mitigation, the permanent loss of 0.80 acre of mangrove/estuarine marsh habitat are adequately and appropriately compensated by the enhancement of 2.06 acres of non- to minimally-vegetated wetlands beneath the previous northbound span. The 2.51 acres of temporary impact to mangrove and saltmarsh habitat was restored in the same location as the impacts. To compensate for an additional 2.75 acres of permanent mangrove and estuarine impact, the impacts are mitigated though purchasing 2.75 credits from the Little Pine Island Mitigation Bank (LPIMB). The high quality habitat conditions of both the on-site mitigation and the LPIMB adequately and appropriately compensate for the associated bridge wetland impacts. No additional roadway wetland impacts will be mitigated with this project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: Due to habitat conditions and proximity to the wetland impacts, the Little Pine Island Mitigation Bank was selected to compensate for some of the wetland impacts associated with this project. However, the I-75 Bridge is within the Peace River Basin and the mitigation bank is within the adjacent and downstream Charlotte Harbor Basin. Selection of an appropriate mitigation project within the basin was required to partially mitigate for wetland impacts, in order to avoid cumulative loss of wetland habitat functions and value within the Peace basin. Since the on-site wetland restoration and enhancement adequately and appropriately compensates for a portion of the impacts, the mitigation bank provides additional appropriate mitigation for the remaining habitat loss.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, there were no existing or proposed saltwater restoration SWIM projects proposed in the Peace River basin.

PROJECT IMPLEMENTATION

- Bridge construction: 2001-2004
- Mitigation planting: July 2004
- Monitoring and maintenance: 2004-2006

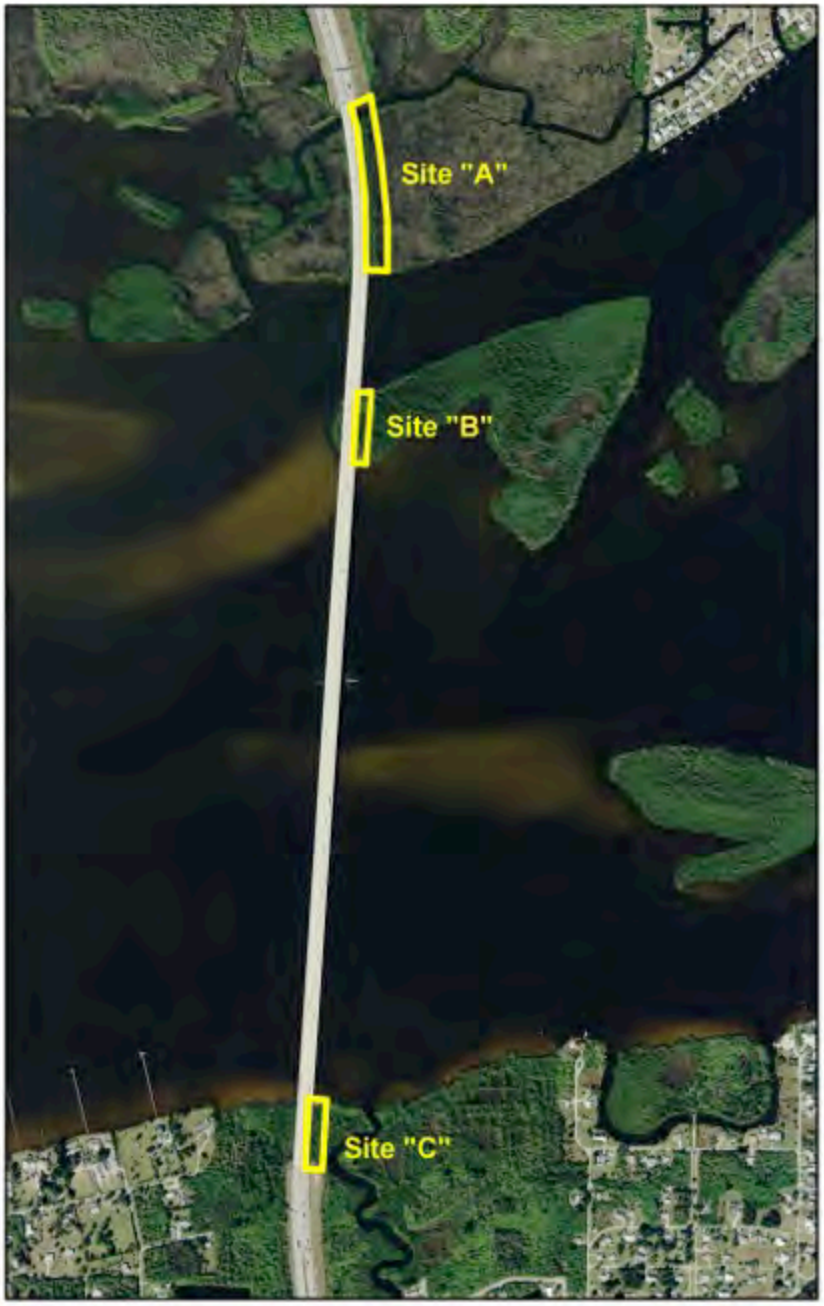
Entity responsible for construction: Contractor for the bridge construction was responsible for the necessary earthwork to restore grade elevations. A nursery contractor was selected and managed by the SWFWMD for planting and maintenance of the restored wetlands.

Entity responsible for monitoring and maintenance: Maintenance was conducted by a private consultant on contract with the SWFWMD and monitoring was conducted by the SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $26,000*
* Costs do not include some necessary minor earthwork grading conducted by the bridge contractor to restore appropriate wetland grades at the three sites.

ATTACHMENTS
1. Figure A-Location
2. Photographs (2001, 2003, 2004, 2008)

SW 69 - I-75 Peace River Bridge Restoration
Figure A - Location (STR 28,33/40S/23E)



Legend

Project Location

2011 Aerial

Feet
0 370 740 1,480

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW-70 FT. DESOTO PARK ECOSYSTEM RESTORATION MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Ft. DeSoto Park Ecosystem Restoration	**Project Number**	SW-70
Project Type	Wetland enhancement		
Landowner	State waters	**Management Entity**	Pinellas County
County	Pinellas	**Watershed**	Upper Coastal Drainage
Water bodies	Mullet Key Bayou	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	7,8/33S/16E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Upper Coastal Drainage	2569031	SR 682 (Bayway Bridge) SR 679 to W. Toll Plaza	0.80	44023532.000	No Permit Required
Upper Coastal Drainage	2570831	SR 699 (Gulf Blvd.) - 192nd Ave. to Walsingham/Ulmerton Rd.	0.10	44025373.000	2003-07110
Upper Coastal Drainage	4107552	SR 679 (Pinellas Bay Structure E) at Intercoastal Waterway	0.40	47023803.000	2002-04286
		Total Impact Acreage:	**1.30**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Seagrass	Enhancement	Upper Coastal Drainage	16
		Total:	**16**

PROJECT DESCRIPTION

A. Overall project goals: The Ft. DeSoto Park Aquatic Habitat Management Area includes islands that were physically connected to Mullet Key in the 1960's by the construction of filled causeway roads. Since no bridges or culverts were installed, these causeways blocked historic tidal circulation patterns throughout the interior bay area (Mullet Key Bayou) along the north side of Mullet Key, resulting in severe stress and mortality of seagrass habitat. With construction of a 40-foot bridge span through the Pinellas Bayway causeway, flow patterns will be restored to the inner bays and enhance the health and survivorship of adjacent seagrass beds. Based on previous studies, the minimum area of seagrass enhancement expected to result from bridge construction is 230 acres (Figure B), with secondary enhancement of the adjacent mangrove habitat along the causeway and additional seagrass beds further from the structure. The ecological value of this project has been recognized with Pinellas County receiving regional, state, and national awards for engineering and environmental excellence.

B. Brief description of pre-construction habitat conditions: Prior to construction, tidal flow patterns filled the inner bays, with slow and often stagnant hydrologic circulation. This restricted circulation

problem resulted in elevated water temperatures in the summer, decreased dissolved oxygen content, water quality degradation and associated seagrass mortality.

C. Brief description of construction activities and current habitat conditions: Pinellas County constructed the bridge span in the location of a historic open water break between two islands. This span restores significant hydrologic circulation, enhancing the Mullet Key Bayou areas with the worst water quality and stagnation problems that in turn has improved the health of the seagrass beds and adjacent mangrove habitats along the causeway. Maintenance of the seagrass beds is not necessary and specific success criteria were not proposed since restoration of the tidal recirculation occurred as soon as the bridge was constructed, however periodic monitoring is being conducted by Pinellas to evaluate the seagrass health and water quality conditions.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The wetland impacts are associated with minor encroachments into open water, seagrass and mangrove habitats due to urban roadway and bridge expansions in western Pinellas County. Since Ft. DeSoto was first added to the mitigation program, very minor wetland impacts associated with over a dozen FDOT projects designated for mitigation at Ft. DeSoto were ultimately permitted without requiring mitigation. Therefore, along with the three permitted roadway & bridge projects, additional minor FDOT wetland impacts within the Pinellas County portion of the Upper Coastal Basin will be evaluated to determine if they can be adequately and appropriately mitigated at Ft. DeSoto. The most noteworthy impact included the 0.4-acre of shading impact to seagrass associated with the widening of the Pinellas Bayway Bridge. All the roadway and bridge projects are within close proximity of Ft. DeSoto Park. Secondary benefits include restoring tidal conditions to other habitats including adjacent mangroves that border the bays. To date, since the designated FDOT funds ($110,000) provide 7% of the $1.6 million bridge budget, an appropriate percentage (16 acres) of the 230 acres of minimal habitat enhancement has been designated for the mitigation. Based on the quality of the wetland impacts and associated mitigation evaluation, this mitigation acreage is more than adequate and appropriate to compensate for the 1.3 acres of wetland impacts associated with the above referenced permits.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection, there were no existing or proposed mitigation banks within the Upper Coastal Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This project is also being co-sponsored by the SWFWMD SWIM program.

PROJECT IMPLEMENTATION

- Design and permitting: 2000-2003
- Construction: 2004
- Perpetual management: Ongoing

Entity responsible for construction: A private contractor selected by Pinellas County.

Entity responsible for monitoring and maintenance: Specific mitigation monitoring was determined to be unnecessary.

Entity responsible for perpetual management: Pinellas County.

Total Cost for FDOT Mitigation Including O&M: $159,971

ATTACHMENTS
1. Figure A-Location
2. Figure B-Habitat Enhancement Areas
3. Photographs (2004, 2013)

SW 70 - Fort DeSoto Park Ecosystem Restoration
Figure A - Location (STR 7,8/33S/16E)

Legend

Project Location

2004 Aerial

Feet
0 750 1,500 3,000

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 70 - Fort DeSoto Park Ecosystem Restoration
Figure B - Habitat Enhancement

Legend

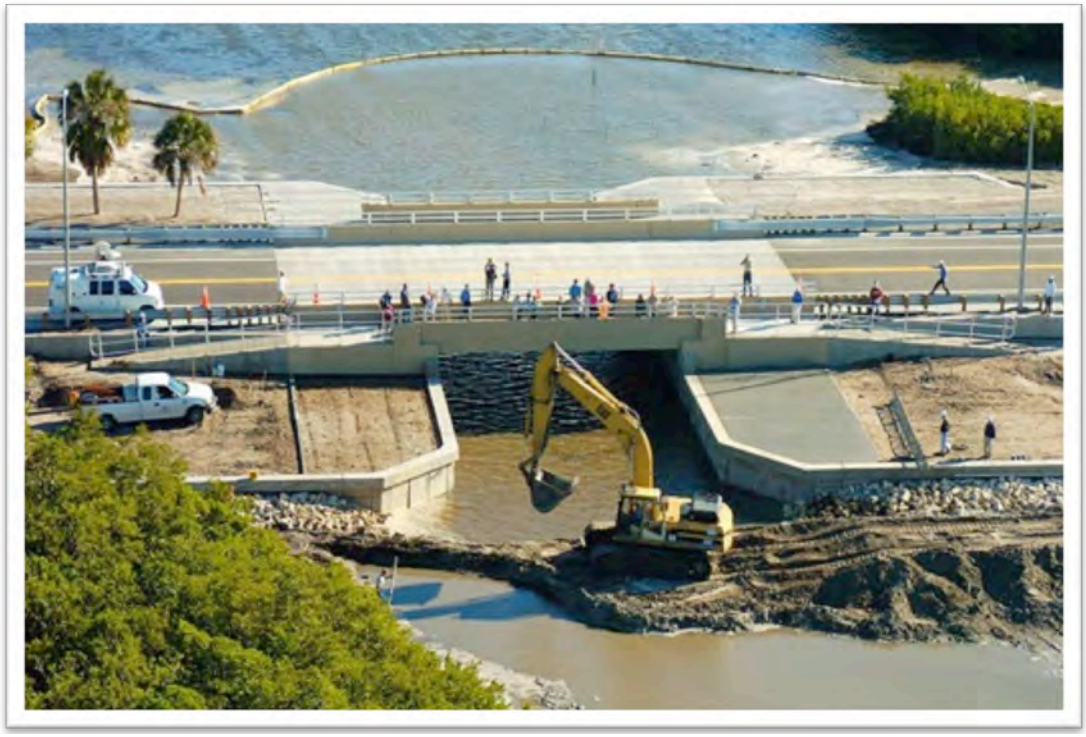
Seagrass Bed Enhancement

2011 Aerial

Feet
0 312.5625 1,250

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan



Ecosystem Restoration – Completion of bridge opening and tidal recirculation project. (2004)

Ecosystem Restoration – Completion of bridge opening and tidal recirculation project. (2004)

Typical result of restored mangrove habitat. (2013)

Typical result of restored mangrove habitat. (2013)

Typical result of restored mangrove habitat with constructed bridge span in the background. (2013)

SW-71 BOYD HILL NATURE PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Boyd Hill Nature Preserve	**Project Number**	SW-71
Project Type	Wetland enhancement; upland enhancement		
Landowner	City of St. Petersburg	**Management Entity**	City of St. Petersburg
County	Pinellas	**Watershed**	Tampa Bay Drainage
Water bodies	Lake Maggiore	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 8		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	35,36/31S/16E;1/32S/16E;6/32S/17E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2555991	SR 676 (Causeway Blvd.) US 301 to US 41	1.40	43027063.000	2004-05583
Tampa Bay Drainage	2558881	US 301 Sligh Ave. to Tampa Bypass Canal[1]	8.30	43024246.000	2002-06711
Tampa Bay Drainage	2568881	US 19 Coachman Rd. to Sunset Rd.	0.40	4411760.013	2001-04383
Tampa Bay Drainage	2570701	US 19 (SR 55) 49th St. to 118th Avenue	0.10	44000188.002	2002-06325
Tampa Bay Drainage	4037701	US 19, CR 816 (Alderman) to SR 582 (Tarpon)	0.10	44022085.001	NW-14
Tampa Bay Drainage	4062561	East-West Trail, Coopers Bayou to Bayshore	0.10	44022718.001	2001-05298
Tampa Bay Drainage	4082011	Himes Ave. at Hillsborough Ave.	0.10	44002448.002	2002-08419
Tampa Bay Drainage	4154893	US 301, Sun City Center to Balm Road[2]	2.00	43034464.000	2008-03613
		Total Impact Acreage:	**12.50**		

[1] The freshwater marsh and ditch impacts associated with these projects are being mitigated with habitat activities conducted at Cockroach Bay – Freshwater (SW 56).
[2] Additional wetland impacts are being mitigated on-site by FDOT, the Ekker Tract (SW 82), and the Little Manatee River – Lower Tract (SW 83).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Freshwater forested hardwood wetlands	Enhancement	Tampa Bay Drainage	69.6
Upland	Enhancement	Tampa Bay Drainage	21.4
		Total:	**69.6**

PROJECT DESCRIPTION

A. Overall project goals: The enhancement of freshwater forested hardwood wetlands (69.6 acres) and adjacent buffers of upland forested habitat (21.4 acres), and pond (1 acre) by eradication of the extensive cover of exotic and nuisance species; followed by supplemental planting of appropriate tree species. Enhancement activities are part of an overall plan of eradication and maintenance to control undesirable vegetation within the 300-acre Preserve owned and managed by the City of St. Petersburg.

B. Brief description of pre-construction habitat conditions: The enhancement areas include two designated portions of the Preserve (Figure B). The northwest area includes hardwood hammock wetlands, dominated by laurel oak with additional coverage of Brazilian pepper, water oak, live oak, red maple, cabbage palm and a sparse understory dominated by ferns. The area also includes upland hardwood hammock that buffers the adjacent forested wetlands. These hammocks are dominated by live oak, scattered longleaf pine, Brazilian pepper, extensive vines, and where the Brazilian pepper was not dense, an understory of scattered saw palmetto. The density of Brazilian pepper varied with an average sub-canopy cover of 30%. The pepper was much larger and provided more coverage within the wetland portion.

The southeast enhancement area includes approximately half of a forested wetland floodplain associated with Lake Maggiore and is one of the largest forested freshwater wetland habitats within peninsular Pinellas County This wetland has a more extended hydroperiod than the wetlands in the northeast part of the Preserve. This wetland receives stormwater flow from the contributing basin which is high density residential. The wetland treats stormwater before flowing into Lake Maggiore. During high water conditions, the lake overflows into this wetland, providing even more opportunity for water quality treatment and flood attenuation. Prior to enhancement activities, dominant vegetation within this area included red maple, Brazilian pepper, sweet bay, Carolina willow, primrose willow, elderberry, and grapevine over much of the outer shrub components. Ground cover was sparse due to the heavy shade cover from Brazilian pepper, elderberry and grapevine, but there are various fern species present. Historically, the City could only annually budget and conduct 5-10 acres of habitat enhancement at the Preserve. At that rate, exotics eradication could not be successful due to the continuous seed source recruiting and generating back into previously enhanced areas. Therefore, the combination of mitigation and grant funding allowed the City to hire private contractors to eradicate exotics throughout the Preserve over a shorter duration.

C. Brief description of construction activities and current habitat conditions: The City contracted with private environmental consultants and contractors to eradicate the extensive cover of nuisance and exotic vegetation beginning in 2004. The dominant species eradicated from all areas was Brazilian pepper, which had moderate to very dense cover within the wetland as well as upland habitats. Secondary species eradication included herbicide control and long-term maintenance of primrose willow, elderberry, guinea grass and grapevine. Pepper eradication included a phased approach of herbicide treatment (Garlon) for initial mortality, hand tools and mechanical removal, and transport to the on-site mulching facility. Areas of eradication have exhibited good vegetative coverage of planted and regenerated desirable tree, shrub and herb species. An extensive schedule of herbicide applications continues to minimize recruitment and regeneration of exotic & nuisance species.

Herbicide treatment of regenerating and other exotic and nuisance species was conducted bi-monthly through 2007, then quarterly through 2010. Supplemental tree and shrub species were planted in areas with minimal tree cover due to existing dense pepper. Dominant tree plantings in wetlands included sweetgum, red maple, popash, with pines and live oak in the uplands. The Preserve periodically implements prescribed burns as necessary within the uplands to maintain appropriate vegetative species and density.

Due to the muck and seasonal high water conditions of this swamp, it was necessary to mechanically eradicate and remove the Brazilian pepper during dry season periods. Hydraulic dredging of lake bottom sediments were also conducted in 2004 and 2005, with $12 million expended by the SWFWMD and the City of St. Petersburg. The combination of the lake dredging and wetland enhancement provides substantial ecological improvement and interdependent mosaic of wetland and surface water habitats. In addition, the City received grants toward funding exotic and nuisance species removal within the

remaining areas (primarily upland habitats) of the Preserve not providing mitigation credit. This total eradication effort further minimizes the exotic and nuisance species seed sources that recruit into the wetlands. Wildlife species depend on many upland and wetland ecosystems for various functions and values within their life cycles. Preserve staff continues herbicide treatments to maintain enhanced habitat conditions. Monitoring reports were discontinued after 2009.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s):
The FDOT impacts designated for mitigation at the Preserve include a dominance of freshwater forested and shrub wetlands. The wetland enhancement areas at the Preserve include portions of some of the the largest forested freshwater wetlands remaining within peninsular Pinellas County. With the other habitat enhancements conducted at the Preserve, Boyd Hill provides adequate and appropriate mitigation for the wetland impacts with large-scale, regionally significant and extensive habitat improvements. Boyd Hill is one of the few areas of remnant, large native habitats surrounded by an urban landscape. As a result, the exotics eradication and planting were critical toward attracting and maintaining important wildlife habitat in Pinellas County.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The Tampa Bay Mitigation Bank (TBMB) is the only mitigation bank within the Tampa Bay basin. However, at the time of mitigation selection, bank construction had not commenced and credit sales were not available.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: Several SWIM projects have been selected to provide FDOT mitigation for saltwater wetland and freshwater marsh impacts in this basin. At the time of mitigation nomination, none of the SWIM projects in the basin had the opportunity to provide appropriate mitigation for forested freshwater wetland impacts. However the adjacent Lake Maggiore sediment dredging activity was a SWFWMD-SWIM and City of St. Petersburg sponsored habitat improvement project and the Boyd Hill Preserve project was selected due to the opportunity to appropriately mitigate the proposed wetland impacts with ecologically beneficial habitat improvements.

PROJECT IMPLEMENTATION

- Exotics eradication: 2004-2005
- Maintenance and monitoring: 2005-2009
- Perpetual management: Ongoing

Entity responsible for construction: Private environmental contractors working for the City of St. Petersburg.

Entity responsible for monitoring and maintenance: Consultant on contract with the City of St. Petersburg.

Entity responsible for perpetual management: City of St. Petersburg

Total Cost for FDOT Mitigation Including O&M: $703,126

ATTACHMENTS
1. Figure A-Location
2. Figure B-Mitigation Areas
3. Photographs (2003, 2006, 2008, 2013)

SW 71 - Boyd Hill Nature Preserve
Figure A - Location (STR 35,36/31S/16E; 1/32S/16E; 6/32S/17E)

Legend

Project Location

2004 Aerial

Miles

0 0.125 0.25 0.5

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 71 - Boyd Hill Nature Preserve
Figure B - Mitigation Areas/Habitat

Legend

- Project Location
- Forested Uplands North of Line
- FDOT Forested Mitigation Areas

2011 Aerial

Miles
0 0.1 0.2 0.4

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

Portions of both designated wetland habitat enhancement areas had extensive and dense coverage of Brazilian pepper that substantially minimized wildlife access and foraging opportunities. (2003)

Majority of the northwest designated mitigation area had less extensive Brazilian pepper coverage mixed within the wetland (right) and adjacent upland habitat buffers (left). (2003)

Portion of the northwest mitigation area after eradication of dense Brazilian pepper, preserving the remaining native trees and shrubs, and preparing the site for supplemental planting. (2006)

Ephemeral wetland in the northwest area that was previously covered with dense Brazilian pepper. Natural regeneration of hydrophytic vegetation and supplemental plantings of trees and shrubs has occurred. (2008)

Forested uplands in northwest mitigation area. (2013)

Forested uplands in northwest mitigation area. (2013)

SW-74 SERENOVA PRESERVE – SITES 2, 3, 4, 8 MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Serenova Preserve- Sites 2, 3, 4, 8	**Project Number**	SW-74
Project Type	Wetland enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Pasco	**Watershed**	Upper Coastal Drainage
Water bodies	Pithlachascotee River, Five Mile Creek	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	11,13,14,23,24,25,26,34,35,36/25S/17E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Upper Coastal Drainage	2563161	SR 52 Hicks to Moon Lake	1.60	40007804.005	1990-03363
		Total Impact Acreage:	**1.60**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Freshwater forested wetlands	Enhancement and Restoration	Upper Coastal Drainage	26.00
		Total:	**26.00**

PROJECT DESCRIPTION

A. Overall project goals: The Serenova Preserve and adjacent Starkey Wilderness Preserve (total over 20,000 acres) is owned and managed by the SWFWMD. After extensive evaluation and ranking of wetland restoration and enhancement opportunities within the Serenova Tract, it was determined that four separate project sites (2, 3, 4 and 8) could provide the most important wetland hydrologic improvements within the property. Three projects involve culvert installations and removal of berm material associated with the Pithlachascotee River and Five Mile Creek. The Pithlachascotee River has two access road berm crossings (Site 2 - actively used, Site 4 - abandoned) and Five Mile Creek has one crossing (Site 3). Each crossing requires improvements to restore surface water flow conditions through floodplains and to minimize continuous problems with erosion and sedimentation. Wetland hydrology will be restored in a large outfall ditch of a cypress system at Site 8 through the installation of ditch blocks.

B. Brief description of pre-construction habitat conditions: The Pithlachascotee River and Five Mile Creek are forested wetland floodplains of relatively high-quality with a diverse canopy cover dominated by laurel oak, sweet gum, cypress, red maple, cabbage palm, and tupelo. A sub-canopy has saplings of the same species as well as Virginia willow, buttonbush, and wax myrtle. Ground cover is sparse due to canopy cover and is dominated by various fern and sedge species. Hydrologic characteristics of the floodplains have been altered by berms constructed prior to public acquisition and by undersized and insufficient culverts. The abandoned Pithlachascotee River crossing had a 600 ft. long berm that blocked and diverted surface water flow to a dredged river channel segment. The river channel had a partially collapsed bridge trestle that would catch debris and block flow. Another 680 ft. long berm crossing of the river is utilized for management access, but had insufficient and undersized culverts. The upstream contributing flow was diverted through just three culverts in the main river channel. As a result,

the wetland floodplain upstream of the berm experienced impounded surface and less water contributed to the downstream wetland floodplain. The Five Mile Creek roadway crossing had an appropriate size culvert but insufficient rubble rip-rap to control erosion (Site 3). The cypress system associated with Site 8 had a dense canopy and fern understory, but hydrologic indicators demonstrated minimal hydroperiods due to a wide, shallow outfall ditch.

C. Brief description of construction activities and current habitat conditions: A surface water modeling effort was conducted in 2006 to determine the appropriate sizes and locations of culverts required for Sites 2 and 3 to restore the primary flow patterns of the Pithlachascotee River. The modeling effort resulted in replacing the three culverts in the main channel at Site 2 and the installation of two additional culverts at strategic locations where secondary channels historically provided flow to other areas within the floodplain. Evaluation of those culverts after installation has indicated restoration of flow regimes. The access road berm was also stabilized with rubble rock and capped with limerock base material, thus halting the erosion and sedimentation that was occurring with the previous road. The Five Mile Creek access road (Site 3) required resetting of the culvert and adding rubble and base material to stabilize the crossing. At Site 4, fill material from the berm was used to backfill an adjacent drainage ditch and the land was regraded and stabilized at the abandoned berm crossing to restore the historic floodplain flow patterns. The dilapidated bridge was also removed. Hydrophytic herbs, dominated by soft rush and sedges, have since recruited within the area, followed by tree seedlings, dominated by red maple, that will mature and eventually restore the canopy gap. The berm removal and adjacent backfilled ditch resulted in a one-acre area of restored wetland floodplain. The wide and shallow outfall ditch from the cypress system (Site 8) had three small ponds dredged within the footprint the ditch, with the resulting material used to create two substantial ditch blocks, stabilized with biodegradable mesh screens and Bahia seeding. The ponds provide a valuable water source for wildlife during the dry season, while the ditch blocks are rehydrating the adjacent forested wetland.

A minimal acreage of direct wetland enhancement was proposed for mitigation credits for each site. This minimal enhancement is based on wetland floodplain limits of 350 ft. upstream and downstream of each crossing (Sites 2, 3 and 4), and the most northern 300 ft. perimeter of the drained cypress wetland associated with Site 8. The enhancement acreage for each site is as follows:

- Project Site 2 – The direct wetland enhancement was estimated at 11 acres (floodplain upstream & downstream - 700 ft. x floodplain width 700 ft. = 11 acres).
- Project Site 3 – Direct wetland enhancement was estimated at 2 acres (floodplain upstream & downstream - 700 ft. x floodplain width 150 ft. = 2 acres).
- Project Site 4 – Direct wetland enhancement was estimated at 11 acres (length 700 feet x width 700 feet = 11 acres).
- Project Site 8 – Direct wetland enhancement was estimated at 2 acres (length 300 feet x width 350 length = 2 acres).

Success criteria included ensuring the hydrologic flow patterns were adequately and appropriately restored, erosion control methods were maintained, and there was less than 5% coverage of any exotic and/or nuisance species vegetation within the restored wetland (Site 4). These successful habitat conditions have been achieved and maintained at all four project sites. Periodic inspection of the structures, rip-rap, etc. are conducted to ensure they function as intended, and that exotic and nuisance species do not become a problem at any of the sites. Due to the minimal presence of exotic or nuisance species on the Serenova property and within the vicinity of the four project sites, long term maintenance is expected to be minimal.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The SR 52 segment is a few miles northwest of the Serenova Tract. The 1.6 acres of forested wetland impacts are adequately and appropriately mitigated by the 26 acres of habitat enhancement and restoration at Serenova. This mitigation project is only designated to provide mitigation for the wetland impacts associated the SR 52 project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During mitigation selection, there were no existing or proposed mitigation banks within the Upper Coastal Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: During mitigation selection, there were no existing or proposed SWIM projects in the Upper Coastal basin that could appropriately provide the mitigation for the proposed impacts.

PROJECT IMPLEMENTATION

- Surface water modeling: 2006
- Construction: November 2007 – April 2008
- Monitoring and maintenance: 2008 – 2010
- Perpetual management: Ongoing

Entity responsible for construction: SWFWMD Operations Department.

Entity responsible for monitoring and maintenance: SWFWMD.

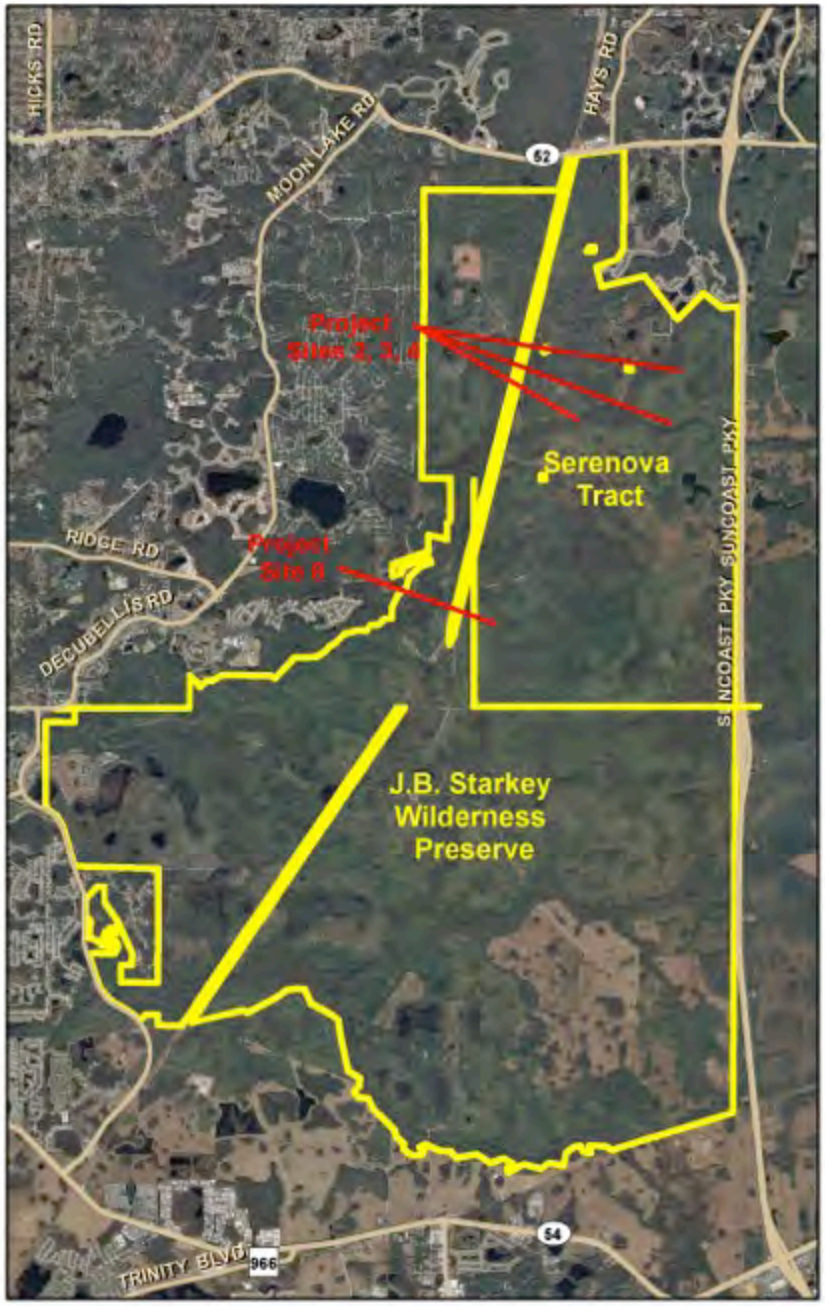
Entity Responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $131,805

ATTACHMENTS

1. Figure A-Location
2. Figure B-Project Sites
3. Photographs (2005, 2008, 2009)

SW 74 - Serenova Preserve Sites 2, 3, 4, 8
Figure A - Location (STR 11,13,14,23-26,34-36/25S/17E)



Legend

Project Location

2011 Aerial

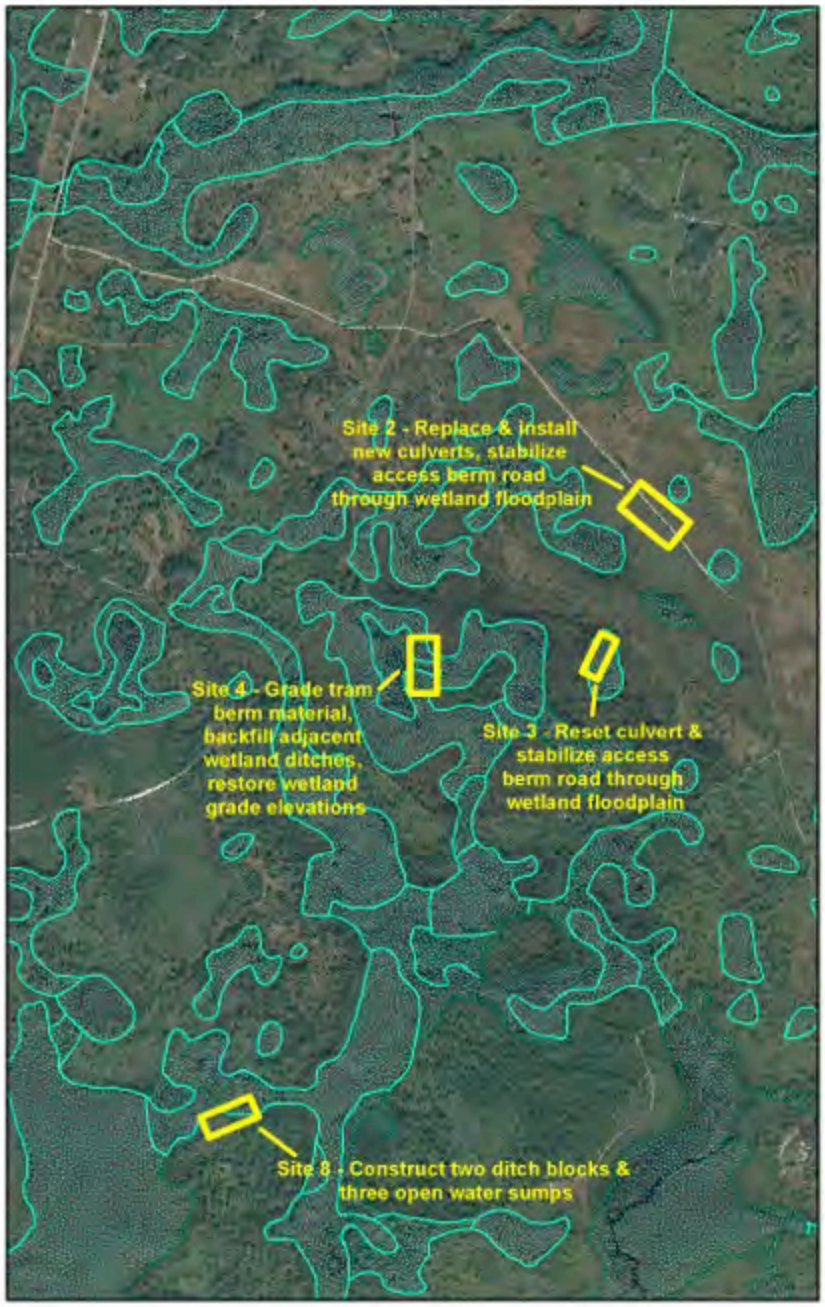
Miles

0 0.5 1 2

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 74 - Serenova Preserve - Sites 2, 3, 4, 8
Figure B - Wetlands & Project Sites



Legend

National Wetlands Inventory

- Estuarine
- Lacustrine
- Marine
- Palustrine
- Riverine
- Upland

2011 Aerial

Feet
0 500 1,000 2,000

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Pre-Construction - Site 2 – These three dilapidated culverts provided the only hydrologic connections from upstream to downstream through the 700 ft. wide Pithlachascotee River wetland floodplain. The sidebanks of the access road berm are unstable due to erosion. (2005)

Post-Construction - Site 2 – In addition to the three new culverts installed at the river channel crossing (left), additional culverts were placed at other strategic locations in the berm to restore appropriate hydrologic regimes and connectivity within impounded wetlands upstream and dewatered wetlands downstream. Wildlife routinely utilize the road for access across the floodplain. (2009)

During Construction - Site 4 – Berm material has been graded to fill adjacent ditches, followed by seeding with winter rye and bahia for initial soil stabilization. The base flow through the river channel was maintained and sheet flow and seepage was restored through the floodplain wetland. (February 2008)

Post-Construction - Site 4 – Extensive coverage of naturally recruited herbs such as soft rush and sedges, as well as seedlings of hydrophytic trees that will gradually mature to fill in the canopy gap. (July 2009)

SW-75 COCKROACH BAY RESTORATION - SALTWATER MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Cockroach Bay Restoration – Saltwater	**Project Number**	SW-75
Project Type	Wetland Creation		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay, Cockroach Bay	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 2		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	4,5/27S/19E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2557031	SR 60 Cypress St. to Fish Creek[1]	5.40	43002958.003	2002-05816
Tampa Bay Drainage	2571391	SR 688 (Ulmerton Rd.), US 19 to 49th Street	0.10	44026223.000	2003-11664
		Total Impact Acreage:	**5.50**		

[1] Additional mitigation for other impacts associated with this project are provided at Cockroach Bay (Freshwater - SW-56), the Tappan Tract (SW-62) and Apollo Beach (SW-67).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Braided tidal marsh	Creation	Tampa Bay Drainage	8.00
Tidal pools and channels	Creation	Tampa Bay Drainage	7.00
		Total:	**15.00**

PROJECT DESCRIPTION

A. Overall project goals: Cockroach Bay includes a multi-agency (USACOE, SWFWMD, FDEP and Hillsborough County) effort of habitat creation and restoration conducted on property acquired and managed by Hillsborough County (total 651 acres). The SWFWMD SWIM section primarily assists the County with managing the design, construction and creation of wetland habitats. Hillsborough County also conducts the perpetual management of the public lands at Cockroach Bay. This FDOT portion of the mitigation project includes braided tidal marsh habitat creation (8 acres) connected in a mosaic of open water tidal pools and channels (7 acres).

B. Brief description of pre-construction habitat conditions: Prior to mitigation construction, the wetland creation site was an upland mowed fallow field that was historically a row crop area. The site is bordered to the west by upland oak hammock, previously constructed estuarine marsh habitats, and the mangrove zone along Tampa Bay. This previously created estuarine habitat was designed and constructed to achieve a future tidal connection for the project described here. The connection is evident on the Location aerial (Figure A) in the southwest corner of the project boundary.

C. Brief description of construction activities and current habitat conditions:
The construction activities included dredging the uplands to create saltwater marsh habitat, along with tidal pools and channels that connect to the other created estuarine habitat east of the oak hammock. The constructed saltwater marsh habitat includes low marsh with dense coverage of planted smooth cordgrass (*Spartina alterniflora*), and marshhay cordgrass (*Spartina patens*). The high marsh habitat includes dense coverage of planted knotgrass (*Paspalum distichum*) and sand cordgrass (*Spartina bakeri*). The marshes are in a mosaic with the intertidal pools and braided channels. White mangroves *(Laguncularia racemosa*) have also naturally recruited within the marsh habitat. The material dredged during construction was placed into an adjacent shell mine cut east of the site to create additional wetland habitat not associated with the FDOT mitigation program. The site attracts several species of wading birds and fish species migrate from Tampa Bay into the project site.

Semi-annual monitoring with annual monitoring reports were prepared by environmental consultants on contract for the SWFWMD through 2008. Monitoring included qualitative evaluation and photos of the mitigation area, to evaluate and document species survival, coverage, wildlife use, exotic & nuisance species coverage, and recommended actions necessary to ensure or enhance success. The project's required success criteria includes a total 85% cover of planted and recruited desirable species within the non-open water areas, and less than 2% exotic and nuisance species cover. The site's success conditions consistently exceed and maintain that criteria.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The wetland impacts include 5.4 acres of saltwater marsh habitat and a minor 0.1 acre of mangrove impact. The creation of saltwater marsh habitat and connecting intertidal pools and braided channels achieved dense vegetative coverage years in advance of the wetland impacts, and appropriately mitigate for these FDOT impacts at a cumulative ratio of 2.7:1. No additional roadway wetland impacts will be proposed for migration at the project site. The Cockroach Bay restoration effort has been guided by the Cockroach Bay Restoration Alliance, made up of stakeholders including government agencies, landowners and the Tampa Bay Mitigation Bank. Even though there are various restoration phases throughout the Cockroach Bay Habitat Restoration area, they are all inter-related based on site conditions. Ecosystems on the property transition from upland to wetland habitat, followed by salinity gradients of freshwater to estuarine wetlands. A freshwater wetland creation and coastal hammock restoration project (total 34 acres) was also selected and constructed in 2004 for the FDOT mitigation program (SW 56 - Cockroach Bay – Freshwater). Another 40 acre wetland creation area was constructed between the SW 56 and SW 76 project areas to provide mitigation for wetland impacts associated with the Selmon Expressway. Because of the extensive planning and evaluation of the restoration and being co-located with on-going restoration efforts that are managed and maintained by Hillsborough County, the designated mitigation areas have been ecologically beneficial and very successful.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the time of selecting mitigation for the proposed wetland impacts, the only mitigation bank proposed in the basin was the Tampa Bay Mitigation Bank, which is also within the Cockroach Bay area. However the mitigation bank was not under construction nor did it have available credits during the time of mitigation selection.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This project is part of a large Hillsborough County and SWIM effort to create and restore habitat within the Cockroach Bay property.

PROJECT IMPLEMENTATION

- Planning and design: 2002
- Construction: 2005
- Monitoring: 2005 – 2008
- Maintenance: 2005 – 2010
- Perpetual management: Ongoing

Entity responsible for construction: SWFWMD Operations Department.

Entity responsible for monitoring and maintenance: SWFWMD, Hillsborough County and contractor.

Entity responsible for perpetual management: Hillsborough County.

Total Cost for FDOT Mitigation Including O&M: $585,261

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-construction (2005)
3. Figure C-Post-construction (2009)
4. Photographs (2005, 2009, 2013)

SW 75 - Cockroach Bay Restoration (Saltwater)
Figure A - Location (STR 16/32S/18E)

Legend

- ELAPP Property
- SW-75 Saltwater Project Location
- SW-56 Freshwater Project Location

2011 Aerial

Miles
0 0.1 0.2 0.4

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 75 - Cockroach Bay Restoration (Saltwater)
Figure B - Pre-Construction (2005)

Legend

SW-75 Project Location

2005 Aerial

0 145 290 580 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 75 - Cockroach Bay Restoration (Saltwater)
Figure C - Post-Construction (2011)

Legend

SW-75 Project Location

2011 Aerial

Feet
0 120 240 480

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

During Construction – View from atop the observation mound, looking west over upland field graded to construct braided tidal channels and marsh zones. (2005)

Final grades have been achieved but the canal fill block (upper center) has not been breached yet to allow tidal waters to inundate the site. The observation mound is at the lower left and the freshwater wetland creation area is to the upper left. (2005)

Marsh grades are final and a backhoe breaches the canal block to open tidal connection and flow into the constructed wetland. (2005)

Tide elevations have equalized and herb planting is depicted. Planted species include smooth cordgrass, marsh-hay cordgrass, knotgrass and sand cordgrass along the perimeter. (2005)

View from atop the observation mound, dense cordgrass coverage on the marsh zones separated by braided tidal channels. (2009)

View from the northwest project boundary, looking east toward the observation mound (background), sand cordgrass perimeter and oak hammock is on the right. Mangrove saplings have generated within some of the marsh zones. (2009)

View from atop the observation mound, dense cordgrass coverage on the marsh zones separated by braided tidal channels. (2013)

View from atop the observation mound, dense cordgrass coverage on the marsh zones separated by braided tidal channels. (2013)

View from atop the observation mound. (2013)

SW-76 LAKE LOWERY TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Lake Lowery Tract	**Project Number**	SW-76
Project Type	Wetland Preservation		
Landowner	Polk County, Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Polk	**Watershed**	Ocklawaha River
Water bodies	Lake Lowery	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Perpetual management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: None		
S/T/R:	10/27S/26E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Ocklawaha River	1976791	US 27 SR 544 to Blue Heron Bay[1]	0.46	43023431.000	2002-02574
Ocklawaha River	2012041	I-4 East of CR 557 to Osceola County (Sec. 6-7,9)[2]	4.35	43011896.032	1994-03591
Ocklawaha River	4038901	US 27 Blue Heron Bay to CR 547	1.90	43023431.001	2002-05885
		Total Impact Acreage:	**6.71**		

[1] Portions of this project are in the Peace Basin and the associated wetland impacts are being mitigated at the Circle B Bar Reserve (SW 66).

[2] Portions of the project are within the Withlacoochee Basin and the associated wetland impacts are being mitigated at the Hampton Tract (SW 59). Another portion of this project is within the Kissimmee Ridge Basin and the associated wetland impacts are being mitigated at the Reedy Creek Mitigation Bank (SW 49).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetlands	Preservation	Ocklawaha River	37
Freshwater marsh	Preservation	Ocklawaha River	161
		Total:	**198**

PROJECT DESCRIPTION

A. Overall project goals: The primary goals of this mitigation project include acquisition, preservation, and management of high quality wetland habitat within the Lake Lowery floodplain. The 198-acre portion designated for mitigation credit is part of a 397 acre parcel purchased in February, 2002 in a joint acquisition by the St. Johns River Water Management District (SJRWMD) and Polk County. In 2003, Legislative action resulted in the water management review and responsibility of a portion of Polk County to be transferred from the SJRWMD to the SWFWMD, which included transferring the associated SJRWMD partial ownership of this tract. In addition to providing mitigation for FDOT wetland impacts, the site fulfills overall objectives of acquiring many parcels within the 100-year flood zone of Lake Lowery. The benefits of this acquisition are further enhanced because the tract is located within the Green Swamp Area of Critical State Concern and adjacent to 5700 acres of habitat owned and managed by the Florida Fish and Wildlife Conservation Commission, Hilochee Wildlife Management Area, Osprey Unit.

B. Brief description of pre-construction habitat conditions: Lake Lowery is a 900-acre lake surrounded by thousands of acres of wetlands and floodplains, including the large wetland associated with this project. The lake and associated wetlands are a headwater area for the Palatlakaha, Withlacoochee, and Peace basins. A small portion of the Lake Lowery Tract's northwestern area is within the Withlacoochee basin, but the designated mitigation area is within the Palatlakaha basin, a sub-basin of the Ocklawaha River Basin. The topography for the floodplain wetlands in the vicinity is relatively flat, which has resulted in flooding of homes, septic tanks, wells, and roads. In coordination and cooperation with the SJRWMD, Polk County initiated a priority of land acquisition in the area to minimize the threat of future residential development and associated impact and loss of native habitat, additional flooding, and the inherent water quality degradation caused by such land use conversion.

The wetlands associated with the Lake Lowery Tract are high quality in terms of ecological functions and values. There is substantial species richness, diversity, and dense coverage. The majority of the marsh component is dominated by pickerelweed (*Pontederia cordata*), maidencane (*Panicum hemitomon*), smartweed (*Polygonum* spp.), and a perimeter of sand cordgrass (*Spartina bakeri*). Other common species include arrowhead (*Sagittaria lancifolia*), spikerush (*Eleocharis baldwinii*), and bacopa (*Bacopa caroliniana*). There are scattered small pockets (various sizes of less than 30 ft. diameter to 1-2 acres) of sawgrass (*Cladium jamaicense*) and separate pockets of small Carolina willow (*Salix caroliniana*).

The forested wetland components have a diverse mix of cypress (*Taxodium distichum*) and hardwoods. The most dominant species in the canopy and sub-canopy include bays (*Persea palustris, Magnolia virginiana*), and tupelo (*Nyssa aquatica* var. *biflora*). Less coverage is provided by red maple (*Acer rubrum*) and dahoon holly (*Ilex cassine*). Due in part to high water conditions and shading, the understory varies in coverage but generally averages 30-60%. The dominant coverage is provided by ferns (*Woodwardia virginica, Thelypteris palustris*), and lizard's-tail (*Saururus cernuus*), and duckweed (*Lemna* spp.) is common along the water surface.

The adjacent upland buffers of the tract are not designated for FDOT mitigation credit, however these buffers are important components of the acquisition toward maintaining appropriate functions and ecological benefits of the wetland habitat. The pine flatwoods along the western perimeter of the wetland include a dominance of saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), fetterbush (*Lyonia ferruginea*), wax myrtle *(Myrica cerifera*), and scattered slash pine (*Pinus elliottii*). The upland buffers for the northern and eastern side of the marsh include a dominance of improved pasture with bahiagrass (*Paspalum notatum*) and scattered fennel (*Eupatorium capillifolium*), euthamia (*Euthamia* sp.), and blue maidencane (*Amphicarpum muhlenbergianum*). As the pasture and pine flatwoods transition into the wetland, various sedges (*Cyperus* spp.), broomsedge (*Andropogon glomeratus*, *A. virginicus*), and goldenrod (*Solidago* spp.) are present.

The majority of the entire 397-acre tract is a large palustrine marsh with islands of forested wetlands and shrub wetlands, and a partial perimeter of forested wetlands within the southern portion of the tract as described above. The tract is an undivided 50/50 interest ownership between the SWFWMD and Polk County. Mitigation credit is provided by a 198-acre portion of the wetland. Wildlife use is substantial, foraging opportunities for wading birds are high, and sandhill crane nesting is routinely documented within the marsh. Amphibian presence is substantial, particularly the frog population.

Beyond periodic inspections and prescribed burns conducted in the uplands, there are no additional maintenance or management activities currently proposed or adopted for the site. Polk County continues to negotiate the public acquisition of in-holding upland parcels within the tract. However even if these parcels are not acquired, land use zoning requirements preclude the ability to construct houses or other structures on the parcels.

C. Brief description of construction activities and current habitat conditions: The wetlands are of high quality and no direct enhancement was necessary. Indirect enhancement has been provided by removal of both cattle and the threat of potential development activities along the perimeter of the marsh through public acquisition. Without the development threat, there is substantially less potential for invasion of exotic/nuisance vegetation and water quality degradation that is often associated with

residential development (e.g. septic tanks, fertilizers, etc.). The potential of silviculture activities of the forested wetland components are also removed through public acquisition, protection, and management.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The site was an undivided interest ownership, and the SJRWMD received approval from the regulatory and commenting agencies to designate their 50% interest to also mitigate for FDOT wetland impacts. The FDOT wetland impacts include approximately 3.8 acres of forested wetland and 2.9 acres of marsh habitat. The preservation of 198-acres high quality marsh, shrub, and mixed forested wetland habitat more than appropriately and adequately compensates for the 6.7 acres of wetland impacts. The designated mitigation proportion includes 37 acres of mixed forested wetland and 161 acres of marsh habitat.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection, the SJRWMD considered the use of a mitigation bank to compensate for the anticipated wetland impacts. The only mitigation bank in the basin (Lake Louisa/Green Swamp Mitigation Bank) has a dominance of xeric habitat restoration and bayhead enhancement. The wetland impacts and mitigation include a dominance of mixed forest and marsh habitat. Therefore, the Lake Lowery option was deemed by the SJRWMD and other regulatory and commenting agencies to be a more appropriate mitigation option for the proposed impacts.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: There are no SWIM water bodies within this basin.

PROJECT IMPLEMENTATION

- Project evaluation: 2000
- Land acquisition: 2002
- SJRWMD interest transferred to SWFWMD: 2003

Entity responsible for construction: No construction activities necessary or proposed.

Entity responsible for monitoring and maintenance: No monitoring or maintenance necessary or proposed.

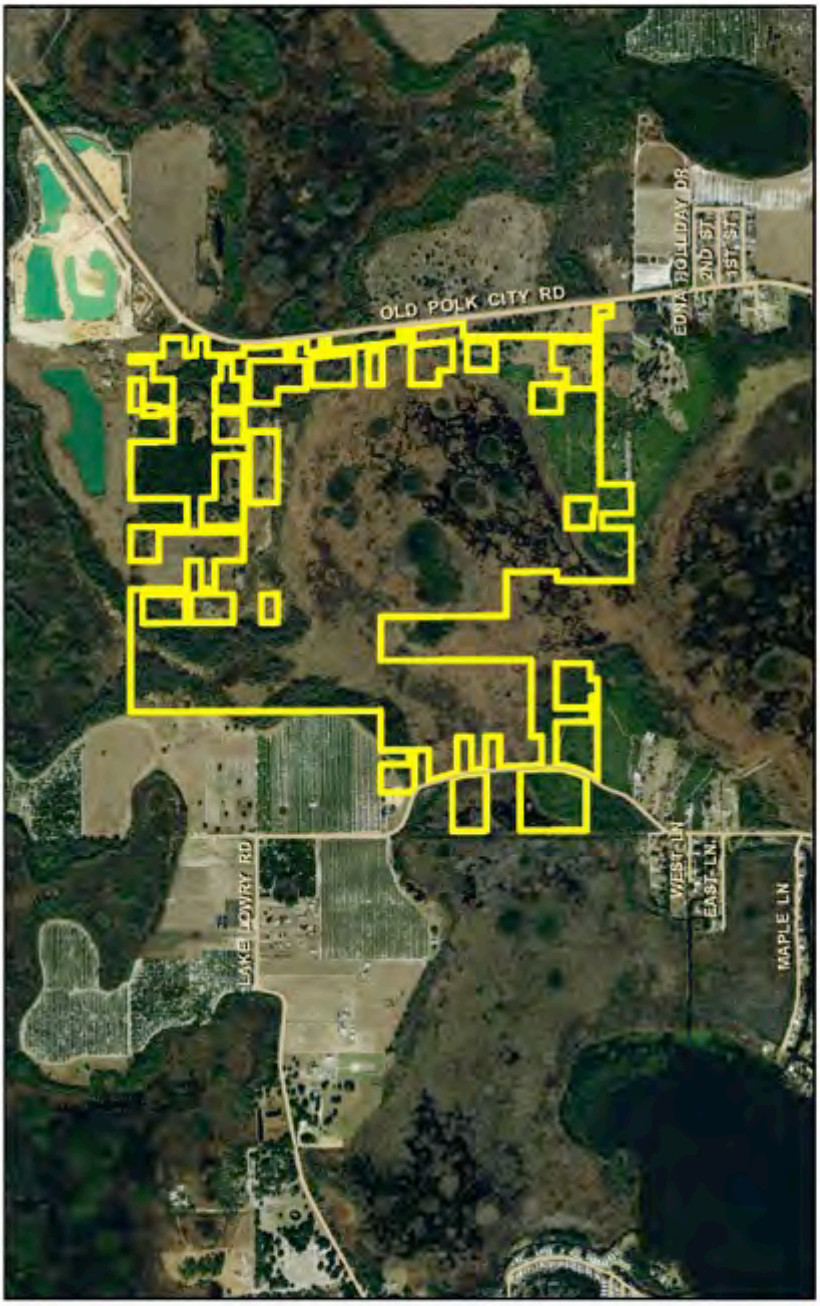
Entity responsible for perpetual management: SWFWMD.

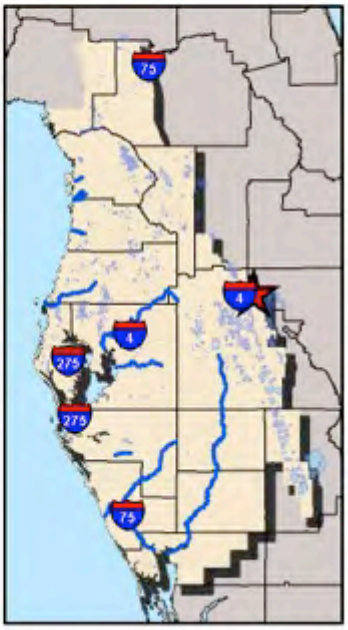
Total Cost for FDOT Mitigation Including O&M: $53,209

ATTACHMENTS

1. Figure A-Location
2. Figure B-Mitigation Area and Habitats
3. Photographs (2013)

SW 76 - Lake Lowery Tract
Figure A - Location (STR 10/27S/26E)





Legend

Project Location

2011 Aerial

Miles

0 0.1 0.2 0.4

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 76 - Lake Lowery Tract
Figure B - Mitigation Area and Habitats

Legend

- FDOT Mitigation Limits
- Project Location

2011 Aerial

Feet
0 370 740 1,480

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Typical of forested wetland habitat within the Lake Lowery Tract. (2013)

Typical of forested wetland habitat within the Lake Lowery Tract. (2013)

SW-77 CONNER PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Conner Preserve	**Project Number**	SW-77
Project Type	Wetland enhancement; Upland Enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Pasco	**Watershed**	Upper Coastal Drainage and Hillsborough River
Water bodies	Fivemile Creek	**Water body Designations**	None
Project implementation status: (As of December 2013):	Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 21		
	Planned, not yet permitted, FDOT projects: 16		
S/T/R:	11,12,13,14,23,24/25S/18E;7,8,17,18,19/25S/19E		

IMPACT INFORMATION (As of December 2013):

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Upper Coastal	2563231	SR 52 (Schrader Hwy) from W of Suncoast Pkwy to E of US 41 (SR 45)	12.50	Not submitted	Not submitted
Upper Coastal	2563221	SR 52 Moon Lake to Suncoast Parkway	6.70	43007396.001	2002-06047
Upper Coastal	2563242	US 41 from Ridge Rd to N of SR 52	9.50	Not submitted	Not submitted
Upper Coastal	2563241	US 41 (SR 45) Tower Rd. to Ridge Road	8.85	43033570.000	2008-00329
Upper Coastal	2563321	SR 54 - Rowan Rd. to Mitchell Bypass	3.68	40011641.004	1993-02010
Upper Coastal	2563341*	SR 52 US 41 to CR 581[1]	4.00	Not submitted	Not submitted
Upper Coastal	2563371	SR 54 - Gunn Highway to Suncoast Parkway	6.00	43016251.000	1999-05203
Upper Coastal	2567742	US 19 from N of SR 580 to Northside	0.50	Not submitted	Not submitted
Upper Coastal	2568151	SR 586 (Curlew Rd.) CR 1 to Fisher Road	0.08	44009837.008	2002-05245
Upper Coastal	2589581	Suncoast Parkway and Ridge Road Interchange	2.33	43018792.005	Pending
Upper Coastal	2570501	SR 688 (Ulmerton Rd.) Oakhurst Rd. to 119th St.	0.20	44012347.010	2002-04931
Upper Coastal	4058223	US 19 (SR 55) Jump Court to Ft. Island Trail	8.84	43009590.006	2011-02373
Upper Coastal	2571741	US 98 Hernando Co. Line to US 19	1.40	43023430.000	1998-0341
Upper Coastal	2572982	CR 578 (County Line Rd.) US 19 to East Rd.	0.55	44006732.000	No permit required

Upper Coastal	2572983	CR 578 (County Line Rd.) from East Rd to Mariner Blvd	0.21	44006732.003	No permit required
Upper Coastal	2572985	CR 578 (County Line Rd.) Suncoast Parkway to US 41	0.29	44014061.002	No permit required
Upper Coastal	4110142*	I-75 (SR 93) From N of SR 52 to Pasco/Hernando County Line (design-build)[2]	0.92	670082.000	2012-2483
Upper Coastal	4037711	US 19 - Republic Drive to CR 816 (Alderman)	0.10	44022085.001	No permit required
Upper Coastal	4058222	US 19 (SR 55) Green Acres to Jump Ct.	0.53	44009590.005	2008-03044
Upper Coastal	4079513	SR 50 US 19 to Mariner	1.25	44035066.000	No permit required
Upper Coastal	4091541	SR 688 (Ulmerton) - Wild Acres to El Centro/Ranchero Blvd.	0.64	44012347.015	2010-03007
Upper Coastal	4188602	US 19 (SR 55) Continuous Right Turn Lane	0.40	44027483.001	2010-00080
Upper Coastal	4271571	US 19 (SR 55) from New York Ave to Pasco/Hernando County Line	0.02	44007590.001	Pending
Upper Coastal	4300211	CR490A/Halls River from W of Halls River to E of Halls River	0.50	Not submitted	Not submitted
Upper Coastal	4311431	US 41 (SR 45/Broad) from S or CR 572/Powell Rd to S of Pine Cabin Rd	0.10	Not submitted	Not submitted
Upper Coastal	4303811	SR 52/Schrader Hwy @ US 41/SR 45	0.10	Not submitted	Not submitted
Hillsborough River	2558934	SR 574 (MLK Blvd) from East of Kingsway Rd to E of McIntosh Rd	0.10	Not submitted	Not submitted
Hillsborough River	2562432	SR 52 (Schrader Hwy) from CR 581 (Bellamy) to Old Pasco Rd	2.50	Not submitted	Not submitted
Hillsborough River	2563341*	SR 52 US 41 to CR 581	19.11	Not submitted	Not submitted
Hillsborough River	2564222	US 301 (SR 41) SR 39 to South of CR 54	0.10	Not submitted	Not submitted
Hillsborough River	2578623	Sam Allen Rd; from Alexander St to Park Rd[3]	2.45	Not submitted	Not submitted
Hillsborough River	2587362	I-75 (SR 93) from North of SR/CR 54 to North of SR 52 (Design-Build)[4]	1.63	43040738.002	2009-01384
Hillsborough River	4110142*	I-75 (SR 93) from N OF SR 52 to Pasco/Hernando County Line (design-build)[2]	11.12	670082.000	2012-2483

Hillsborough River	4165612	SR 54 from CR 577/Curley Rd to CR 579/Morris Bridge Rd[5]	2.58	Not submitted	Not submitted
Hillsborough River	4306851	SR 574 / MLK Blvd at Gallagher Rd	0.20	Not submitted	Not submitted
Hillsborough River	4289611	SR 39/James L Redman from SR 60(Hopewell Rd) to N of Charlie Grif	0.33	Not submitted	Not submitted
Hillsborough River	4311371	SR 574/MLK Jr Blvd from E of McIntosh Rd to W of Wheeler Ct	0.20	Not submitted	Not submitted
		Total Impact Acreage:	**109.77**		

Projects highlighted in yellow have been deleted from the FDOT mitigation program and are not included in totals.

Projects highlighted in green have been added to the FDOT mitigation program this year.

[1] This SR 52 segment has anticipated wetland impacts in the Hillsborough River & Upper Coastal basins. The listed impacts within both basins are conservative and are likely to decrease.

[2] Additional wetland impacts (15.24 acres) in the Upper Coastal Drainage are offset with purchase of mitigation bank credit from the Upper Coastal Mitigation Bank by the FDOT. Additional wetland impacts (4.26 acres) in the Hillsborough River basin are offset with the purchase of mitigation bank credit from the North Tampa Mitigation Bank by the FDOT. Wetland impacts in the Withlacoochee River basin are offset at Colt Creek State Park (SW 84).

[3] Additional wetland impacts (0.9 acres) are offset by the purchase of mitigation bank credits from the North Tampa Mitigation Bank by the FDOT.

[4] Additional wetland impacts (7.09 acres) are offset by the purchase of mitigation bank credits from the North Tampa Mitigation Bank by the FDOT.

[5] Additional wetland impacts (0.1 acres) are offset by the purchase of mitigation bank credits from the North Tampa Mitigation Bank by the FDOT.

*These projects have impacts in both basins and are represented by two rows each in the table.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Basin swamp, dome swamp	Enhancement	Upper Coastal	482.82
Basin marsh, depression marsh	Enhancement	Upper Coastal	249.88
Basin swamp, dome swamp	Enhancement	Hillsborough River	207.28
Basin marsh, depression marsh, wet prairie	Enhancement	Hillsborough River	224.45
		Total:	**1164.43**

PROJECT DESCRIPTION

A. Overall project goals: The Conner Preserve (total 2,980 acres) was acquired by the SWFWMD for public ownership in 2003 and was adopted into the FDOT mitigation program in 2004. The tract has a diverse mosaic of wetland and upland habitats within a high priority public lands acquisition area since it is located within a core of surrounding public lands in central Pasco County including Cypress Creek Preserve (7,400-acres), Starkey Wilderness Preserve (18,000-acres), and Cross Bar Ranch (12,500-acres). The overall FDOT mitigation project goal includes enhancement of wetland and upland habitat. There are also several improved pasture islands buffering adjacent wetlands that are being restored into upland habitat communities.

B. Brief description of pre-construction habitat conditions: The Preserve's habitats consist of pine flatwoods, oak hammocks, sandhills, wetlands and improved pastures. Over half of the Preserve is composed of wetlands. The non-forested wetlands include a range of habitat and hydrologic conditions varying from wet prairie, shallow marshes and deeper emergent systems. The forested wetlands are primarily composed of cypress-dominated systems and the remaining predominantly mixed cypress and hardwood communities. Many of the forested wetlands have generated within the outer zones

surrounding marsh habitat, and other forested areas include cypress strands and cypress dome islands within the interior of many marshes. The wetlands are in moderate to high quality condition, and have adapted to varying hydrologic conditions. Hydroperiod fluctuations have varied due to rainfall conditions and groundwater influence from wellfields in the vicinity (Cross Bar, Cypress Creek). The only area where wetland functions undergone noticeable herbaceous vegetative shifts is within the most eastern portion of the property nearest Cypress Creek. Many of the emergent marshes within this area have transitioned to more ephemeral and wet prairie systems as a result of a reduced hydroperiods. From a landscape perspective, prior conversion of upland habitat to improved pastures and minimal land management practices have fragmented the inter-relationship of habitats with adjacent wetland communities. The pastures and previous cattle grazing practices allowed non-native and exotic species to encroach into the wetlands and uplands, particularly pasture grasses, soda apple, skunk vine, camphor trees and Chinese tallow. Repression of fires events resulted in inappropriate density and diversity of vegetative species within the uplands, particularly within the buffers closest to the adjacent wetlands. Very dense stands of hardwoods like laurel oaks and wax myrtle minimized appropriate ground cover vegetation and substantially hindered wildlife access between the wetlands and uplands for foraging and nesting opportunities. Several wildlife species have been reported on the Preserve and the most notable listed species observed include Florida scrub jay, bald eagle, Southeastern American kestrel, gopher frog, gopher tortoise, Sherman's fox squirrel and several wading birds.

C. Brief description of construction activities and current habitat conditions: Primary wetland enhancement has been achieved through eradication of exotic and nuisance species coverage, beginning with mechanical thinning and control of dense vegetation within the facultative wetland zones and adjacent upland buffers. The inappropriate density of hardwoods and myrtles within the wetland fringes and upland buffers were treated with an initial combination of mechanical thinning (hydro-ax), followed by implementation of a prescribed burn management program (3-5 year cycle), allowing regeneration of appropriate species. Prescribed fire applications at suitable intervals within the marshes have reduced and prevented encroachment of woody shrubs and trees (particularly exotic and nuisance species such as camphor and Chinese tallow), removed detritus, recycled nutrients, and stimulated the regeneration and recruitment of appropriate hydrophytic herbs. Additional wetland enhancement has occurred through enhancement and restoration of adjacent upland habitats. Herbicide eradication of exotic and nuisance vegetation have been implemented to enhance upland habitats that buffer the wetlands, particularly for weedy and/or exotic species such as bahia, persimmon, Chinese tallow, laurel oak, and wax myrtle that had encroached upon the pine flatwoods and sandhill communities.

There are five upland pastures buffering wetlands being restored to their historic habitat conditions of pine flatwoods and sandhill. Restoration of these upland areas have included an intense series of prescribed burns, herbicide application and mechanical disking to eradicate the pasture grasses, followed by direct seeding from upland donor sites within other SWFWMD property, and supplemental planting of appropriate desirable species such as longleaf pine, oaks, tarflower, rusty lyonia, staggerbush and ericaceous shrubs. Due to the availability of donor seed source material and time lag necessary to implement each phase of the restoration activities associated with the upland habitats, each of the five restored uplands had different schedules of implementation. All five pastures received all the preparation, seeding and planting by 2010. Adjacent to the Conner Preserve are two tracts totaling 560-acres of wetland and upland habitat improvements. These improvements were conducted to provide mitigation credit associated with construction-related wetland and upland habitat impacts within the adjacent residential development (Connerton) located south of the Conner Preserve. These two mitigation tracts have achieved success criteria stipulated in their permits, and associated title has been transferred to the SWFWMD for ownership and perpetual management.

Success criteria includes (1) maintaining bahiagrass cover to below 20% cover in the former pastures, (2) greater than 80% cover by desirable sandhill and flatwood species in the former pastures, (3) implementation of regular prescribed fires through the site, (4) maintain less than 2% cover of exotic and nuisance species in the wetlands and (5) maintenance to exclude dense vegetation from re-establishing in the outer zones of the wetlands and adjacent upland buffers.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The Preserve has land within the Hillsborough River Basin and the Upper Coastal Basin. There are 32 roadway projects with mitigation designated at the Preserve. The majority of these

anticipated wetland impacts are associated with roadway projects within a 10-mile radius of the Preserve and will have proposed impacts to wetlands with similar habitats as the wetlands within Conner Preserve.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: FDOT evaluation of mitigation bank options available at the time of permit applications for 2012 roadway improvement projects and for the inventory of FDOT roadway improvement projects submitted for inclusion in the 2014 FDOT Mitigation Plan identified 13.77 acres of impact that may be offset with the purchase of mitigation bank credit from the Upper Coastal Mitigation Bank and the North Tampa Mitigation Bank (as footnoted in the Impact Information section above). Except for FM 4306851 (SR 574 / MLK Blvd. at Gallagher Road), appropriate credits are not available at the Upper Coastal Mitigation Bank or North Tampa Mitigation Bank to offset the remaining impacts. It was determined to be not to be cost effective to purchase mitigation bank credit from the North Tampa Mitigation Bank to offset 0.2 acres of impact for FM 4306851 (SR 574 / MLK Blvd. at Gallagher Road).

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of selection, there were no SWIM sponsored projects proposed in the Upper Coastal or Hillsborough Basins that were appropriate for mitigation credit.

PROJECT IMPLEMENTATION

- Land acquisition: 2003
- Design: 2004
- Construction/restoration: 2005-2015
- Maintenance and monitoring: 2005-2015
- Perpetual management: Begin 2015

Entity responsible for construction: SWFWMD.

Entity responsible for monitoring and maintenance: A private contractor selected by the SWFWMD conducted the monitoring through 2009, followed by annual monitoring conducted by WMD staff.

Entity responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $802,640

ATTACHMENTS

1. Figure A-Location
2. Figure B-Wetland Enhancement Areas
3. Figure C-Pre-construction (2004)
4. Photographs (2012)

SW 77 - Conner Preserve
Figure A - Location

Legend

Project Location

2011 Aerial

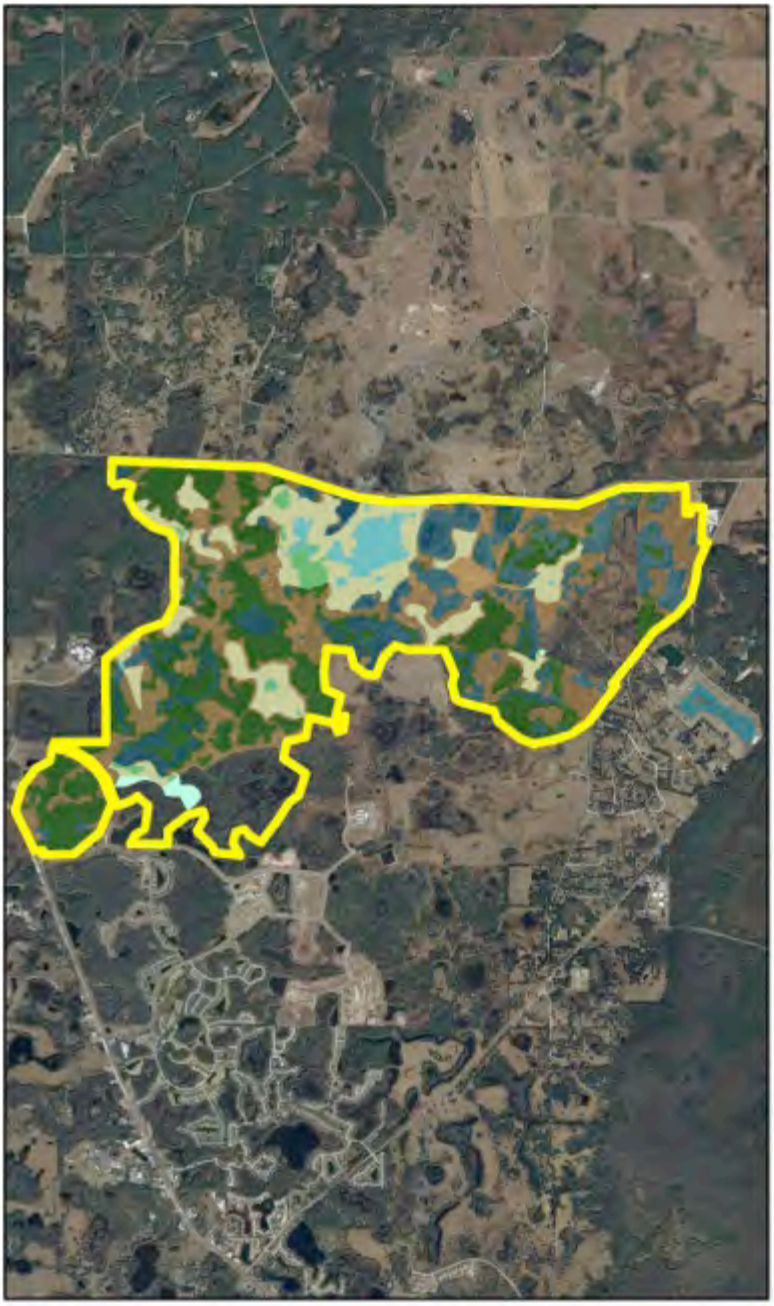
Miles

0 0.25 0.5 1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 77 - Conner Preserve
Figure B - Wetland Enhancement Areas
(STR 11,12,13,14,23,24/25S/18E; 7,8,17,18,19/25S/19E)



Legend

Natural Communities Aggregated

- Forested Wetlands
- Herbaceous Wetland
- Uplands
- Upland Restoration

2011 Aerial

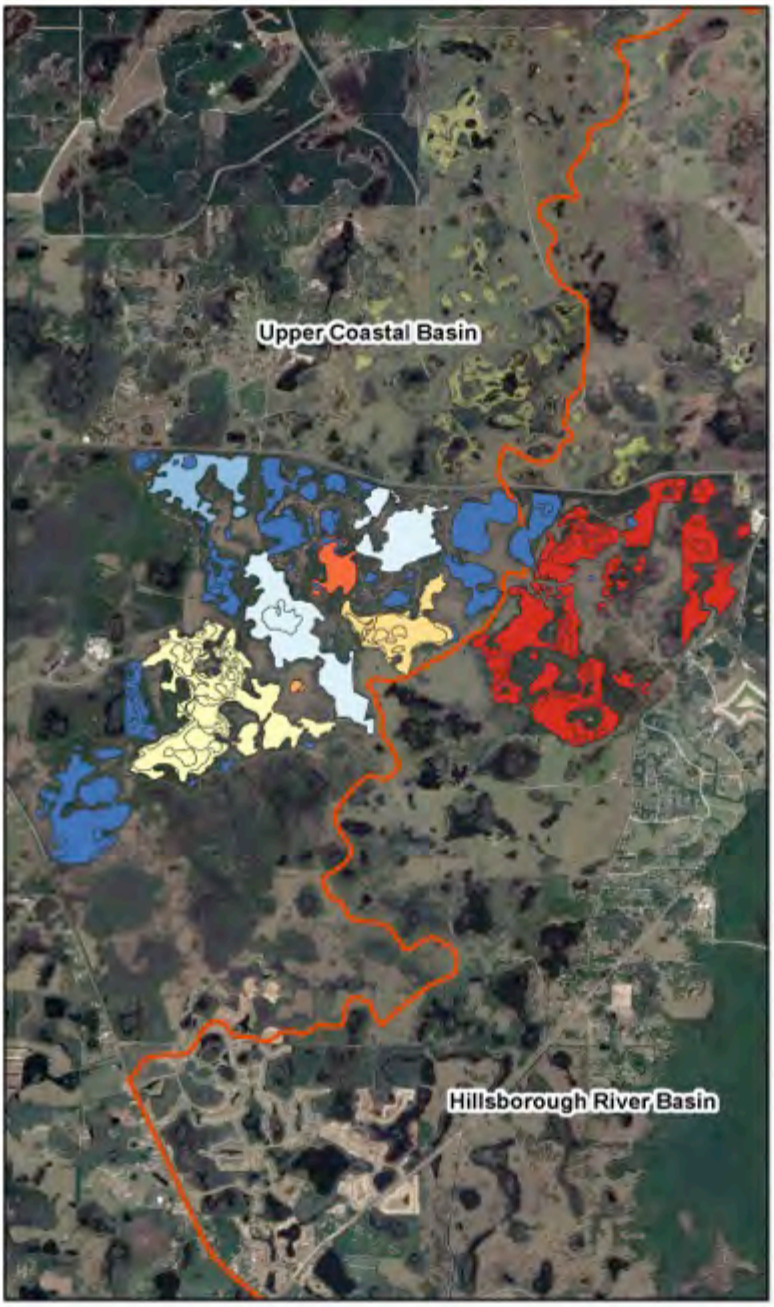
Miles

0 0.25 0.5 1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 77 - Conner Preserve
Figure C - Pre-Construction (2004)



Legend

Percent Invasive

0% 2% 5% 8% 10% 12% 35% 50%

Basin Boundary

2004 Aerial

Miles

0 0.275 0.55 1.1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Conner Preserve showing recently burned flatwoods with good recruitment of understory grass. (2012)

Conner Preserve showing maidencane in the foreground with forested uplands in the background. (2012)

Conner Preserve showing photo station stake within one of the site's forested wetlands. (2012)

Conner Preserve showing photo station stake in background within one the forested wetlands. (2012)

SW-78 BAHIA BEACH MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Bahia Beach	**Project Number**	SW-78
Project Type	Wetland Creation, enhancement; Upland Enhancement		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Tampa Bay	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Construction		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 11		
	Planned, not yet permitted, FDOT projects: 2		
S/T/R:	1/32S/18E		

IMPACT INFORMATION (As of December 2013)**:**

	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2569971	SR 686 (ROOSEVELT) FROM 49TH ST BRIDGE TO N OF ULMERTON RD	2.29	Not submitted	Not submitted
Tampa Bay Drainage	4061511	Veteran's Expressway Memorial Hwy. to Gunn Hwy.	6.40	49007864.026	2009-03478
Tampa Bay Drainage	4143481	36R RPZ	7.94	49008387.026	2004-12399
Tampa Bay Drainage	4143481	Taxiway V&W	0.66	49008387.037	2002-01521
Tampa Bay Drainage	4143481	Taxiway B rehab, Bridge and N. Terminal Stormwater	3.29	43008387.054	2002-01521
Tampa Bay Drainage	4143481	Taxiway N Overpass	2.85	49008387.062	2002-01521
Tampa Bay Drainage	4143481	Runway 17-35	6.72	49008387.043*	2002-01521*
Tampa Bay Drainage	4143481	Taxiway S West Extension	0.43	49008387.043*	2002-01521*
Tampa Bay Drainage	4143481	Taxiway E Reconstruction	2.87	49008387.043*	2002-01521*
Tampa Bay Drainage	4143481	East Development Area (Drew Park Improvements)	0.63	49008387.043*	2002-01521*
Tampa Bay Drainage	4143481	High Speed Txwy for RW18R (fna Taxiway "W3")	2.20	49008387.028	2002-01521
Tampa Bay	4143481	Cargo/ Ground Support Equip. Facility	0.63	49008387.45	2002-01521

Drainage					
Tampa Bay Drainage	4293501	Veteran's Expressway Gunn Hwy. to Van Dyke	3.00	Not Submitted	Not Submitted
		Total:	34.21		

Projects highlighted in yellow have been deleted from the FDOT mitigation program and are not included in totals.

Projects highlighted in green are newly added in 2014.

*Conceptual permits

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Freshwater wetlands	Creation	Tampa Bay Drainage	34.3
Oligohaline wetlands	Creation	Tampa Bay Drainage	9.9
Mixed forested wetland	Creation	Tampa Bay Drainage	6.6
Temperate hardwood hammock	Enhancement	Tampa Bay Drainage	9.0
Forested wetland hammock	Enhancement	Tampa Bay Drainage	32.0
Saltmarsh	Enhancement	Tampa Bay Drainage	14.0
Mangrove	Enhancement	Tampa Bay Drainage	35.0
		Total:	**140.8**

PROJECT DESCRIPTION

A. Overall project goals: The Bahia Beach tract was acquired in 2001 by Hillsborough County through their Environmental Lands Acquisition and Protection Program (ELAPP), one of several contiguous habitat tracts owned and managed by the County west of Ruskin. The project is being co-sponsored and managed by the Hillsborough County Conservation Section, Hillsborough County Environmental Protection Commission (EPC) and SWFWMD to conduct a variety of habitat improvements including freshwater and oligohaline wetland creation within an existing upland fallow field, enhancement of forested wetland hammock habitat, and enhancement of saltmarsh/mangrove habitat.

B. Brief description of pre-construction habitat conditions: As part of the acquisition agreement, the previous landowner removed the citrus trees from the upland area, historically pine flatwoods, which subsequently become vegetated with Bahia grass (*Paspalum notatum*), natalgrass (*Rhynchelytrum repens*), dog fennel (*Eupatorium capillifolium*) having moderate cover and with Brazilian pepper (*Schinus terebinthifolus*) having extensive coverage. This field is bordered to the west by two large parallel upland-cut drainage ditches dredged to convey contributing storm and surface water when the grove was present. The steeply sloped ditches are tidally connected, allowing the generation of white and black mangrove species in the lower elevations and Brazilian pepper along the slopes and top-of-bank. These deep ditches connect with the mosquito ditches and swales dredged through the salt-marsh and mangroves, allowing saltwater intrusion to move further inland than historic conditions. Kept in place, the deep ditches and spoil ridges substantially hinder wildlife movement from the hammock to the created marsh habitats.

A forested wetland of coastal hydric hammock is located west of the ditches. The coastal hammock has dominant canopy coverage of cabbage palm, with scattered slash pine, red cedar (*Juniperus virginiana*), and oaks (*Quercus virginiana, Q. laurifolia*). Brazilian pepper provides minor to oderate canopy and sub-canopy cover within the hammock in less dense canopy areas. Other sub-canopy species include cabbage palm, salt-bush (*Baccharis halmifolia*), wax myrtle (*Myrica cerifera*), and saw palmetto (*Serenova repens*). Ground cover varies depending on the shade coverage, but includes sawgrass (*Caladium jamaicense*), broomsedge (*Andropogon glomeratus*), swamp fern (*Blechnum serrulatum*), fleabane (*Pluchea odorata*), and various sedges. Where the canopy has slightly opened, there are also a

few pockets of sawgrass, black needle rush (*Juncus roemerianus*), and cordgrass (*Spartina patens*) within the hammock.

A temperate hardwood habitat is in the northeast corner of the tract. The minor canopy coverage is comprised of cabbage palm, slash pine, and laurel oak. Groundcover includes saw palmetto, sawgrass, and swamp fern. Exotic species coverage include Brazilian pepper, lead tree (*Leucaena leucocephala*) and cogon grass (*Imperata cyclindrica*).

A large mosaic of salt-marsh and mangrove habitat is located west of the coastal hardwood hammock. The mangrove habitat includes red, black and white mangrove species. The marsh habitat has saltwort (*Batis maritima*), glasswort (*Salicornia bigelovii*) and salt grass (*Distichlis spicata*). Shrub-size mangroves transition into the marsh component. This saltwater habitat has interconnecting mosquito ditches with adjacent spoil piles covered with Brazilian pepper. In part due to the altered hydrology from the ditching, the transition between the hammock and saltwater habitat has generated a dense stand of Brazilian pepper.

C. Brief description of construction activities and current and proposed habitat conditions: In 2003, twelve (12) piezometers were installed in the fallow field to measure groundwater elevations and salinity with a total of 41 sampling events between August, 2003 and June, 2008. The groundwater data was collected over the extended period to identify seasonal and annual fluctuations and was used to establish the hydroperiods and final grades within the wetland creation areas. The salinity data was used to determine plant species composition. Salinity levels in the piezometers along the western portion of the field range from 1-5 ppt (oligohaline), in part due to the twin parallel tidally-connected ditches along the perimeter of the coastal hydric hammock. The original construction design schedule was delayed and monitoring was extended to evaluate and incorporate habitat design revisions due to changes in the contributing ground and surface water as a result of the residential development that was constructed southwest of the project site.

The fallow field will be graded to create a dominance of freshwater marshes (34.3 acres) transitioning to oligohaline marsh habitat (9.9 acres) closer to the forested wetland hammock, and buffered from Mira Lago by creating mixed forested wetland habitat (6.6 acres) along the eastern perimeter of the created marsh habitat. Treated stormwater that currently discharges from Mira Lago and flows via the ditches to Tampa Bay will receive additional treatment and attenuation and will increase groundwater recharge by the construction of the created wetlands. The hammock (32 acres), salt-marsh (14 acres), mangrove habitat (35 acres), and temperate hardwood areas (9 acres) will be enhanced with the eradication of Brazilian pepper. However, due to the potential for off-site drainage alterations, no construction to remove the associated mosquito ditches will be conducted in these areas. The combination of constructed and enhanced wetland habitats with different habitat features and functions will provide corridors for wildlife utilizing the ecosystems on this tract and the adjacent public lands.

Hydrologic modeling resulted in the design of oligohaline marsh creation that will displace the twin ditches along the hammock perimeter and freshwater marsh creation. The freshwater marsh has proposed grade elevations of -0.5 to 3.0 feet NAVD88, with ten separate freshwater marsh basins constructed at various elevations to provide a range of hydroperiods within the marsh. These areas will be primarily planted with softstem bulrush (*Schoenoplectus tabernaemontani*), arrowhead (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), marshhay cordgrass (*Spartina patens*) and sand cordgrass (*Spartina bakeri*). The created oligohaline marsh habitat will be graded to elevations -0.5 to 2 feet NAVD88. Plantings will primarily include needle rush (*Juncus roemerianus*), sawgrass, and marshhay cordgrass.

The creation of mixed forested wetland is proposed along the southeastern project boundary; graded to elevations of 3.0 to 4.0 feet NAVD88. This forested wetland will provide a buffer from the Mira Lago development and the constructed marsh, as well as roosting and nesting opportunities for wading birds. This forested wetland will be planted with species representative of the coastal hydric hammock located on the western side of the marsh, including cabbage palm, laurel oak, slash pine, red cedar, swamp bay, red maple and sand cordgrass. For additional buffer, pine flatwood habitat will be created along the southern boundary of the site adjacent to Shell Point Road. The area will be graded to elevations of 4.0 to 5.0 feet NAVD88. The pine flatwoods will act as a buffer between the created wetlands and Shell Point Road, and will be planted with cabbage palm, slash pine, and saw palmetto.

Depending on the selected contractor's proposed schedule to haul excavated sand material from the site, the proposed flatwood area may be a temporary stockpile location. If the stockpile has to remain for a period after the excavation is completed, the mound will be leveled, seeded with grass, and used as an observation platform overlooking the constructed marsh. No mitigation credits will be debited for this area until the mound is removed, final grade is achieved and proposed planting is complete.

The primary maintenance activity will include herbicide treatment of exotic and nuisance vegetation. Treatments will be conducted as necessary. Based on the conditions of the various habitats and status of species proposed for planting, supplemental planting will be conducted where necessary to fulfill desired results of habitat conditions. After a minimum five years and once the desired habitat conditions and mitigation success has been achieved, perpetual maintenance will be conducted as part of normal land management activities by the Hillsborough County Conservation Section and/or a licensed maintenance contractor.

A minimum five years of semi-annual monitoring will be conducted by a consultant selected as part of the construction contract. Monitoring will include a comprehensive qualitative assessment of habitats, including but not limited to plant health and survivorship, recruited plant species, cumulative plant coverage, exotic and nuisance species coverage, wildlife activity and recommended actions to further enhance habitat conditions. Annual monitoring reports will document habitat conditions, any problems and solutions and anticipated maintenance and management activities for the following year. After success criteria is achieved, sufficient monitoring will be periodically conducted each year to evaluate the habitat conditions and presence of exotic and nuisance species to coordinate maintenance events.

Success criteria require a minimum 90% survivorship of planted material for a minimum one year post-installation. Any plant mortality will be replaced with appropriate species to be agreed upon between Hillsborough County and the SWFWMD. Plant coverage for the created wetlands is required to include a minimum 80% coverage of planted and recruited desirable species. Exotic and nuisance vegetation eradication will be conducted to achieve the no more than 5% coverage success criteria.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of the anticipated wetland impacts proposed for mitigation at the Bahia Beach project include wetlands associated with long-range future expansion activities at Tampa International Airport (TIA). Due to the close proximity to Tampa Bay and the high quantity of ditched wetlands, the majority of the proposed wetland impact areas at TIA are low quality systems. There will be future roadway proposals and associated wetland impacts that will be evaluated for potential mitigation at Bahia Beach. The combination of various wetland creation and enhancement activities at Bahia Beach will provide appropriate mitigation options to compensate for impacts associated with a combination of forested and non-forested freshwater and saltwater wetland impacts. With Bahia Beach construction scheduled for 2012-2013, these habitat improvements will provide valuable ecological benefits years in advance of the future anticipated wetland impacts proposed for mitigation at the site.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: FDOT performed an evaluation of available mitigation bank options concurrent with the development of the inventory of FDOT road improvement projects for inclusion in the 2013 FDOT Mitigation Plan. This evaluation identified 3 projects where impacts can be offset with the purchase of mitigation credit from the Tampa Bay Mitigation Bank. These projects are included as deleted projects in the Impact Information section above and are excluded from the FDOT Mitigation Program with the FDOT purchasing credits directly from the mitigation bank. The FDOT projects that remain in the program are either permitted or appropriate credit is unavailable at the Tampa Bay Mitigation Bank.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The Bahia Beach project is a SWIM-sponsored project adjacent to a SWIM water body (Tampa Bay), to be constructed on property owned and managed by Hillsborough County.

PROJECT IMPLEMENTATION

- Design and Permitting: 2003-2010
- Construction: 2012-2013
- Monitoring and maintenance: 2014-2018
- Perpetual management: Begin 2018

Entity responsible for construction: Private contractor selected by the SWFWMD.

Entity responsible for monitoring and maintenance: Minimum 5 years post-construction maintenance and monitoring under contract through SWFWMD.

Entity responsible for perpetual management: Hillsborough County Conservation and/or designated contractor with financial support through the FDOT mitigation program.

Total Cost for FDOT Mitigation Including O&M (estimated): $4,579,690

ATTACHMENTS
1. Figure A-Location
2. Figure B-Proposed Habitat Improvements
3. Photographs (2012)

SW 78 - Bahia Beach
Figure A - Project Location (STR 1/32S/18E)

Legend

Project Location

2011 Aerial

Miles

0 0.0475 0.095 0.19

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 78 - Bahia Beach
Figure B - Proposed Habitat Improvements

Legend

- Wetland Creation Area
- Project Location

2011 Aerial

Miles
0 0.04750.095 0.19

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

Bahia Beach showing dense coverage of Brazilian pepper. (2012)

Bahia Beach showing dense coverage of Congongrass. (2012)

Bahia Beach showing littoral shelf herbaceous plantings along created wetland. (2012)

Bahia Beach showing littoral shelf tree plantings along created wetland. (2012)

SW-79 FOX CREEK REGIONAL OFF-SITE MITIGATION AREA (ROMA) MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Fox Creek ROMA	**Project Number**	SW-79
Project Type	Regional Offsite Mitigation Area		
Landowner	Sarasota County	**Management Entity**	Sarasota County
County	Sarasota	**Watershed**	South Coastal Drainage
Water bodies	Fox Creek, Salt Creek, Curry Creek, Cow Pen Slough	**Water body Designations**	None
Project implementation status: (As of December 2013):	N/A		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	20,29/38S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
South Coastal Drainage	4063143	I-75 N. River Rd. (CR 577) to SR 681[1]	14.55	43034226.000	2008-02298
		Total:	**14.55**		

[1]Tidal creek wetland impacts are offset at Curry Creek ROMA (SW 88).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Upland and Wetland Creation and Enhancement	Credit Purchase	South Coastal Drainage	8.56
		Total:	**8.56**

PROJECT DESCRIPTION

A. Overall project goals: Sarasota County acquired the 140-acre Fox Creek parcel in 2004 with the goal of preserving, enhancing, and creating a variety of diverse native habitats on the tract. In addition, these activities have been proposed to provide mitigation to compensate for unavoidable wetland and upland habitat impacts associated with public infrastructure projects, including County and FDOT roadway improvements in the South Coastal Drainage basin. The mitigation project objectives include a combination of freshwater wetland creation (forested and herbaceous), freshwater wetland enhancement (forested), estuarine wetland creation, upland scrub creation and enhancement, mesic hammock restoration and enhancement and pine flatwood habitat enhancement and preservation.

B. Brief description of pre-construction habitat conditions: Located along the coastal areas of western Manatee, Sarasota, and Charlotte County, the South Coastal Drainage basin has one of highest concentrations of urban land uses in southwest Florida. In an effort to acquire and protect some of the remaining undeveloped and native habitat areas in the basin portion located within Sarasota County, the County contracted for an extensive evaluation of undeveloped parcels within the basin. In order to justify the substantial acquisition costs associated with purchasing any remaining undeveloped tracts in the basin, the County evaluated the possibility of utilizing the tracts to fulfill upland and wetland mitigation requirements. As a result, a total of 10 tracts were evaluated and ranked for their potential habitat value (protected species, wildlife corridor, water quality improvements, flood attenuation) relative to costs associated with acquisition and construction. Other factors that were considered included proximity to known future roadway projects, existing hydrology, landscape disturbance and potential for enhancement, hydric soils data and existing habitat buffers. As a result of this evaluation, the highest ranked site was Fox Creek. This tract was actively pursued and acquired in 2004 to serve as an Off-site Regional

Mitigation Area (ROMA) to compensate for wetland impacts associated with County and other public infrastructure projects.

The parcel includes the lower reaches of Fox Creek along the western border of the property. The site has improved pasture, semi-improved pasture transitioning into pine flatwoods, mesic hammocks and a 15-acre borrow pit that was dredged by FDOT for fill material associated with constructing the adjacent I-75, the same segment of I-75 proposed for widening with associated wetland impacts proposed for mitigation at Fox Creek.

Adjacent to Fox Creek, there is a mature mesic hammock buffer consisting of live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*) and sand live oak (*Quercus geminata*). The banks of Fox Creek are incised, which has precluded the establishment of riparian vegetation, though some leather fern (*Acrostichum danaeifolium*) does exist near the toe-of-slope. The upland adjacent to the northern portion of the creek is an improved pasture covered with bahiagrass (*Paspalum notatum*). Though few native groundcover species exist, native trees and shrubs are beginning to regenerate with the removal of cattle. Species include scattered seedlings of saw palmetto (*Serenova repens*) and sand live oak. The soils in the area are well drained and densely occupied by both active and inactive gopher tortoise (*Gopherus polyphemus*) burrows. Within the northern portion of the improved pasture, there are several large live oaks and a few pignut hickory (*Carya glabra*), which are providing habitat and food to a population of Sherman's fox squirrels (*Sciurus niger shermani*).

The interior of the tract has variable coverage of a pine flatwood community intermixed with semi-improved pasture conditions. The flatwood portion that still has moderate density of longleaf pine (*Pinus palustris*), saw palmetto, scattered wiregrass (*Aristida stricta*), and pawpaw (*Asimina reticulata*) is predominantly in the west-central portion of the tract, and will be preserved and enhanced within the project's plan. Beyond this core area, there are remnant pockets of scattered pine, palmetto and variable cover of semi-improved pasture with sedges and bahia. The design was prepared to protect and enhance many of these remnant flatwood stands as upland habitat peninsulas extended into proposed graded areas that will be converted to wetland creation areas. This will enhance the preserved flatwoods while concentrating minimal vegetative loss to scattered pines and palmetto. As a result, the mosaic of created wetland and enhanced upland habitat will be a substantial benefit to wildlife and there is very limited freshwater wetland habitat (marsh and forested systems) within the Lower Coastal basin.

There are a few mesic oak hammocks on the property, along the top-of-bank for Fox Creek, within the southwestern corner along Fox Creek, and along the southeastern border of the property. Live oak provides the dominant canopy cover, however Brazilian pepper (*Schinus terebinthifolius*) and carrotwood (*Cupaniopsis anacardiodes*) encroached the hammock, particularly in the southeastern community.

C. Brief description of construction activities and current habitat conditions: The Fox Creek parcel has been delineated into 16 mitigation areas with a variety of proposed habitat improvement activities based on the existing conditions and overall objectives of creating a mosaic of inter-related habitat conditions. Many of the improved and semi-improved pastures are being graded to create wetland habitat, with the northwestern pasture enhanced and restored into appropriate scrub habitat conditions. The pine flatwood and mesic hammock habitats have variable coverage of exotic and nuisance species (e.g. Brazilian pepper, bahiagrass) that are being eradicated as well as supplemented with planted native species. The County perpetually manages the mosaic of habitats with appropriate activities (e.g. herbicide exotics/nuisance vegetation, prescribed burns, supplemental plantings, etc.).

A combination of mitigation types is proposed that includes freshwater wetland creation (forested and herbaceous), freshwater wetland enhancement (forested), estuarine wetland creation, upland scrub creation and enhancement, mesic hammock enhancement, and upland enhancement and preservation. A total of 16 areas are proposed for mitigation credit and 15 of these areas are being requested for FDOT mitigation credit with the remaining upland enhancement area likely to be utilized to compensate for potential upland scrub impacts. The soil material scalped to create wetlands will be deposited in the borrow pit to create littoral zones that are not currently present. The lack of littoral features has precluded the growth of herbaceous vegetation that has reduced the habitat value for many species of birds, reptiles, amphibians, and fish. An open water core will still be present to create habitat diversity for many wildlife species including fish, waterfowl, and raptors such as osprey and bald eagles.

Forested wetland components will be strategically placed within the created marshes and will include species common to the forested wetlands in the area including dahoon holly (*Ilex cassine*), red maple (*Acer rubrum*), pop ash (*Fraximus caroliniana*), loblolly bay (*Gordonia lasianthus*) and sweet bay (*Magnolia virginiana*). The enhancement of the mesic hammocks will have the exotics eradicated (Brazilian pepper dominant) and supplemented with plantings of live oak, sand live oak, cabbage palm and laurel oak (*Quercus laurifolia*). The upland restoration area will have bahiagrass replaced with native groundcover such as wiregrass, as well as native shrubs and trees.

One of the most unique aspects of the design includes the creation of an estuarine marsh system by constructing channel connections to the tidal waters of Shakett Creek. The northern boundary of Shakett Creek occurs at the southernmost control structure of the freshwater flow of Cow Pen Slough. This control structure defines the saltwater/freshwater interface and is located just east of the project area. Currently, freshwater levels are maintained in Cow Pen Slough at elevation 11 ft. NGVD during the months of November through June, then dropped to 7 ft. NGVD through the summer to alleviate the potential of upstream flooding. During the dry season, freshwater flow will be diverted from Cow Pen Slough into created freshwater wetlands on Fox Creek and the freshwater wetlands overflow into the estuarine marsh constructed in the southeast corner of the property.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of FDOT roadway wetland impacts proposed for mitigation at Fox Creek includes widening improvements of I-75 from SR 681 to North River Road. This long segment of I-75 is partially located adjacent to the Fox Creek property so this tract is essentially providing an on-site mitigation opportunity. The majority of the proposed I-75 wetland impacts include freshwater marsh habitat that is appropriately compensated with the creation of freshwater marsh and other habitat improvements at Fox Creek.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: There were no existing or proposed mitigation banks in the South Coastal Drainage basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, there were not any current or proposed SWIM projects in the South Coastal Drainage basin that could provide appropriate mitigation for the proposed wetland impacts.

PROJECT IMPLEMENTATION

- Design and Permitting: 2004
- Phase 1 Construction and Planting: 2005-2007

Entity responsible for construction: Private contractor selected by Sarasota County.

Entity responsible for monitoring and maintenance: Sarasota County or designee.

Entity responsible for perpetual management: Sarasota County.

Total Cost for FDOT Mitigation (credit purchase): $1,702,241

ATTACHMENTS
1. Figure A-Location

SW 79 - Fox Creek Regional Off-site Mitigation Area (ROMA)
Figure A - Location

Legend

Project Location

2011 Aerail

Miles

0 0.05 0.1 0.2

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

SW-80 HIDDEN HARBOR MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Hidden Harbor	**Project Number**	SW-80
Project Type	Wetland Enhancement		
Landowner	Manatee County	**Management Entity**	Manatee County
County	Manatee	**Watershed**	Manatee River
Water bodies	Manatee River, Gamble Creek	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Construction		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	8,17/34S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Manatee River	1960224	SR 64 (Seg. 3) Lakewood Ranch to Lorraine Rd	4.06	43025776.000	2004-00734
Manatee River	4161201	SR 64 Carlton Arms Blvd to I-75	0.78	44035561.000	2010-01414
Manatee River	4226031	US 301 (Seg. B) Erie Road to CR 675	2.73	43012295.006	2008-01430
		Total:	**7.57**		

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Freshwater marsh	Enhancement	Manatee River	1.8
Forested wetland hammock	Enhancement	Manatee River	48.0
		Total:	**49.8**

PROJECT DESCRIPTION

A. Overall project goals: The Hidden Harbor tract was acquired by Manatee County in late 2004 and portions of the property were adopted to the FDOT mitigation program in 2005. There are unique and parallel alluvial deposits that formed along the convergence of Gamble Creek and the Manatee River in the southeastern portion of the property. The habitat on these deposits formed into forested wetland hammocks alternating with brackish marsh and inter-tidal creeks. These hammocks are in need of habitat enhancement by eradication of Brazilian pepper. Additional habitat improvements planned for mitigation credit include freshwater marsh enhancement[1]. The wetland enhancement area will be buffered by upland habitat restoration and potentially some marsh creation (performed by Manatee County outside the FDOT Mitigation Program) to provide more habitat diversity and buffer from proposed school and recreational facilities currently planned for the central portion of the tract. The goal of conducting these habitat improvements will provide wetland and riverine buffers that will benefit water quality functions, floodwater attenuation and wildlife habitat corridors adjacent to the Manatee River and Gamble Creek.

[1] This activity may be deleted if it is determined that the ecological gain created is not needed to offset the impacts for the FDOT projects in the current inventory of FDOT roadway improvement projects.

B. Brief description of pre-construction habitat conditions: The Hidden Harbor parcel covers 229 acres with the majority of the tract previously used for row crop production. Prior to County acquisition in 2004, the property was proposed and designed for a residential community referred to as Hidden Harbor. Due to the substantial residential development under construction and planned for the vicinity between Ellenton and Parrish, the County acquired this property to adequately plan for necessary school, recreational, and regional park facilities. In collaboration with the SWFWMD, Manatee County agreed to allow habitat improvement on the property to provide appropriate mitigation credits for wetland impacts associated with proposed roadway facilities that will directly benefit the vicinity (e.g. SR 64, US Hwy. 301).

Forested Wetland Enhancement Area One (FWE 1) is 5 acres in size and is characterized as a forested wetland, more specifically a mesic oak hammock, with an east-west channelized creek connecting to Gamble Creek at the northeast corner of the property. The dominant tree cover includes live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), and cabbage palm (*Sabal palmetto*), with additional coverage provided by water oak (*Quercus nigra*), Brazilian pepper (*Schinus terebinthifolius*) and scattered red maple (*Acer rubrum*). Understory coverage varies with pockets of saw palmetto (*Serenoa repens*), scattered wax myrtle (*Myrica cerifera*) and saplings of the above referenced tree species. The hydrology of the majority of this system is primarily groundwater saturation near the surface with inundation during flood events. In order to achieve surface water connections from the upland row crop areas to the ditched creek channel, deep lateral drainage ditches were historically dredged through this wetland to connect with the creek. The ditches altered appropriate seepage hydrology for this wetland system. As a result, most of this wetland system within the County property has only minimal opportunities to maintain adequate wetland hydrology.

Forested Wetland Enhancement Areas 2 and 3 total 43 acres, characterized as coastal hydric hammock wetlands, have lower grade elevations, more Brazilian pepper cover and are more influenced by the hydrology of Gamble Creek and the Manatee River compared to FWE 1. Dominant tree cover is provided by laurel oak, live oak, and cabbage palm. The Brazilian pepper is more prevalent along the upper transition between the hammock and adjacent marsh habitat within FWE 3. Other common canopy and shrub species include red cedar (*Juniperus silicicola*), slash pine (*Pinus elliottii*), myrsine (*Myrsine floridana*), saw palmetto, greenbriar (*Smilax rotundifolia*), grapevine (*Vitis* spp.) and swamp fern (*Blechnum serrulatum*). Along the lower transition between the hammocks and adjacent marsh, there is a narrow zone of scattered white mangrove (*Laguncularia racemosa*) and few red mangrove (*Rhizophora mangle*). The marsh is dominated by black needlerush (*Juncus roemerianus*) and leather fern (*Acrostichum aureum*), with some minor bands of cattails (*Typha* sp.) along the water's edge. The cattails are generally located within limited narrow zones with minimal potential invade the adjacent marsh habitat.

The potential Marsh Enhancement area (ME 1) is 1.8 acres in size and aerials indicate that the marsh was historically impacted by clearing of the adjacent upland area and the installation of a free-flowing surficial well that will be appropriately grouted and capped. The dominant marsh vegetation includes chalky bluestem (*Andropogon glomeratus*) and dog fennel (*Eupatorium capillifolium*), with additional coverage provided by maidencane (*Panicum hemitomon*), low panicums and scattered primrose willow (*Ludwigia repens*). This wetland has seepage hydrology contributing downstream to the adjacent hammock and brackish marsh.

In spite of the agricultural use within the majority of the tract, wildlife activity is active within the remaining native habitats. The hammocks provide safe cover for roosting, nesting, foraging, denning and wildlife corridor connections. Wildlife observations and signs include deer, raccoon, rabbit, bobcat, opossom and several bird species. The hammocks also provide access to the river for reptiles, including the American alligator and amphibians.

C. Brief description of construction activities and current habitat conditions: The habitat improvements for mitigation credit include extensive herbicide eradication of Brazilian pepper within the hammocks (FWE 1-3). There is adequate coverage of adjacent desirable species that will naturally recruit to displace and minimize the regeneration of the Brazilian pepper. Annual herbicide treatments will be conducted after the initial eradication to treat any regrowth of Brazilian pepper.

There are a few north-south ditches dredged within and along the perimeter of the FWE 1 wetland bordering the north property boundary. The ditch and spoil segment within this same wetland system on the adjacent property has been graded and planted with trees to provide mitigation for the adjacent development. In order to continue enhancing the hydrology of this wetland, the ditch segments dredged through and adjacent to this wetland will also be backfilled with the adjacent spoil material. In areas where the ditch grade has silted and covered with desirable vegetation, excess spoil material will be removed from the wetland to match the natural grade elevations. Proposed tree and shrub plantings will primarily include laurel oak, water oak, red maple and wax myrtle. Based on experience with the adjacent restoration activities in the same wetland, ground cover planting is not anticipated to be necessary. However, a contingency plan of supplemental herbs will be planted if there is insufficient natural recruitment of desirable ground cover. Brazilian pepper will also be eradicated from this system if it is determined to be needed to offset wetland impacts of FDOT road improvement projects in the current inventory of projects.

The enhancement of the marsh system includes herbicide eradication of the fennel and willow with a dense planting of wax myrtle along the perimeter to provide buffer cover. An existing wet access road crossing is located near the southern extent where the marsh connects to the adjacent forested wetland hammock. This road will be vacated and hydrophytic vegetation will be allowed to regenerate in this area. This work will be conducted should it be needed to offset wetland impacts of FDOT road improvement projects in the current inventory of projects.

The hammock areas are above mean high tide elevations and not SSL as determined by a title search. The 50-60 acres of marsh habitat and 20-30 acres of tidal creek and bay area buffered by the hammocks are sovereign lands. These sovereign wetland areas will receive secondary ecological benefits by the proposed enhancement activities but are not quantified for mitigation credit under the proposed plan. Due to the environmental damage that cutting and removing snags would cause, Brazilian pepper will be allowed to decay in place and no construction activities are proposed within the system. This will allow the natural recruitment and generation of appropriate hydrophytic vegetation, while opening areas for easier wildlife access to forage and nest. An intensive initial effort to eradicate the Brazilian pepper will be conducted, followed by annual maintenance for a minimum of five years. As with all the habitat creation and enhancement areas for the property, the quantity and schedule of maintenance events will be evaluated to ensure continued success with emphasis on eradication with as minimal coverage of exotics as possible.

Monitoring will commence upon the initial herbicide treatment and continue for a minimum of five years. This monitoring will include qualitative assessments of the wildlife use, vegetative cover and diversity, hydrologic conditions, and any problem areas. The results of the monitoring events will be compiled into annual monitoring reports, which will be conducted for a minimum of five years and until success criteria is met.

Success criteria require the eradication of Brazilian pepper to the greatest extent practicable, with no more than 5% coverage within the hammocks and no more than 5% coverage of undesirable plants within the marsh enhancement area (if this work is determined to be needed). Enhancement for the north forested wetland (FWE 1) will also include demonstration of restored habitat conditions within the ditch segments (should this work be performed); with at least 40% coverage of planted and naturally recruited trees and shrubs, 70% coverage of ground cover vegetation, and demonstration of appropriate grade stabilization.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): Anticipated wetland impacts associated with three nearby roadway projects are proposed for mitigation at Hidden Harbor. As the plans for the adjacent school and/or recreational facilities are finalized for the central portion of tract, the mitigation boundaries, habitat types and associated acreage will be updated in the annual FDOT mitigation plans.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection for two of the FDOT road improvement projects, no mitigation banks were proposed in the Manatee River basin. Subsequently, the Braden River

Mitigation Bank received ERP approval but has not received ACOE approval as of the date this FDOT Mitigation plan.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This project is not specifically sponsored through the SWIM program. However the Manatee River is a designated SWIM water body and the proposed habitat improvements will provide ecological enhancement for the river and Tampa Bay.

PROJECT IMPLEMENTATION

- Initial herbicide treatment: Winter 2012-2013
- Contract Planning and Development: 2013
- Construction Planned: 2014
- Mitigation and Monitoring to begin: 2014-2015
- Perpetual management begin: Estimated 2019

Entity responsible for construction: Manatee County and/or contractors working for the County.

Entity responsible for monitoring and maintenance: Maintenance activities will be conducted by Manatee County, monitoring activities will be conducted by private environmental consultants under contract for the SWFWMD.

Entity responsible for perpetual management: Manatee County

Total Cost for FDOT Mitigation Including O&M (estimate): $196,042

ATTACHMENTS

1. Figure A-Location
2. Figure B-Conceptual Mitigation Plan
3. Photographs (2005)

SW 80 - Hidden Harbour
Figure A - Location (STR 8,17/34S/19E)

Legend

Project Location

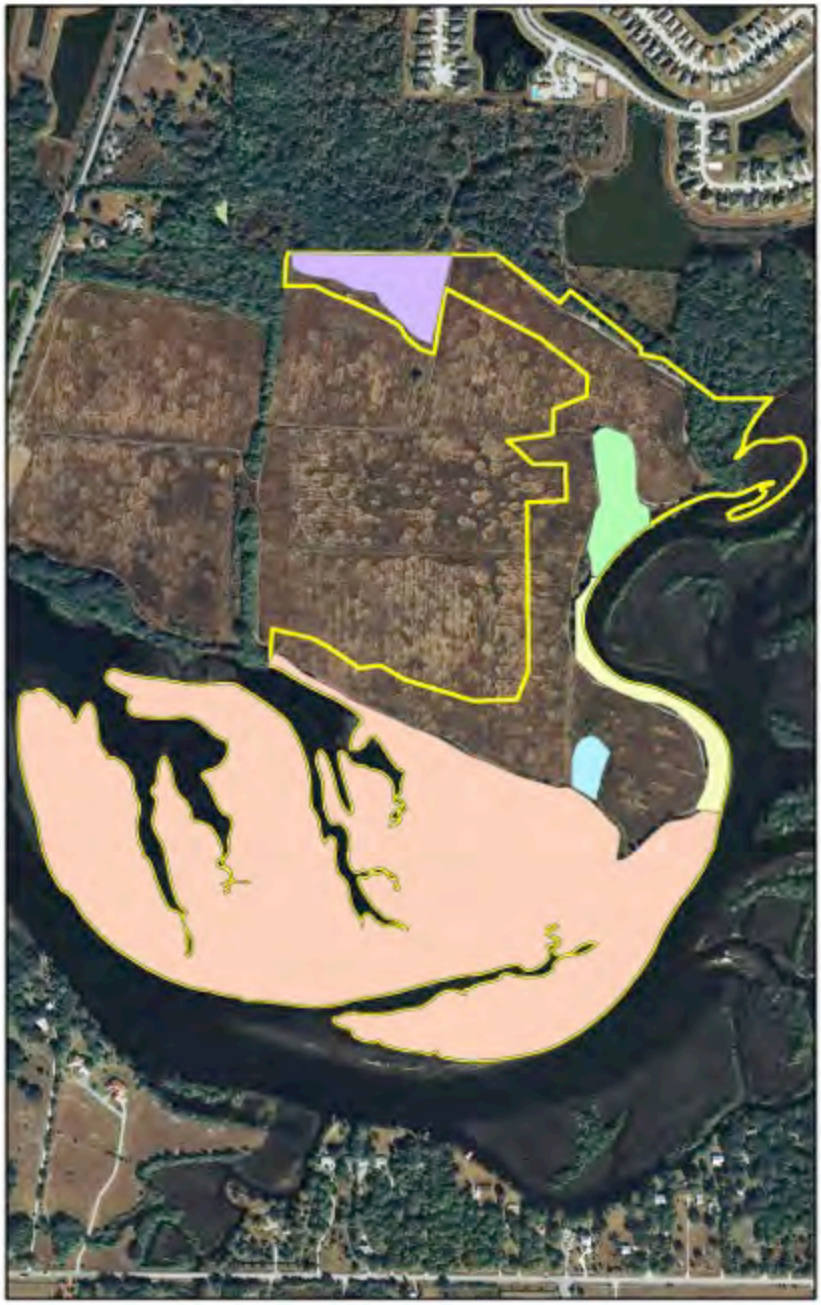
2011 Aerial

0 0.25 0.5 1 Miles

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 80 - Hidden Harbour
Figure B - Conceptual Mitigation Plan



Legend

- Forested Wetland Enhancement 1
- Forested Wetland Enhancement 2
- Forested Wetland Enhancement 3
- Marsh Enhancement 1
- Shore Enhancement
- Project Boundary

2011 Aerial

Feet
0 225 450 900

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

This mesic oak hammock has dominant cover of laurel oak, live oak, water oak and cabbage palm. Understory is minimal except pockets of saw palmetto. (2005)

One of the large north-south ditches that collects surface water from the uplands and directly discharges to the channelized creek north of the property. (2005)

Brazilian pepper is prominent within many areas of the mesic hammock, particularly along the transition interface with the adjacent marsh habitat. (2005)

The mesic hammocks provide refuge for nesting, foraging and denning by a variety of wildlife that utilize the range of habitats within the vicinity of Hidden Harbor. (2005)

One of the tidally-connected, dead-end finger creeks that bisect the hammocks, providing more interrelated habitats for wildlife use. (2005)

Manatee River – View from along the north shoreline of the river along the southwest boundary of Hidden Harbor, looking southeast toward two tidal creek channels. (2005)

SW-81 BALM BOYETTE – STALLION HAMMOCK MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Balm Boyette – Stallion Hammock	**Project Number**	SW-81
Project Type	Wetland Enhancement		
Landowner	Hillsborough County and Trustees of the Internal Improvement Trust Fund	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Alafia River
Water bodies	Pringle Branch	**Water body Designations**	None
Project implementation status: (As of December 2013):	N/A (transferred to the FDEP)		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 2		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	12,13,14/31S/20E;7,8,15,16,17,18,20,21,22/31S/21E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Alafia River	4154892	US 301, Balm Road to Gibsonton Drive[1]	0.30	43031128.000	2006-04230
Alafia River	4131361	McMullen Road from Balm Riverview to Boyette Road	0.20	44034708.000	2009-00890
		Total:	**0.50**		

[1] An additional 11.5 acres of wetland impact are located in the Tampa Bay Drainage and are offset at the Ekker Tract (SW 82).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested-shrub wetland	Enhancement	Alafia River	11
		Total:	**11**

PROJECT DESCRIPTION

A. Overall project goals: The Balm Boyette Scrub Preserve is a 4,933-acre tract acquired by Hillsborough County Parks, Recreation and Conservation Department through their Environmental Lands Acquisition Program (ELAPP). The majority of the tract has high quality wetland and upland habitat communities. The eastern third of the tract was mined for phosphate ore in the 1960's, and has partially reclaimed landscape features comprised of wide linear open water pits, steep upland sideslopes and rolling upland terrain. Prior to mining, there were three wetland tributaries that formed the headwaters of a forested wetland referred to as Stallion Hammock with an interior meandering creek named Pringle Branch. This creek is a tributary of Fishhawk Creek and the Alafia River. The majority of two tributaries were mined, resulting in two isolated lobes of forested wetlands that historically connected to Stallion Hammock. The main objective of the designated mitigation area includes improving the contributing hydrology from the open water pit areas through the forested and shrub wetland component that naturally recruited within proximity of the historic eastern tributary. The combination of restoring and enhancing wetland habitat for both tributaries will improve the wildlife habitat conditions and corridor connections in the eastern portion of the tract and particularly within the vicinity of Stallion Hammock.

B. Brief description of pre-construction habitat conditions: At 4,933 acres, the Balm Boyette Scrub Preserve represents one of the largest contiguous tracts of public lands in Hillsborough County.

There is a great diversity of wildlife, vegetation and habitat communities on the property, and the tract contains some of the largest undeveloped xeric habitat remaining in the County. The County has an extensive land management plan that provides details of the various habitat and management activities. The phosphate mining area within the eastern third of the property represents the largest area of displaced habitat on the tract, and it has been the goal of Hillsborough County to restore and enhance some wetland habitat and associated hydrologic flow patterns to improve the remaining Stallion Hammock. These same goals have been proposed in the SWFWMD's SWIM habitat restoration plan since the mid-1990's. The following information summarizes the existing habitat conditions associated with the area.

The forested-shrub wetland enhancement area is 11 acres. Review of the 1968 aerial photography taken during the mining operations show mine pits, spoil ribbons, and a drainage ditch replacing the eastern tributary. Reclamation resulted in a wetland slough contoured from a pit that connects to Stallion Hammock. However, the contributing basin flow through the wetland was short-circuited with the construction of a large north-south ditch that connects to mine pits located north and south of the wetland. As a result, this wetland tributary slough has a minimal hydroperiod, resulting in substantial coverage of opportunistic transitional species such as elderberry (*Sambucus canadensis*), wax myrtle (*Myrica cerifera*), salt-bush (*Baccharis halimifolia*) and blackberry (*Rubus* spp.).

C. Brief description of construction activities and current habitat conditions: Evaluation of existing and appropriate surface water hydrology within the contributing watershed of Stallion Hammock will determine grade and culvert elevation connections to achieve appropriate and adequate hydrology and hydroperiods for the forested and shrub wetland enhancement area. Site evaluation, including data from three shallow monitoring well with a continuous recorder, a bathymetric study, earthwork estimates and concept plans were conducted from 2005-2009. Necessary surface water modeling and construction plan preparation were completed in 2011. Hydrologic flow patterns and an increase in the wetland hydroperiod will be achieved by constructing a block at the ditch outfall of the wetland, and diverting the contributing water flow from the northern pit to another revised culvert outfall located several hundred feet upstream. Conveyance improvements are necessary components to restore and enhance hydrologic connectivity while providing wildlife access and habitat corridors. However, the hydrologic and habitat improvements associated with the crossings will not be quantified in the mitigation credits.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): This FDOT mitigation project was initiated to offset the wetland impacts of four FDOT road improvement projects requiring mitigation in the Alafia River basin. However, with the 2012 Mitigation Plan, three FDOT road improvement projects were removed and one project is added with this 2014 Mitigation Plan. It is not cost effective to carry this mitigation project through construction with FDOT funds for such a small wetland impact. An alternative mitigation option is being explored. Environmental Resource Permitting (ERP) rules allow the donation of money to be considered as mitigation when that money is used in a District or DEP endorsed environmental restoration project. The construction plans developed with the use of FDOT funds have been transferred to the FDEP and Hillsborough County so that construction of this project along with larger restoration objectives may begin.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the time of mitigation selection for the initial four proposed wetland impacts there were no existing or proposed mitigation banks in the Alafia basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This Balm Boyette project has been proposed for restoration and enhancement by Hillsborough County and the SWIM program for several years but could not proceed due to insufficient funding sources.

PROJECT IMPLEMENTATION

- Planning: 2005-2009
- Design: 2009-2012

Entity responsible for construction: Hillsborough County and FDEP.

Entity responsible for monitoring and maintenance: Hillsborough County.

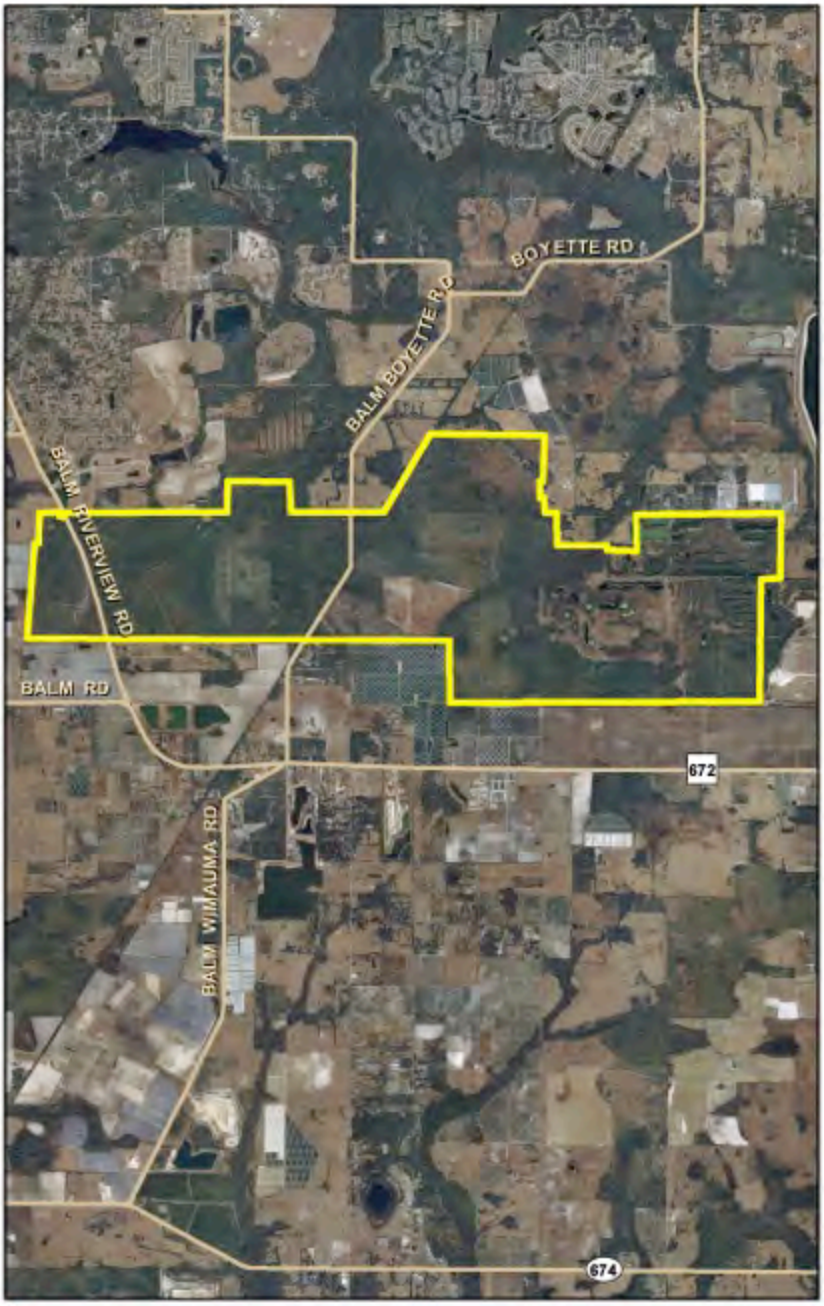
Entity responsible for perpetual management: Hillsborough County.

Total FDOT Mitigation Cost Including O&M: $225,000

ATTACHMENTS

1. Figure A-Location

SW 81 - Balm Boyette-Stallion Hammock Restoration
Figure A - Location (STR 12-14/31S/20E; 7,8,15-18,20-22/31S/21E)



Legend

Project Location

2011 Aerial

Miles
0 0.375 0.75 1.5

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-82 EKKER TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Ekker Tract	**Project Number**	SW-82
Project Type	Wetland creation, enhancement; upland enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Bullfrog Creek, Smith Creek	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Maintenance and Monitoring		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 4		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	25/30S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	4113371	US 92 Eureka Springs to Thonotasassa Rd.[1]	0.20	43031172.000	2006-00602
Tampa Bay Drainage	4154892	US 301, Balm Road to Gibsonton Drive[2]	11.50	43031128.000	2006-04230
Tampa Bay Drainage	4154893	US 301, Sun City Center to Balm Road[3]	3.20	43034464.000	2008-03613
Tampa Bay Drainage	N/A	Lee Roy Selmon Crosstown Extension - Temporary Haul Road	0.21	44021031.006	No permit required
		Total:	**15.11**		

[1] This US 92 segment proposes additional wetland impacts (1.65 acres) in the Hillsborough basin with the associated mitigation designated for Colt Creek State Park (SW 84).
[2] Additional wetland impact (0.3 acre) associated with this project is located within the Alafia River basin, with mitigation designated at Balm Boyette (SW 81).
[3] Additional wetland impacts being mitigated by FDOT with on-site wetland creation on ELAPP property and forested wetland impacts at Boyd Hill Nature Park (SW 71); additional wetland impacts within the Little Manatee River basin being mitigated at the Little Manatee River – Lower Tract (SW 83).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Herbaceous marsh	Creation	Tampa Bay Drainage	12.4
Forested wetlands	Creation	Tampa Bay Drainage	2.3
Open water/obligate areas	Creation	Tampa Bay Drainage	4.4
Ephemeral ponds	Creation	Tampa Bay Drainage	0.6
Upland buffer	Creation	Tampa Bay Drainage	5.1
		Total:	**24.8**

PROJECT DESCRIPTION

A. The 85-acre Ekker Tract was acquired by the SWFWMD to conduct habitat improvements that will benefit Bullfrog Creek and Tampa Bay. The northern portion of the property is dominated by mesic oak hammock and a pine plantation. One project goal is to enhance the upland habitat by removing nuisance and exotic vegetation, appropriate pine thinning to restore pine flatwood habitat, conducting supplemental planting and implementation of a land management plan. The southern portion of the property had a substantially altered landscape comprised of 158 excavated tropical fish ponds covering 23 acres. The aquaculture operation was discontinued prior to public acquisition, and the vegetative conditions included substantial domination by exotic and nuisance species, including cattails in the ponds and Brazilian pepper surrounding the ponds. The second project goal is to eradicate nuisance and exotic species and to restore appropriate grades in the ponds to create 19 acres of forested wetland and marsh habitat.

B. Brief description of pre-construction habitat conditions: Historical aerials indicate the majority of the Ekker property was cleared of native flatwood vegetation between 1938 and 1957 and converted to improved pasture. By 1957, the majority of the tropical fish ponds were excavated, with the remaining 26 ponds installed by 1980. Hundreds of other fish ponds were excavated on surrounding property in Gibsonton, many of which have been and will continue to be converted to residential communities. With the loss of substantial freshwater wetland habitat in the Tampa Bay basin, the County and SWIM decided the best ecological alternative for the southwestern portion area of the property was to convert the fish ponds to wetland habitat.

The combination of improvements to wetland and upland habitat have resulted in diverse ecological communities with improved wildlife habitat. The mesic oak hammock habitats (total 33 acres) are predominantly within the northwestern portion of the property and a linear corridor buffer adjacent to Bullfrog Creek (Figure B, photos). The pine plantation (approx. 24 acres) was within the north-central and southeastern portion of the tract. The pine plantation was comprised of small slash pines less than 6-inch DBH and 20-30 ft. high. The majority of the pines were planted on dense 5-10 ft. centers so with the canopy closure and substantial pine straw thatch, there was minimal ground cover in the plantation. The oak hammock habitat and pine plantation had minor coverage of exotic and nuisance species, predominantly scattered Brazilian pepper. The tropical fish ponds were located within the southwestern portion, with the various ponds ranging in size from 600 to 5000 square feet (less than 0.1-acre each). The pond bottom grades ranged 3-5 feet below top-of-bank with dominant coverage of exotic vegetation such as cattails and torpedo grass, surrounded with Bermuda grass and Brazilian pepper. There is a small retention pond northeast of the fish ponds with an outfall into an intermittent creek (Smith Creek) that seeps and meanders north to Bullfrog Creek.

The oak hammocks have dominant canopy cover provided by live oak (*Quercus virginiana*), laurel oak and water oak (*Quercus nigra*) with scattered cabbage palm (*Sabal palmetto*) and pine (*Pinus elliottii, Pinus palustris*). The oak hammock within the northwest portion of the tract is dominated with live oak and tends to have moderate to dense understory coverage of saw palmetto (*Serenoa repens*), cabbage palm and grapevine with pockets of various fern species under dense canopy (*Nephrolepis exalta, Pteridium aquilinum, Osmunda cinnamomoea, Thelypteris* spp.). Other common species include dog fennel, beggar's-tick (*Bidens alba*), grapevine (*Vitis* spp.), various sedges (*Andropogon* spp.), carpetgrass (*Axonopus* spp.), flat-top goldenrod (*Euthamia minor*), blackberry (*Rubus* spp.) and low panicums (*Dicanthelium* spp.). The live oaks extend along the upper steep banks of Bullfrog Creek where there is also coverage of dense palmetto transitioning down to scattered mangrove (*Laguncularia racemosa*) and leather fern (*Acrostichum* spp.) along the waterline of this tidally connected creek. Brazilian pepper is scattered within the oaks, particularly along the upper banks of Bullfrog Creek. In some small areas of the laurel oaks, the canopy density has resulted in substantial shade that has limited ground coverage.

Prior to construction, the tropical fish pond area on the property had vegetatively transitioned to an almost exclusive coverage of exotic and nuisance species (refer to photos). The most common pond vegetation includes cattails (*Typha* spp.), torpedo grass (*Panicum repens*), spikerush (*Eleocharis* spp.), duckweed (*Lemna* spp.) with occasional primrose willow (*Ludwigia peruviana*) and Carolina willow (*Salix caroliniana*). Brazilian pepper (*Schinus terebinthifolus*) was common along the sideslopes and top-of-bank. Ground cover around the ponds included bahiagrass (*Paspalum notatum*), Bermuda grass (*Cynodon dactylon*), dog fennel (*Eupatorium capillifolium*) and broomsedge (*Andropogon virginicus*). The ponds were buffered along Symmes Road and Ekker Road by a dense monoculture perimeter of

Brazilian pepper and roadside drainage ditches covered with cattails and other exotics. In general, there was minimal habitat value associated with the aquaculture area that would have substantially deteriorated with generation of more exotic vegetation if not converted to appropriate habitat.

C. Brief description of construction activities and current habitat conditions: The wetland creation design for the pond area included marsh habitat (12.4 acres), forested wetlands (2.3 acres), obligate/open water (4.4 acres), ephemeral ponds (0.6 acre) and buffered by a perimeter of an elevated upland habitat established on the rounded fill material (5.1 acres). The design incorporated cross-sectional surveys and groundwater elevations monitored from piezometers installed on the property. Wetland plantings were conducted during the summer, 2010 to quickly establish coverage and minimize turbidity. Plantings included a diverse assemblage of bare root and potted herb species installed on 3 ft. centers within appropriate elevation zones, including arrowhead (*Sagittaria lancifolia*), bulrush (*Scirpus validus*), fireflag (*Thalia geniculata*), pickerelweed (*Pontederia cordata*), sand cordgrass (*Spartina bakeri*), soft rush (*Juncus effusus*), spatterdock (*Nuphar luteum*) and spikerush (*Eleocharis interstincta*). Tree species included bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica biflora*), laurel oak (*Quercus laurifolia*), popash (*Fraxinus caroliniana*), red maple (*Acer rubrum*) and sweet bay (*Magnolia virginiana*). Some shrub plantings included wax myrtle (*Myrica cerifera*) and buttonbush (*Cephalantus occidentalis*).

The mounded upland buffer restoration around the wetland creation area is an important habitat component of the plan. Dense wood mulch was established to minimize recruitment and generation of undesirable vegetative species. The ground cover vegetation plantings included a dominance of love grass (*Ergrostis* spp.), muhly grass (*Muhlenbergia capillaries*) and sand cordgrass (*Spartina bakeri*), as well as shrubs and trees. The most common tree plantings included laurel oak (*Quercus laurifolia*), live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), red maple (*Acer rubrum*) and slash pine (*Pinus elliottii*).

Enhancement of the oak habitat was initiated in 2010 with the eradication of scattered Brazilian pepper and incorporating a prescribed fire program to provide more open canopy and sub-canopy for the natural regeneration of understory vegetative. The pine plantation received a major thinning of pines in 2010 to widen the tree spacings to 30-40 feet, followed by prescribed fire that substantially reduced the pine thatch. The combination of the pine removal and fire allowed the natural regeneration and recruitment of desirable herbs and sedges in the flatwoods. The enhanced and restored upland habitats have attracted and improved habitat conditions for wildlife use. There are several gopher tortoises residing on the property. One of the more unique opportunities included using excess fill material to construct a few long, low, and linear mounds in the flatwoods to provide the potential establishment of gopher tortoise burrows.

The dredged retention pond (0.4 acres) has associated spoil material around the pond perimeter and essentially no available littoral shelf. There are some oaks on the spoil mounds but also Brazilian pepper. A portion of the pond was backfilled to create a planted littoral zone. The wetland creation area that replaced the fish ponds hydrologically connect to the regraded pond to provide some additional water quality treatment and attenuation before outfalling into Smith Creek and Bullfrog Creek.

Herbicide maintenance activities are conducted on a quarterly basis to control exotic and nuisance species and will continue post-construction. Based on the conditions of the various habitats and status of selected species proposed for planting, supplemental planting will be conducted where necessary to fulfill desired results of each habitat area and associated success criteria. After a minimum of five years and the desired habitat conditions and mitigation success has been achieved, perpetual management will be conducted by Hillsborough County.

Monitoring will be conducted on a semi-annual basis for a minimum of five years until success criteria is met. Monitoring will include a comprehensive qualitative assessment of each habitat component within the wetland creation area including but not limited to plant health and survivorship, recruited plant species, cumulative plant coverage, exotic and nuisance species coverage, wildlife use and opportunities and recommended actions necessary to ensure and further enhance habitat success. Qualitative monitoring will also be conducted for the restored and enhanced upland habitats. Annual monitoring reports will be prepared, and the report will include qualitative and photo documentation of post-

construction habitat conditions and wildlife utilization for the entire site as well as established monitoring stations.

Plant coverage requirements for the created wetland creation will include a minimum 85% of desirable species, and 10% coverage in the obligate/open water area. Vegetative coverage requirements of planted and recruited desirable species include 60% for the enhanced uplands. Tree canopy coverage requirements for the constructed forested wetlands and restored uplands will be a minimum of 20%, exotic and nuisance vegetation will have a maximum coverage limit of 5%.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): Almost all of the roadway wetland impacts designated for mitigation at Ekker are in the vicinity of this mitigation project and many of the wetland impacts are associated with crossings over Bullfrog Creek and Little Bullfrog Creek. Since these two creek crossings are upstream of the Ekker Tract that is also located adjacent to Bullfrog Creek, the loss of these wetland habitats along the creek will be appropriately mitigated with habitat improvements conducted at the Ekker Tract.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection, the only existing or proposed mitigation bank in the basin was the Tampa Bay Mitigation Bank (TBMB), which was under construction and did not have available credits released for purchase.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The habitat improvements associated with this Ekker Tract project is a SWIM-sponsored project.

PROJECT IMPLEMENTATION

- Design and Permitting: 2005-2009
- Construction and planting: 2010
- Maintenance and monitoring: 2010-2015
- Perpetual management: Begin 2015

Entity responsible for construction: Private entity contracted with the SWFWMD SWIM Section.

Entity responsible for monitoring and maintenance: Private consultant on contract with the SWFWMD.

Entity responsible for perpetual management: Hillsborough County.

Total Cost of FDOT Mitigation Including O&M: $1,041,956

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-Construction Habitat Conditions (2008)
3. Figure C-Habitat Improvement Plan
4. Photographs (2012)

SW 82 - Ekker Tract
Figure A - Location (STR 25/30S/19E)

Legend

Project Location

2011 Aerial

Feet

0 1,000 2,000 4,000

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 82 - Ekker Tract
Figure B - Pre-Construction Habitat Conditions (2008)

Legend

Project Location

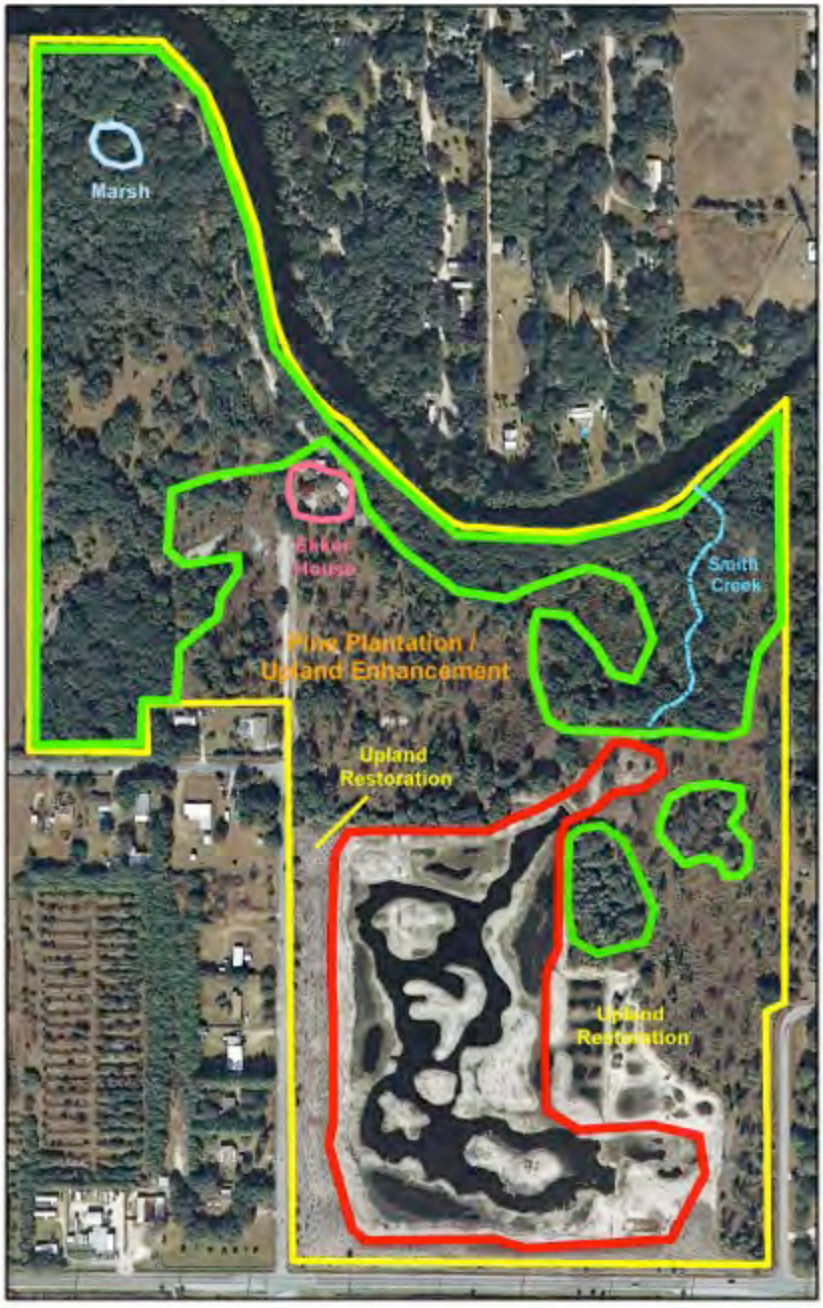
2008 Aerial

Feet
0 120 240 480

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 82 - Ekker Tract
Figure C - Habitat Improvement Plan



Legend

- Wetland Creation
- Oak Hammock Enhancement
- Project Location

2011 Aerial

Feet
0 120 240 480

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Photo shows post restoration construction of the fish ponds with newly planted littoral shelf. (2012)

Photo shows post restoration (pine reduction) in upland area. (2012)

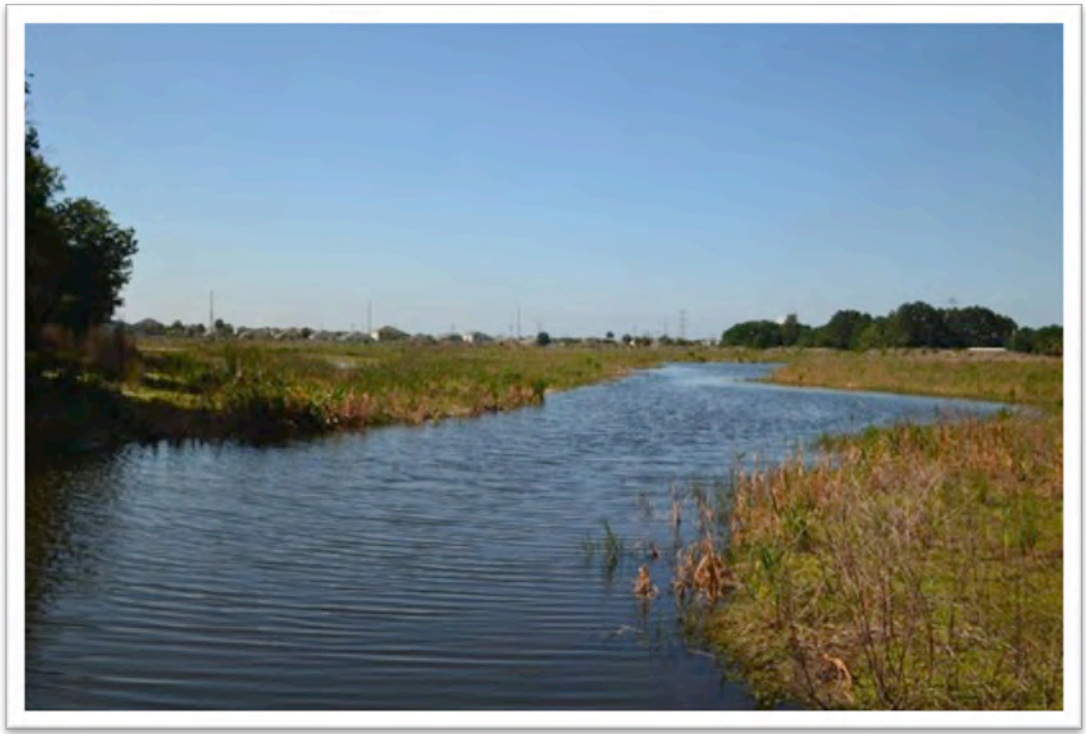


Photo shows recontoured littoral zone of one of the fish ponds and depicts newly planted and recruited native plants. (2012)

Photo shows recontoured littoral zone of one of the fish ponds and depicts newly planted and recruited native plants. (2012)

SW-83 LITTLE MANATEE RIVER – LOWER TRACT MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Little Manatee River – Lower Tract	**Project Number**	SW-83
Project Type	Wetland and upland enhancement		
Landowner	Southwest Florida Water Management District and Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Little Manatee River
Water bodies	Little Manatee River	**Water body Designations**	Outstanding Florida Water
Project implementation status: (As of December 2013):	Construction		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	20,29/32S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Little Manatee River	4154893	US 301 Sun City Center to Balm Road[2]	0.90	43034464.000	2008-03613
		Total:	**0.90**		

[1]All impacts associated with this project are reported with the segment located in the Tampa Bay Drainage Basin.
[2] This US 301 segment proposes additional wetland impacts in the Tampa Bay Drainage Basin that are mitigated in the Ekker Tract (SW 82) and through on-site wetland creation by FDOT.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Upland	Enhancement	Little Manatee River	137
Wetlands	Enhancement	Little Manatee River	5
		Total:	**142**

PROJECT DESCRIPTION

A. Overall project goals: The Little Manatee River – Lower Tract (LMR) was acquired by Hillsborough County and the SWFWMD, and is managed by Hillsborough County. The 1,902 acre tract is bisected by Interstate-75 and the Little Manatee River meanders through the parcel. The majority of the LMR tract has high quality native habitat conditions; however, there is a 142 acre portion of previously cleared upland and wetland habitat covered in exotic species, predominantly Brazilian pepper and cogon grass. The goal is to eradicate exotics and plant appropriate species to enhance approximately 137 acres of uplands and 5 acres of wetlands.

B. Brief description of pre-construction habitat conditions: Except for the designated project area, the majority of the LMR tract has high quality and diverse upland and wetland ecosystems. The upland habitats include a dominance of pine flatwoods with areas of sand pine scrub predominantly located along the riverbank and mixed hardwoods and coastal hammocks located on slight ridges between meandering tributaries of the river. Wetland systems are dominated by estuarine marsh habitats bordering the river and associated tributaries, as well as scattered freshwater marshes in the flatwoods. The designated 142-acre project area was historically dominated by pine flatwood habitat prior to conversion to improved pasture in the 1980's. After cattle operations were discontinued and the LMR

tract was publicly acquired, native and exotic vegetation covered the pasture. Dominant ground cover currently consists of bahiagrass and broomsedge, with scattered pockets of cogongrass throughout. A shrub component includes scattered Brazilian pepper, wax myrtle, cabbage palms and longleaf pine. There are three wetlands within the designated project area. Wetland #1 (0.4 acre) is an isolated marsh with a dominance of cattails, smartweed and maidencane. Wetland #2 (1.2 acres) has similar herb species with a transitional perimeter of wax myrtle and Brazilian pepper. The northern portion of Wetland #3 (3.2 acres) is a marsh system with dominant species similar to the other two wetlands. During extreme wet conditions, this marsh has a hydrologic connection south to the river through a shrub area of Brazilian pepper and wax myrtle. The project area is bordered on the west by Interstate-75, north by an FDOT rest area and the northeast by row crop areas. South and southeast of the project area is a borrow pit, high quality pine flatwoods, and sand pine scrub along the riverbank.

C. Brief description of construction activities and current habitat conditions: In 2004, there was a partial herbicide eradication of some Brazilian pepper within the western and northern portion of the project area and the dead pepper was pushed into separate piles. Activities conducted in 2007 included treatment, cutting and burning the previously untreated and re-generated pepper. The cogon grass in the uplands and cattails within the marshes were also treated with herbicide. In both cases, there was adequate and appropriate native herb species to displace these exotics. However, supplemental activities included planting longleaf pine to restore the flatwoods canopy component. Routine herbicide maintenance is conducted to control regeneration of the Brazilian pepper, cogon grass and cattails. As the pines reach maturity and broomsedge recruits into the cogon covered areas, a prescribed burn management schedule will be implemented for the project area. This will further enhance habitat conditions, attracting and providing more opportunities for wildlife to access and utilize the entire LMR tract.

Maintenance activities are anticipated for a minimum three years and until success criteria is met. These activities include herbicide treatments as necessary of Brazilian pepper, cogon grass, cattails and any other exotic and nuisance species. It is envisioned that the same long-term land management activities of the remaining LMR tract will be adopted in the project area, particularly implementation of a prescribed burn program on 3-5 year rotation cycles and any supplemental pine planting necessary to provide appropriate coverage.

Monitoring will be conducted annually by the SWFWMD and will include qualitative assessment and photo documentation of vegetative conditions, wildlife activities, wetland hydrology and hydroperiods and any miscellaneous activities such as land management and herbicide maintenance. Success criteria vary and are dependent on the habitat areas. Herb cover for the wetlands include 80% cover of desirable species and less than 5% cover of exotic and nuisance species. For the enhanced uplands, success criteria includes achieving less than 5% coverage of exotic and nuisance species, greater than 90% survivorship of planted material, and site conditions must be maintained to allow implementation of a prescribed fire program.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): There are very few state roadways located within the small Little Manatee River basin, and the US 301 segment is the first project since the inception of the FDOT mitigation program in 1996 that has any proposed wetland impacts in the basin. The anticipated minor marsh impacts (0.9-acre) are low quality and appropriately mitigated at the LMR tract years in advance of the anticipated roadway construction (late 2014).

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the mitigation selection during 2006, there were no existing or proposed mitigation banks in the Little Manatee River Basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: This mitigation project was within SWIM's Five-Year Habitat Restoration Plan.

PROJECT IMPLEMENTATION

- Initial herbicide application and Brazilian pepper burning: 2007
- Additional herbicide treatments: Winter 2010
- Supplemental pine plantings: Summer 2010
- Monitoring and maintenance: Ongoing
- Perpetual management: To be determined

Entity responsible for construction: Independent contractor working for Hillsborough County.

Entity responsible for monitoring and maintenance: Maintenance by private contractors working for Hillsborough County, periodic monitoring conducted by SWFWMD.

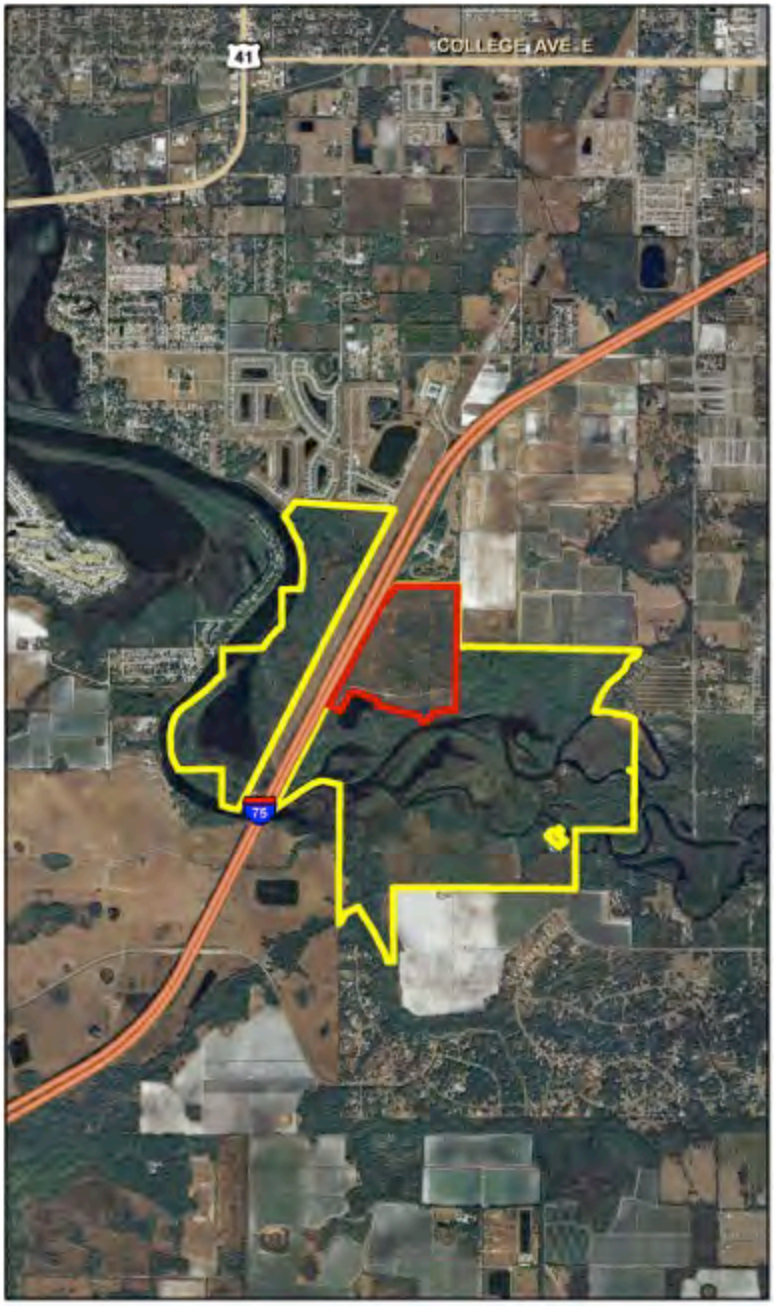
Entity responsible for perpetual management: Hillsborough County.

Project Cost: $143,600

ATTACHMENTS

1. Figure A-Location
2. Figure B-Habitat Enhancement Plan
3. Photographs (2013)

SW 83 - Little Manatee River - Lower Tract
Figure A - Location (STR 20,29/32S/19E)



Legend

Project Location

FDOT Mitigation Area

2011 Aerial

Miles

0 0.225 0.45 0.9

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 83 - Little Manatee River - Lower Tract
Figure B - Habitat Enhancement Plan

Legend

Project Location

Wetland Enhancement

2011 Aerial

Feet

0 200 400 800

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Wetland 1 is a small, ephemeral isolated marsh with cattails in the core.

Upland Enhancement – The dominant exotic vegetation generated within the uplands include cogon grass (foreground) and Brazilian pepper (background). Eradication and control of the exotic vegetation will allow native species regeneration and supplemented with pine plantings.

Upland Enhancement – Some eradication and piling of B. pepper has been conducted in the past for a portion of the project area.

View of restoration area. (2013)

View of restoration area. (2013)

View of restoration area. (2013)

View of restoration area. (2013)

SW-84 COLT CREEK STATE PARK MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Colt Creek State Park	**Project Number**	SW-84
Project Type	Wetland preservation, restoration and enhancement		
Landowner	Southwest Florida Water Management District and Trustees of the Internal Improvement Trust Fund	**Management Entity**	Florida Department of Environmental Protection
County	Polk	**Watershed**	Withlacoochee River and Hillsborough River
Water bodies	Withlacoochee River, Gator Creek, Colt Creek	**Water body Designations**	Outstanding Florida Water
Project implementation status: (As of December 2013):	Phase I – Perpetual Management; Phase II - Construction; and Phase III – Design and Permitting		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 14		
	Planned, not yet permitted, FDOT projects: 4		
S/T/R:	5,6,8/26S/23E;17,18,19,20,29,30,31,32/25S/23E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Withlacoochee River	2426263	I-75 Hernando Co. Line to Turnpike	9.35	43033330.001	Pending
Withlacoochee River	4061101	Turnpike/I-75 Interchange-Wildwood	18.00	Not submitted	Not submitted
Withlacoochee River	4110113	I-75 (SR 93) from Pasco/Hernando C/L to US98/N SR50/Cortez Blvd	6.57	Not submitted	Not Submitted
Withlacoochee River	4110114	I-75 (SR 93) from Pasco/Hernando C/L to US98/N SR50/Cortez Blvd	0.34	Not submitted	Not Submitted
Withlacoochee River	4110142	I-75 (SR 93) from N of SR 52 to Pasco/Hernando C/L[1] (design-build)	3.17	670082.000	2012-2483
Withlacoochee River	4245241	SR 50 Bridge Removal over Van Fleet Trail	Deleted		
Withlacoochee River	4312431	US98/US301/GALL BLVD FROM N OF KOSSIK RD TO BOUGAINVILLEA AVE	Deleted		
Withlacoochee River	4167323	SR 50 from US 98/ McKethan Rd. to US 301	3.85	Not submitted	Not submitted
Hillsborough River	2555851	SR 39 (Alexander St) I-4 to Knights Griffin Rd.	14.20	43034467.007	2009-04064
Hillsborough River	2578622	Park Road I-4 (SR 400) to Sam Allen Rd.	0.81	44029780.001	2007-01606

Hillsborough River	4079441	I-75 Northbound Rest Area	1.20	43033020.007	2009-04372
Hillsborough River	4079442	I-75 Southbound Rest Area	1.00	43034467.007	2009-04064
Hillsborough River	4084592	I-75 Fowler Avenue to CR 581	23.79	43021639.006	2007-04495
Hillsborough River	4084593	I-75 - CR 581 (BB Downs) to SR 56 (Mainline)	16.10	43033020.004	2008-03059
Hillsborough River	4084594	I-75 SR 56 to S of CR 54	11.90	43033030.008	2010-00468
Hillsborough River	4089321	SR 39 @ Hillsborough River	1.70	43033500.001	2008-00211
Hillsborough River	4113371	US 92 - Eureka Springs to Thonotasassa Rd.[2]	1.65	43031172.000	2006-4072
Hillsborough River	4218311	I-75 - CR 581 (BB Downs) to SR 56 ("Waddah Ramps")	30.70	43033020.002	2008-01707
Hillsborough River	4218314	I-75 S of CR 54 to N of CR 56	17.34	43033020.002	2007-04508
Hillsborough River	4271591	US 92 (SR 580/600) Benjamin Rd. to Westshore Blvd.	Deleted		
		Total:	**161.67**		

Projects Highlighted in yellow will be deleted and are not included in project totals.
Projects highlighted in green are newly added in 2014.

[1] This project has wetland impacts in the Hillsborough, Upper Coastal, and Withlacoochee basins. Mitigation for impacts in the Withlacoochee basin will be provided at Colt Creek. Impacts in the Upper Coastal are mitigated at the Upper Coastal Mitigation Bank and Conner Preserve while impacts in the Hillsborough basin are mitigated at Conner Preserve.

[2] This project has additional wetland impacts in the Tampa Bay Drainage Basin. The designated mitigation for these impacts includes habitat creation and enhancement at the Ekker Tract (SW 81).

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Phase I	Preservation	Hillsborough River	4.39
Phase II	Restoration	Hillsborough River; Withlacoochee River	33.76
Phase III	Enhancement	Hillsborough River, Withlacoochee River	1219.76
		Total:	**1357.91**

PROJECT DESCRIPTION

A. Overall project goals: This mitigation project is located within the region referred to as the Green Swamp (Area of Critical State Concern). The Green Swamp is considered a unique and critical natural resource asset with statewide significance. The water related resource values of the Green Swamp have made this region one of the highest priority areas for protection through public acquisition by the State and the SWFWMD. The Green Swamp contains the headwaters of three major rivers, including the Hillsborough, Withlacoochee and Ocklawaha. Public ownership and conservation easements of large tracts of land serve to protect the important upstream reaches of the Hillsborough and Withlacoochee

Rivers and the volume of freshwater which they contribute to Tampa Bay, Withlacoochee Bay, Tsala Apopka Lake and many other downstream natural systems and habitats.

This mitigation project will be conducted on two parcels, the Colt Creek State Park and the Fussell Tract. The Colt Creek State Park, a high priority land acquisition for over 30 years, was jointly acquired from the Overstreet family by the SWFWMD, FDEP, and Polk County in June, 2006. The Fussell Tract, adjacent to Colt Creek State Park, was purchased by the Southwest Florida Water Management District using the Water Management Lands Trust Fund. Together these tracts present wetland habitat preservation, restoration and enhancement opportunities that may be used as mitigation in the Hillsborough River and Withlacoochee River watersheds. This project complements two other FDOT mitigation projects in the vicinity. SW 59-Hampton Tract is located immediately to the east of this mitigation project and SW 64-Withlacoochee State Forest-Baird Tract is located north of this mitigation project.

B. Brief description of pre-construction habitat conditions: Even though the parcels that comprise this mitigation project provide important ecological value for the region, there have been activities conducted over the years that substantially alter the natural character of these properties. In particular, an extensive network of large and small ditches has altered the hydrologic features within the properties, as well adjacent public and private lands. Many upland habitat communities and some wetland areas are sufficiently drained to be converted to improved pasture. In the remaining native upland habitats, regular prescribed burn cycles are eliminated. As a result, pines (*Pinus elliottii*) and hardwoods such as live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), and red maple (*Acer rubrum*) have recruited and generated in what was formally pine flatwoods. Ditching has drained and short-circuited drainage patterns of the wetlands such that minimal water depth and duration have allowed facultative vegetative species to recruit into wetlands that were historically vegetated by obligate species and replace canopy once dominated by bald cypress (*Taxodium distichum*).

Additionally, the Colt Creek State Park property includes a 750 lot residential development proposed by the previous owners. However, after extensive negations with resource agencies, the family agreed to sell the tract fee simple into public ownership. The purchase was funded by the SWFWMD ($24.3 million), FDEP ($24.3 million), and Polk County ($5 million) and the property is jointly owned by the SWFWMD and the Board of Trustees of the Internal Improvement Trust Fund. The purchase of portion of the tract within the Hillsborough River basin was funded ($7.5 million) by the FDOT mitigation program.

C. Brief description of construction activities and current habitat conditions:

Wetland Preservation – Phase I, Colt Creek Tract

Because the FDOT program funded the acquisition in the Hillsborough Basin, all upland and wetland habitats in this basin were expected to provide preservation mitigation. This purchase was expected to provide the FDOT with mitigation credit from both wetland and upland preservation. However, soon after this purchase, the Army Corps of Engineers no longer recognized upland preservation as a separate form of mitigation. The upland preservation achieved with this purchase is considered in the evaluations completed for wetland restoration and enhancement described below.

Also since this purchase, the Florida Department of Environmental Protection (FDEP) guidance has changed regarding the application of the Florida Uniform Mitigation Assessment Method (62-345, Florida Administrative Code) to wetland preservation. In a guidance memo dated June 15, 2011, the FDEP directs that when preservation is combined with enhancement or restoration, the preservation element is no longer evaluated separately. This leaves one wetland preservation area, which is a cypress dome that has not been directly altered by ditching and draining. This wetland is dominated by cypress with dense coverage of maple and laurel oak along the perimeter. The preservation mitigation value is associated with ensuring that impacts associated with residential developments do not occur. Preservation and proper management of adjacent upland habitat buffers this wetland.

Wetland Restoration– Phase II, Colt Creek Tract

There are two former wetland areas that were converted to pasture. One area will be restored as a freshwater marsh and the other restored as a floodplain forest and swamp. Wetland hydrology in these areas is re-established either through re-grading or the construction of water control structures. Both of these areas will be replanted. Herb species planted in the freshwater marsh restoration area will include soft rush (*Juncus effusus*), arrowhead (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), spikerush

(*Eleocharis interstincta*), sand cordgrass (*Spartina bakeri*). Trees and shrubs planted in the forested restoration area include laurel oak (*Quercus laurifolia*), bald cypress (*Taxodium distichum*), red maple (*Acer rubrum*), tupelo (*Nyssa sylvatica* var. *biflora*), and popash (*Fraxinus caroliniana*), wax myrtle (*Myrica cerifera*) and buttonbush (*Cephalanthus occidentalis*).

Wetland Enhancement – Phase III, Colt Creek and Fussell Tracts
With strategically located culverts, berm modifications and ditch blocks, wetland ydrology will be restored and wetland enhancement will result by reversing the effects of the decades of altered wetland hydrologic functions. Principally, mortality of inappropriate vegetative species and regeneration of desirable hydrophytic species will result with the loss of laurel oaks and pines within the wetland cores and live oaks in the outer facultative zones. The mortality of pines and oaks will be more rapid since they cannot sustain long periods of inundation, providing conditions for the generation of cypress saplings and appropriate understory species that have had limited opportunities for recruitment and growth due to extensive shading and insufficient hydrology. However, other hardwood species that can endure longer hydroperiods will still be present and provide diversity and cover (e.g. red maple). In addition to the increase in appropriate vegetative species within the canopy, sub-canopy and ground cover, the restored hydroperiods will provide more nesting, denning and foraging opportunities for wildlife species that utilize wetlands for portions of their life cycles. Dead trees will be allowed to decay in place, providing snags and niches for wildlife use.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The largest percentage of the anticipated wetland impacts in the Hillsborough basin include approximately 30 acres of forested wetland habitats associated with widening Interstate-75 in northern Hillsborough and Pasco Counties. The majority of the proposed mitigation activities will consist of wetland preservation, restoration and enhancement in the Hillsborough River basin. The wetland habitat improvements will be buffered by upland habitat enhancement, restoration and appropriate management to provide an interdependent mosaic of habitats critical to support wetland-dependent wildlife species. Since both tracts are predominantly bordered by over 260,000 acres of public lands that also have native habitats being enhanced, restored and appropriately managed, there is even more ecological value associated with this selected mitigation project.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the time of mitigation selection of the listed roadway projects, there were no established or proposed mitigation banks within the Hillsborough or Withlacoochee River Basins.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: During the mitigation selection period, there were no new SWIM-associated projects proposed in the Hillsborough or Withlacoochee basins.

PROJECT IMPLEMENTATION

Phase I-Wetland Preservation
- Land Acquisition-June, 2006

Phase II -Wetland Creation and Restoration
- Construction and Planting: 2010-2013
- Maintenance and Monitoring: 2014-2019

Phase III - Wetland Enhancement
- Design & Permitting: 2013
- Construction, Colt Creek: 2013-2014
- Construction, Fussell Tract: 2014-2015
- Maintenance & Monitoring: 2014-2019

Entity responsible for construction: Private contractors selected by the SWFWMD

Entity responsible for monitoring and maintenance: Private contractor selected by the SWFWMD will conduct monitoring and maintenance. Land management activities will be coordinated between the SWFWMD and FDEP.

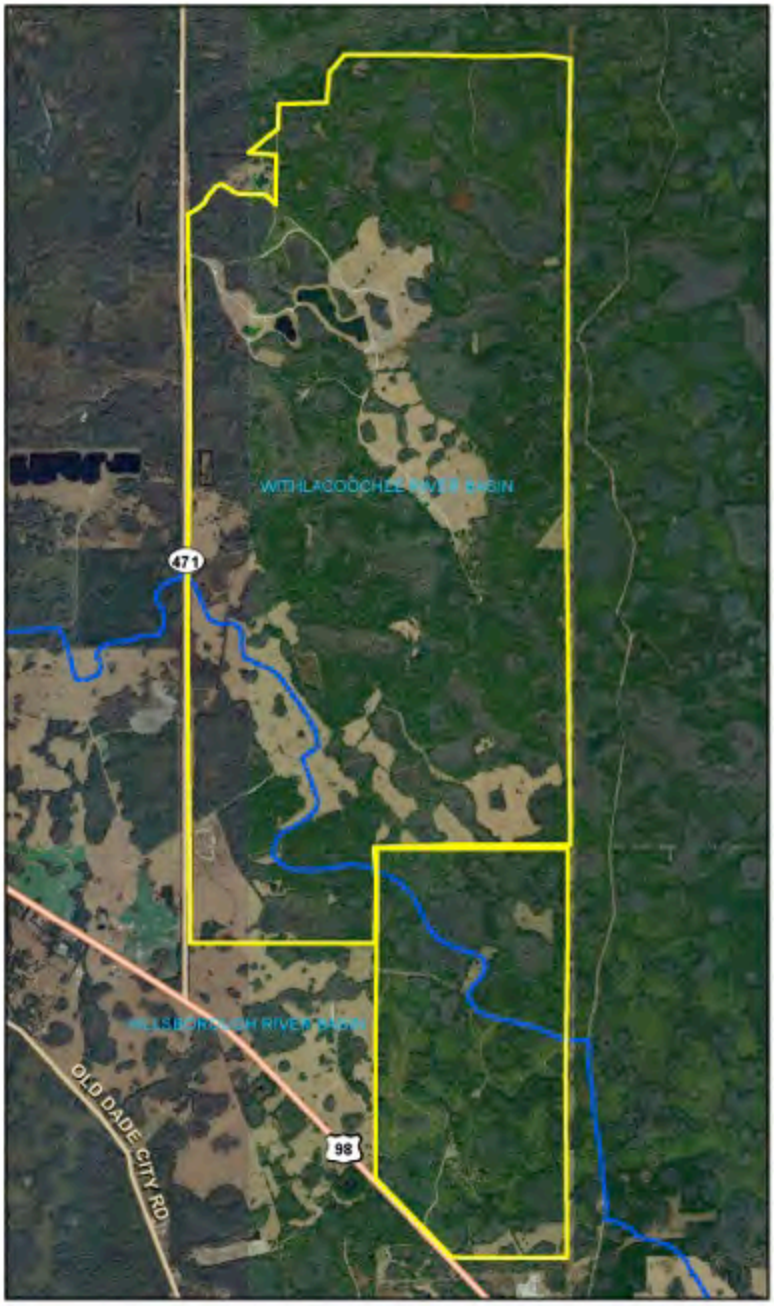
Entity responsible for perpetual management: FDEP

Total Cost for FDOT Mitigation Including O&M (estimated): $9,729,620

ATTACHMENTS

1. Figure A-Location
2. Figure B-Wetland Mitigation Areas (1 of 2)
3. Figure C-Wetland Mitigation Areas (2 of 2)
4. Photographs (2012)

SW-84 Colt Creek State Park
Figure A - Location (STR 20,29/32S/19E)



Legend

- Project Location
- ERP Watershed Boundary

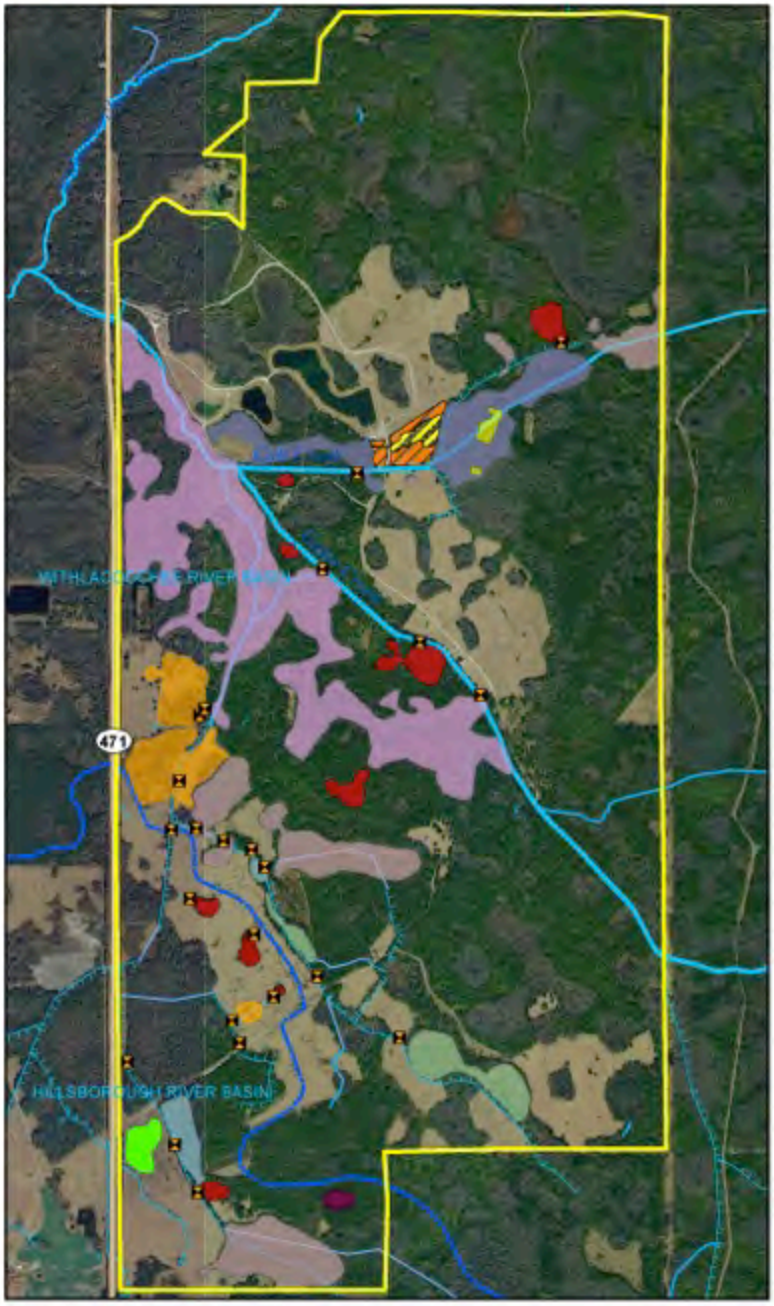
2011 Aerial

Miles
0 0.275 0.55 1.1

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 84 Colt Creek State Park
Figure B - Wetland Mitigation Areas 1 of 2



Legend

Enhancement Areas

- Bottomland Hardwood - Moderate
- Bottomland Hardwood - Poor
- Dome Swamp - Moderate
- Dome Swamp - Poor
- Floodplain Forest-Swamp - Moderate
- Floodplain Forest-Swamp - Poor
- Floodplain Forest-Swamp - Upland
- Freshwater Marsh
- Dome Cypress Preservation
- Marsh Restoration
- Floodplain Swamp Enhancement
- Floodplain Swamp Restoration
- ERP Watershed Boundary
- Colt Creek Boundary
- Ditch Blocks

N

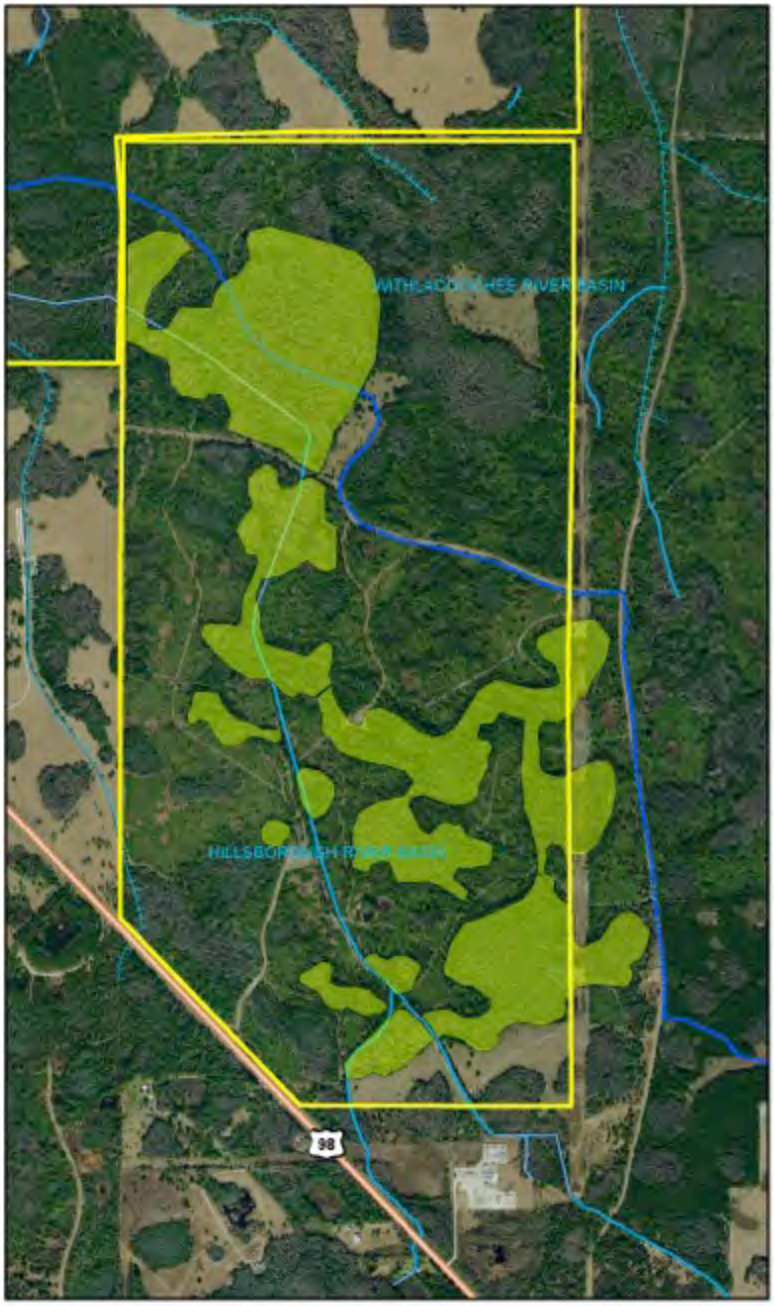
S

0 1,150 2,300 4,600 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 84 Colt Creek State Park
Figure C - Wetland Enhancement Areas 2 of 2



Legend

- Colt Creek Boundary
- Wetland Hardwood Forest
- ERP Watershed Boundary

2011 Aerial

0 700 1,400 2,800 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Colt Creek State Park showing elevated road berm with forested wetland in the background. (2012)

Colt Creek State Park showing central forested wetland with nuisance terrestrial plant encroachment. (2012)

Colt Creek State Park showing inundated mitigation area following installation of water control structure. (2012)

Colt Creek State Park showing inundated emergent wetland creation area prior to plant installation. (2012)

SW-85 PEACE RIVER MITIGATION BANK MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Peace River Mitigation Bank	**Project Number**	SW-85
Project Type	Mitigation Bank		
Landowner	Private	**Management Entity**	Private
County	Hardee	**Watershed**	Peace River
Water bodies	Peace River	**Water body Designations**	None
Project implementation status: (As of December 2013):	NA		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: 4		
S/T/R:	14,15,22,23/34S/25E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Peace River	4154901	US 17 Charlotte C.L. to SW Collins[1]	2.23	43013044.006	2007-04765
		Total:	**2.23**		

[1] This US 17 segment also has non-forested wetland impacts mitigated by purchasing marsh credits from the Boran Ranch Mitigation Bank (SW 53) located in DeSoto County.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetlands	Credit purchase	Peace River	2.23
		Total:	**2.23**

PROJECT DESCRIPTION

A. Overall project goals: The Peace River Mitigation Bank (PRMB) is located within a regionally significant and critical habitat and wildlife corridor along the Peace River in Hardee County. The tract has been targeted for public land acquisition through the Florida Forever program. The primary goal includes the preservation and enhancement of ecologically significant forested wetland and forested upland habitat along the core of the targeted riverine corridor.

B. Brief description of pre-construction habitat conditions: The PRMB (total 487 acres) is bisected by the Peace River with almost 2 miles of river frontage along the eastern portion. The majority of the tract (369 acres) has high quality mixed forested wetlands. The varied topography within the expansive riverine forested wetlands creates a variety of micro-habitats including cypress bogs, bay swamps, and bottomland hardwood forests. The dominant canopy coverage is provided by bald cypress, pond cypress, sweetbay, swamp tupelo, red maple, sweetgum, cabbage palm, water oak and Carolina willow. The understory is sparse but contains a variety of herbaceous and shrubby species, including netted chain fern, cinnamon fern, lizard's-tail, hatpin, yellow-eyed grass, saw palmetto, cabbage palm seedlings, wax myrtle and elderberry. The remaining portion of the tract (118 acres) is upland habitat characterized as coniferous-hardwood mix. The vegetative composition is dominated by a mix of slash pine, sweetgum, a variety of oak species and cabbage palm. The majority of the upland areas have moderate to significant vine coverage, including grapevine, blackberry, poison ivy, Virginia creeper and greenbrier. Other species frequently present in the uplands include dog fennel, ragweed, wax myrtle, winged sumac, and saltbush.

C. Brief description of construction activities and current habitat conditions: The primary goal of the PRMB is the preservation and enhancement of the habitat conditions by conveying a conservation easement over the site, restricting site use and access, installing strategic fencing and signage, removing existing nuisance and exotic vegetation, reducing brush levels in uplands and applying habitat land management techniques to the site through the implementation of a funded long-term management plan. The conservation easement will prevent future likely uses of the land that would have been ecologically detrimental, such as silviculture, cattle ranching, and/or residential development of the upland parcels. Even without these stresses on vegetative structure, species composition, and water quality, the site would further degrade without active management. Highly invasive species such as primrose willow, cogon grass and Japanese climbing fern have been identified on site. The management plan recorded with the easement will prevent current exotic vegetative populations from expanding and will re-introduce a natural prescribed fire regime into upland habitats to increase vegetative diversity and reduce shrub coverage. Monitoring and success criteria for habitat enhancement are specified in the SWFWMD and ACOE permits issued for the PRMB (ERP # 43029983 and ACOE # SAJ 2006-4057, respectively).

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The wetland impacts designated for mitigation at PRMB include forested wetlands within the Peace River watershed. The non-forested wetland impacts associated with the roadway project is mitigated through purchasing credits of non-forested wetland habitat at the Boran Ranch Mitigation Bank in DeSoto County. Both banks have habitat conditions that adequately and appropriately compensate for the proposed wetland impacts.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: The PRMB is a mitigation bank in the Peace River basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time during mitigation selection, there were no SWIM projects planned in the Peace River basin that would appropriately compensate for the proposed wetland impacts.

PROJECT IMPLEMENTATION

- Design and Permitting: 2005-2006
- Credit purchase: 2009

Entity responsible for construction: Peace River Mitigation Bank.

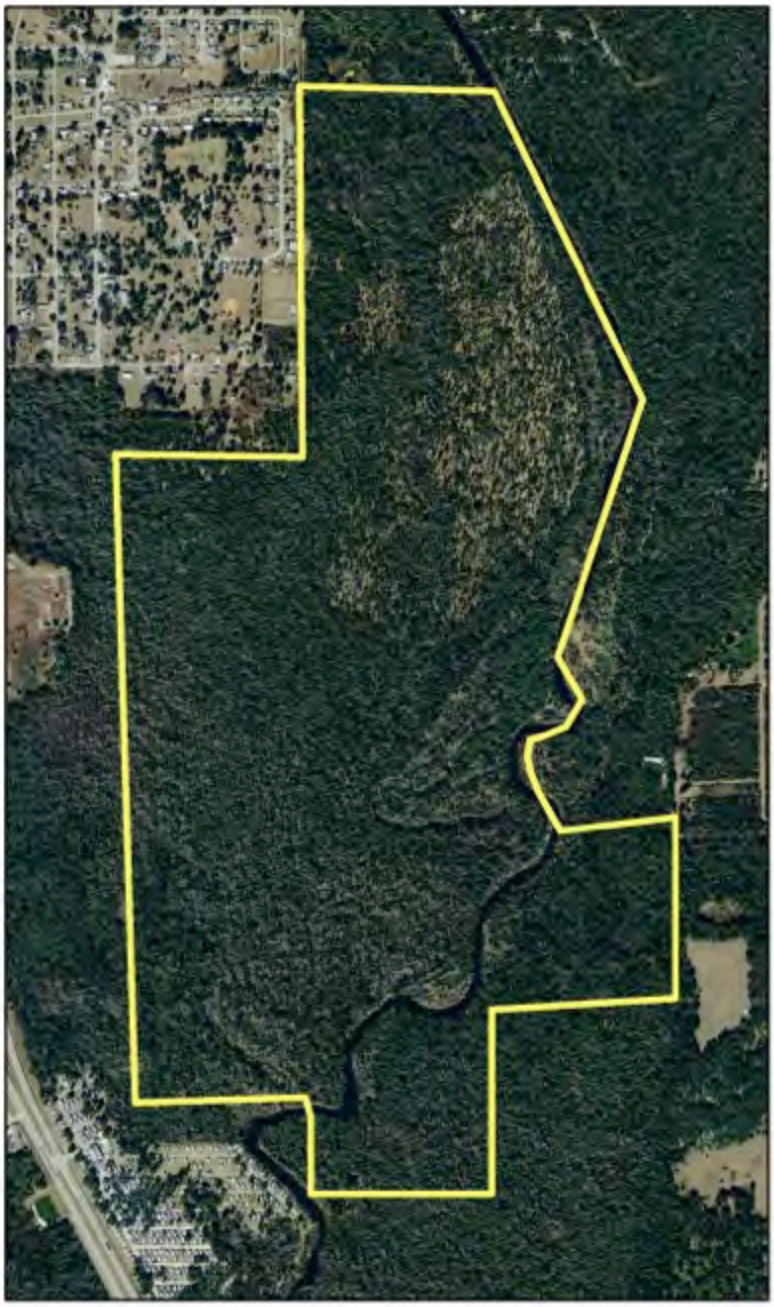
Entity responsible for monitoring and maintenance: EarthBalance Corporation.

Entity responsible for perpetual management: Peace River Mitigation Bank.

Total Project Cost for FDOT Mitigation (credit purchase): $163,300

ATTACHMENTS
1. Figure A-Location

SW 85 - Peace River Mitigation Bank
Figure A - Location STR 14,15,22,23/34S/28E



Legend

Project Area

2011 Aerial

Miles
0 0.05 0.1 0.2

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW-86 MOBBLY BAYOU WILDERNESS PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Mobbly Bayou Wilderness Preserve	**Project Number**	SW-86
Project Type	Wetland Restoration and enhancement		
Landowner	Pinellas County and City of Oldsmar	**Management Entity**	Pinellas County
County	Pinellas	**Watershed**	Tampa Bay Drainage
Water bodies	Mobbly Bayou, Tampa Bay	**Water body Designations**	SWIM Water Body, Pinellas County Aquatic Preserve
Project implementation status: (As of December 2013):	Phase 1-Perpetual Management; Phase 2-Design and Permitting		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 8		
	Planned, not yet permitted, FDOT projects: 1		
S/T/R:	25,36/28S/16E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2568811	US 19 (SR 55) Whitney Rd. to Seville Dr.	0.50	44025287.003	2006-02199
Tampa Bay Drainage	2569312	Gandy Blvd. (SR 694) 9th Street to 4th Street North	3.31	43011339.007	2010-00652
Tampa Bay Drainage	2569981	SR 686 from W of I-275 to W OF 9th St N	2.80	43020690.009	2008-01606
Tampa Bay Drainage	2584151	I-4 (SR 400) @ Selmon Expressway	6.40	44012347.014	2010-03007
Tampa Bay Drainage	4091551	SR 688 (Ulmerton Rd.) Lake Seminole to Wild Acres	0.02	43011339.007	2010-03007
Tampa Bay Drainage	4125313	I-275 @ I-275 NB Off-Ramp to SR 60 Airport Flyover	0.90	43008209.002	Pending
Tampa Bay Drainage	4168381	US 92 (SR 600 / Gandy) Pelican Sound to Gandy Bridge	1.50	43011339.006	2009-03493
Tampa Bay Drainage	4230801	I-275/SR 93 Southbound @ Bunces Pass	0.10	Not submitted	Not submitted
Tampa Bay Drainage	4245611	SR 60 - Pinellas/Hillsborough C.L. to Rocky Point Drive	0.06	44000920.009	2010-00993
		Total:	**15.59**		

Projects highlighted in green are newly added in 2014.

[1]An additional 0.20 acres will be mitigated through a mitigation bank.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Mangroves	Restoration and enhancement	Tampa Bay Drainage	94.57
		Total:	**94.57**

PROJECT DESCRIPTION

A. Overall project goals: The Mobbly Bayou Wilderness Preserve is located along the northern portion of Tampa Bay, a designated SWIM priority water body. This Preserve is a 383 acre parcel within one of the few undeveloped tracts adjacent to Tampa Bay. The Preserve has diverse upland and wetland habitats critical for a wide variety of wildlife species. However, these habitats have been impacted by the construction of mosquito ditches, ponds and adjacent development. Uncontrolled establishment of exotic plants threaten natural habitats as well. The project goal is to restore and enhance mangrove swamp communities by filling mosquito control ditches and eradicating exotic plants in and around these areas.

B. Brief description of pre-construction habitat conditions: The Preserve's habitats include a dominance of mangrove forest and salt marsh, with additional coverage provided by saltern, pine flatwoods, cabbage palm flatwoods, coastal hammock and freshwater marsh. Much of the mangrove forest, salt marsh and saltern habitat have been hydrologically altered by the construction of mosquito ditches. Mosquito control ditches limit appropriate and adequate tidal range and fluctuation within the estuarine wetlands. In addition, because of diverted storm and surface water from adjacent developed areas, there is less frequency and consistency of contributing freshwater components critical for maintaining appropriate estuarine habitats. The combination of less estuarine habitat receiving and retaining tidal flow from the south and inconsistent contribution of freshwater from the north has resulted in fewer wetlands having appropriate hydrology, hydroperiods and salinity levels. This is particularly evident within the slightly higher elevations of salt-marsh habitat and adjacent upland habitats, which have substantial coverage by Brazilian pepper.

C. Brief description of construction activities and current habitat conditions: The overall restoration objectives and plan for the Preserve evolved over many years with input from various entities including but not limited to Pinellas County, SWFWMD – SWIM, FDEP, FDEP Aquatic Preserve Program, U.S. Geological Survey and various members of the public. Consensus was reached on the major elements of ecosystem restoration and management that are in need of attention. This mitigation plan will focus on the elements that will restore or enhance mangrove swamp communities on lands for which Pinellas County has management responsibility.

Mangrove restoration and enhancement will be achieved by removing spoil mounds created with past mosquito ditching activities to fill the mosquito ditches. Since there is limited construction access, spoil mounds will be removed using the “hydro-blast” method, which uses pumps and fire hoses to spray water at high-pressure to displace spoil material to below high tide elevation. The mosquito ditches are partially filled and tidal sheet-flow connectivity and appropriate water fluctuation is restored in the surrounding mangrove swamp. This work will not only restore appropriate hydrology but will eliminate Brazilian pepper that is established on the spoil mounds allowing for the natural recruitment of plant species such as white and black mangrove, salt grass, black needlerush, smooth cordgrass and saltwort. Saltwater will restrict the re-establishment of the Brazilian pepper.

In areas where the natural grade has not been altered and Brazilian pepper has become established, Brazilian pepper will be removed using herbicides applied by a licensed herbicide applicator. Maintenance will be conducted as needed until vegetation becomes reestablished, which is expected to be quarterly for the first three years after construction activities and at least semi-annually thereafter for a minimum of two additional years and until success criteria are met. Afterward, maintenance activities will be conducted as part of the perpetual management of the tract to maintain success.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The majority of the roadway projects proposed for mitigation at the Preserve have anticipated minor impacts to low quality wetlands and surface waters in the Tampa Bay drainage basin. The roadway projects typically have a decrease of proposed wetland impacts as they proceed through design phase, and several of these minor impacts are anticipated to have permits issued without requiring mitigation. The proposed roadway with by far the most sizeable wetland encroachment is the 6.4 acres of mangrove impact associated with the construction of the Interstate connector of the Crosstown Expressway to I-4. The Mobbly Bayou restoration project will target mangrove restoration and enhancement so that appropriate compensation for the unavoidable mangrove impacts is provided.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time the FDOT projects were submitted for inclusion in the FDOT Mitigation Program, the Tampa Bay Mitigation Bank had insufficient credit to offset the identified wetland impacts. Consideration of the Tampa Bay Mitigation Bank as a mitigation option for the unpermitted FDOT projects will be given as described in the mitigation section of the Plan or in future updates of the Plan.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The proposed habitat improvements activities are associated with a SWIM-designated project.

PROJECT IMPLEMENTATION

- Design and Permitting: 2005-2013
- Construction: 2014
- Maintenance and Monitoring: 2014-2019
- Perpetual management: Begin 2019

Entity responsible for construction: Private Contractor selected by Pinellas County.

Entity responsible for monitoring and maintenance: Private Contractor selected by Pinellas County.

Entity responsible for perpetual management: Pinellas County.

Total Cost for FDOT Mitigation Including O&M (estimate): $1,853,493

ATTACHMENTS
1. Figure A-Location
2. Figure B-Wetland Enhancement Areas
3. Pictures (2012)

SW-86 Mobbly Bayou Wilderness Preserve
Figure A - Location (STR 25,36/28S/16E)

Legend

Project Location

2011 Aerial

Feet
0 245 490 980

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW-86 Mobbly Bayou Wilderness Preserve
Figure B - Habitat Restoration Areas

Legend

- Mobbly Assessment Areas - Phase I
- Mobbly Enhancement Areas - Phase II
- Project Location

2011 Aerial

Feet
0 250 500 1,000

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

Mobbly Bayou Preserve showing central wetland and pine flatwoods in the background. (2012)

Mobbly Bayou Preserve depicting mangrove colonization along spike-rush marsh. Mangroves in background show effects from freeze damage. (2012)

Mobbly Bayou Preserve showing tidal inundation of the mosquito ditch and recruitment of mangrove along a ditch. Phase I of the restoration included treatment of Brazilian pepper. (2012)

Mobbly Bayou Preserve depicting transition area between one of the many spoil mounds created by the excavation of the mosquito ditches (left) and the wetland/upland interface in the background. (2012)

SW-87 ALLIGATOR LAKE MANAGEMENT AREA MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Alligator Lake Management Area	**Project Number**	SW-87
Project Type	Creation, restoration and enhancement		
Landowner	Pinellas County	**Management Entity**	Pinellas County
County	Pinellas	**Watershed**	Tampa Bay Drainage
Water bodies	Alligator Lake, Tampa Bay	**Water body Designations**	SWIM Water Body
Project implementation status: (As of December 2013):	Maintenance and Monitoring		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 1		
	Planned, not yet permitted, FDOT projects: 1		
S/T/R:	9/29S/16E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	4290081	SR 597 Dale Mabry from County Line Rd to N of Brinson Rd	0.25	44007155.014	2013-00588
Tampa Bay Drainage	2569951	43rd St N Extension from CR 296 (118th Ave N) to 40th St N	0.76	43041223.000	Pending
		Total:	**1.01**		

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Marsh	Creation	Tampa Bay Drainage	3.54
Marsh	Enhancement	Tampa Bay Drainage	2.67
Mixed forested wetlands	Creation	Tampa Bay Drainage	1.31
Mixed wetland hardwoods	Enhancement	Tampa Bay Drainage	2.46
		Total:	**11.29**

PROJECT DESCRIPTION

A. Overall project goals: The Alligator Lake Management Area is a 53-acre preserve owned and managed by Pinellas County located adjacent to the City of Safety Harbor in northeastern Pinellas County. The preserve includes two parcels bordering the 70-acre Alligator Lake, a man-made freshwater lake. Alligator Lake outfalls into Tampa Bay, a state-designated SWIM priority waterbody. The project goal includes the substantial enhancement, restoration and creation of appropriate wetland and upland habitats within a 34-acre portion of the preserve. This is a particularly opportunity to provide ecological benefits for wildlife since the habitat value has been degraded by extensive coverage of exotic and nuisance species, and the majority of surrounding property is dominated by residential land use. The habitat improvements will provide more opportunities for wildlife use within the Preserve as well as Alligator Lake, and provide water quality treatment and attenuation of contributing basin runoff before discharging into Alligator Lake and Tampa Bay. These goals are consistent with the ecosystem restoration and management plan developed for this property by various entities including but not limited to Pinellas County, SWFWMD – SWIM, the design consultant and various members of the public.

B. Brief description of pre-construction habitat conditions: The project includes proposed improvements to habitats within the eastern half (22.7 acres) of the "North Parcel" and the entire "South Parcel" (8.7 acres) that border Alligator Lake. Habitats include upland shrub, live oak hammock, mixed wetland hardwoods, willow shrub wetlands, cabbage palm, exotic wetland forest and marsh habitat. The County conducted an initial eradication of some dense Brazilian pepper in 2004 in 8.7 acres of upland shrub habitats, resulting in the establishment of predominantly invasive nuisance species such as ragweed, saltbush, and euthamia. The largest and least disturbed habitat in the project area includes live oak hammocks (total 9.3 acres) within the north parcel. The hammock borders mixed forested wetlands (total 3.9 acres) that have dominant cover provided by water oak with scattered swamp bay and slash pine. Of particular note within the north parcel is a low quality shrub marsh (2.2 acres) that generated vegetation within a borrow pit. Primrose willow and Carolina willow provide dense and dominant cover of the shrub system, with elderberry, buttonbush and wax myrtle along the perimeter. A portion of the channelized Alligator Creek is located through the North Parcel and connects to Alligator Lake. In general, the extensive exotic and nuisance vegetation at the preserve has degraded the ability and opportunity for the habitats to support and sustain many wildlife species. Detailed descriptions for some of the listed habitats follow below.

In areas characterized as Other Shrubs & Brush, prior to roller-chopping in 2004, the upland shrub areas (total 8.7 acres) were previously dominated by Brazilian pepper (*Schinus terebinthifolius*). The combination of dense pepper mulch and the removal of the canopy opened the area for extensive recruitment and establishment of invasive and nuisance species. Ragweed (*Ambrosia artemesiifolia*) has become very dominant. Other common species include herbs such yellow nutgrass (*Cyperus esculentus*), hairy indigo (*Indigofera hirsuta*), and guineagrass (*Panicum maximum*), as well as shrubs such as elderberry (*Sambucus Canadensis*), saltbush (*Baccharis halimifolia*), lantana (*Lantana camara*) and wax myrtle (*Myrica cerifera*). The shrub marsh on the north parcel is a borrow pit with complete coverage of primrose willow (*Ludwigia peruviana*) and some Carolina willow (*Salix caroliniana*). The habitat value is very low quality for these shrub areas.

Areas characterized as Mixed Wetland Hardwoods occur in four separate areas of the project area and total 4 acres. Dominant canopy coverage is provided by water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*) and swamp bay (*Persea palustris*), with scattered slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*) and live oak (*Quercus virginiana*). There is some variation of subcanopy and understory vegetation within the various wetland hardwood locations. Oak and bay saplings are common, along with wax myrtle, smaller cabbage palm and scattered buttonbush (*Cephalanthus occidentalis*). However, nuisance and exotic canopy-forming species such as Brazilian pepper, Carolina willow and carrotwood (*Cupaniopsis anacardiodes*) are frequently interspersed. The hardwood habitat in the southwest corner of the North Parcel has the highest quality of the four delineated areas, with a groundcover dominated by Virginia chain fern (*Woodwardia virginica*) and cinnamon fern (*Osmunda cinnamomea*). The remaining wetland hardwood areas have a mixture of coverage provided by swamp fern (*Blechnum serrulatum*) and various vine species.

Pine – Mesic Oak habitat is located within one area of the North Parcel. Several large longleaf pine (*Pinus palustris*) provide canopy over a sub-canopy dominated by water oak and camphor (*Cinnamomum camhora*). Other sub-canopy species include cabbage palm, swamp bay and Chinaberry (*Melia azedarach*). The dominant groundcover species is saw palmetto (*Serenoa repens*) which provides approximately 30% coverage. Air potato (*Dioscorea bulbifera*) and grapevine (*Vitis munsoniana*) are abundant in all vegetative strata. Severe fire suppression of this community is evident by the remnant saw palmetto cover and dense accumulations of needle litter surrounding the longleaf pine. The smaller diameter water oaks and camphor trees have become well established since fire exclusion.

The live oak hammocks (FLUCCS 427) account for the largest proportion of land area in the north parcel. Though composition and habitat quality vary considerably, all areas mapped as this habitat are dominated by live oak, occupy the highest elevations of the parcel and exhibit varying amounts of fire suppression. Other canopy species include laurel oak, water oak, longleaf pine and southern magnolia (*Magnolia grandiflora*). Saw palmetto and live oak saplings co-dominate the subcanopy/shrub layer, with additional coverage provided by cabbage palm and American beautyberry (*Callicarpa americana*). There are exotic and nuisance species such as camphor tree (*Cinnamomun camphora*) and various vine species have become a problem in the oak hammocks.

C. Brief description of construction activities and current habitat conditions: Pinellas County has a proposed habitat restoration plan that focuses on improving the existing upland and wetland habitats that provide some ecological value, while replacing the majority of the low quality upland ruderal, wetland shrub and exotic hardwood habitat by creating additional mixed forested wetlands. Since there are three documented rookeries adjacent to the project area, establishing additional marsh habitat provides foraging opportunities for wading birds. By enhancing and creating forested wetland that will buffer the marshes, there will also be more roosting and nesting opportunities. For the low quality willow marsh in the North Parcel, floating tussock and underlying sediments will be dredged and removed, followed by planting of appropriate herb species. To provide additional rookery and nesting opportunities for wading birds, clean fill obtained from constructing Wetland #3 will be used to create four small temperate hardwood islands in the constructed marsh. Additional temperate hardwoods will be created on both parcels to displace the remaining upland shrub and to buffer the adjacent constructed wetlands. To provide additional habitat diversity, the cabbage palm habitat in the south parcel and pine-mesic oak habitat in the north parcel will be enhanced to provide appropriate pine flatwood habitat.

The creation of Marsh Areas 1, 2 and 3 will displace the majority of the ruderal shrub habitat and will occur in areas classified as FLUCCS 329 (Other Shrubs and Brush). The marshes will have gradual slopes of 8:1 to 10:1, providing zonation for establishing diverse marsh habitat suitable for a variety of wading bird species. Steeper slopes (4:1) are proposed near the center of the marshes in order to provide small open-water components, providing both a refuge for fish and concentrated foraging opportunities for wading birds during the dry season. Marshes 1, 3 and 4 will be hydrologically connected to Alligator Lake. Marsh 2 has a smaller contributing watershed and will have a higher upland overflow elevation to the lake, providing the opportunity to establish a slightly more obligate marsh condition. Common herb species proposed for planting include spikerush (*Eleocharis insterstincta*), soft rush (*Juncus effusus*), maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia cordata*), arrowhead (*Sagittaria lancifolia*), giant bulrush (*Scirpus californicus*), sand cordgrass (*Spartina bakeri*), and fireflag (*Thalia geniculata*).

The remaining upland shrub areas will be restored as temperate hardwood habitat and the creation of mixed wetland hardwoods. The temperate hardwood habitat will be primarily buffering the marsh and forested wetland creation areas on both parcels. Proposed hardwood habitat plantings include red-cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), beauty-berry (*Callicarpa americana*), seagrape (*Coccoloba uvifera*), Florida swamp privet (*Forestiera segregate*), firebush (*Hamelia patens*), yaupon (*Ilex vomitoria*), wax-myrtle (*Myrica cerifera*), chickasaw plum (*Prunus angustifolia*), tough buckthorn (*Sideroxylon tenax*), bluestems (*Andropogon* spp.), chaffhead (*Carphephorus* spp.), Florida tickseed (*Coreopsis floridana*), Elliott's lovegrass (*Eragrostis elliottii*), blanket flower (*Gaillardia pulchella*), beach sunflower (*Helianthus debilis*), blazing star (*Liatris* spp.), spotted bee-balm (*Monarda punctata*), hairawn muhly (*Muhlenbergia capillaries*), seaside goldenrod (*Solidago sempervirens*), climbing aster (*Symphyotrichum carolinianum*) and gamagrass (*Tripsacum dactyloides*).

The enhancement of the Mixed Wetland Hardwoods will be primarily associated with eradication of Brazilian pepper and improving the conditions of the adjacent upland and wetland habitats. As previously noted, there will also be additional forested wetland habitat created within the North Parcel that will displace some of the existing upland ruderal shrub habitat. Common tree species proposed for planting in the mixed wetland hardwoods include red maple (*Acer rubrum*), pop ash (*Fraxinus caroliniana*), dahoon holly (*Ilex cassine*), sweetgum (*Liquidambar styraciflua*), sweet bay (*Magnolia virginiana*), swamp bay (*Persea palustris*), laurel oak (*Quercus laurifolia*), water oak (*Quercus nigra*) and bald cypress (*Taxodium distichum*). Understory vegetation will include the same herb species proposed for the marsh creation areas. This created forested wetland will form a buffer along the northern and eastern edge of Marsh 4, providing a habitat transition between the upland and marsh habitat.

Pine – Mesic Oak habitat enhancement will be conducted by eradication of nuisance and exotic vegetation, followed by cool-season prescribed burn to minimize some of the pine needle and bark litter. Supplemental plantings will be provided by longleaf pine and saw palmetto.

The low quality habitat Willow and Elderberry habitat will be substantially improved by removing the vegetation and underlying muck sediments, re-grading and planting with desirable vegetation. Marsh 4

habitat will be established with the same plant species referenced under the previously discussed marsh creation areas. Clean fill resulting from constructing Marsh 3 will be used to construct four hummocks of temperate hardwood habitat.

A ditched portion of Alligator Creek meanders through the site and discharges directly into Alligator Lake. The ditch banks are extensively covered with dense Brazilian pepper that will be eradicated. The water flow from the ditch will be diverted by a weir to equally discharge into Marshes 3 and 4.This will provide water quality treatment before both marshes discharge into Alligator Lake.

In the Live Oak hammock areas, occasional thinning and possible burning will open up some of the canopy and understory to provide more opportunity to establish more ground cover vegetation. This will be valuable for the gopher tortoise (*Gopherus polyphemus*) located in the north parcel. Gopher tortoise foraging opportunities are primarily limited to the bahia grass lawn surrounding the on-site residence.

The eradication and control of nuisance/exotic vegetation within the project area will be conducted by a licensed herbicide applicator. Maintenance will be conducted as needed, scheduled for at least quarterly during the first five years after construction and until success criteria are met. Afterward, maintenance activities will be conducted as part of the perpetual management of the tract to maintain success.

Monitoring for FDOT mitigation credit will be conducted semi-annually for a minimum five years post-construction. The monitoring evaluations will include vegetative and habitat conditions, water level relative to flow regimes and inundation, wildlife use and coverage of nuisance and exotic vegetation. Annual monitoring reports will be prepared to document conditions and various activities implemented during the previous year. The same monitoring stations will be designated throughout the monitoring period for photo references. Habitat conditions will be annually documented for the entire site, not just at the monitoring stations.

Success criteria includes a minimum of 90% survivorship of planted material for a year after planting and a total 85% coverage of naturally recruited and planted desirable species. Exotic and nuisance species will be limited to less than 5% coverage within both the enhanced, restored and created habitats.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): Since Alligator Lake habitat activities include a high percentage of wetland creation to be constructed in 2011, the project was selected to the FDOT program to primarily provide appropriate mitigation credits for long-range, low-quality FDOT wetland impacts that will occur in the Tampa Bay Drainage basin. This provides more time for the proposed habitat conditions to mature and provide high quality ecological benefits well in advance of mitigating for future wetland impacts. The FDOT projects with impacts originally proposed to be offset by this mitigation project were deleted from the FDOT mitigation program because permitting and construction dates now occur outside the planning horizon for FDOT uses for compiling the project inventory that is used to develop the FDOT Mitigation Plan or because mitigation was no longer required.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time, the FDOT projects were submitted for inclusion in the FDOT Mitigation Program, the Tampa Bay Mitigation Bank had insufficient credit to offset the identified wetland impacts. Consideration of the Tampa Bay Mitigation Bank as a mitigation option will be given as the FDOT develops its inventory of road improvement projects for future updates to this Plan.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The proposed habitat improvements associated with this project are within a designated SWIM project.

PROJECT IMPLEMENTATION

- Project Development: 2008
- Design and Permitting: 2008
- Construction: 2011

- Monitoring and maintenance: 2013-2017
- Perpetual management: Estimated 2018

Entity responsible for construction: Private Contractor selected by Pinellas County.

Entity responsible for monitoring and maintenance: Private contractor selected by Pinellas County and SWFWMD.

Entity responsible for perpetual management: Pinellas County.

Total Cost for FDOT Mitigation Including O&M: $1,146,682

ATTACHMENTS
1. Figure A-Location
2. Photographs (2012)

SW 87 - Alligator Lake Management Area
Figure A - Location (STR 9/29S/16E)

Legend

- Alligator Lake Management Area
- Mitigation Project Area

2011 Aerial

Miles
0 0.05 0.1 0.2

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

Alligator Lake-South Tract - View west from Marsh #2 showing upland restoration area dominated by longleaf pine, oak, and native grasses. (2012)

Alligator Lake-South Tract - Marsh #2 facing northeast showing littoral plantings and upland buffer in the background. (2012)

Alligator Lake-South Tract - Marsh #1 facing west showing littoral shelf plantings and open water. (2012)

Alligator Lake-South Tract - Marsh #1 facing west showing littoral shelf plantings and open water areas. (2012)

SW-88 CURRY CREEK REGIONAL OFF-SITE MITIGATION AREA (ROMA) MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Curry Creek Regional Off-Site Mitigation Area	**Project Number**	SW-88
Project Type	Regional Off-Site Mitigation Area		
Landowner	Sarasota County	**Management Entity**	Sarasota County
County	Sarasota	**Watershed**	South Coastal Drainage
Water bodies	Curry Creek	**Water body Designations**	None
Project implementation status: (As of December 2013):	NA		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 3		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	5/39S/19E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
South Coastal	1979421	SR 789 Ringling Causeway Blvd.	0.27	44018555.001	1995-00210
South Coastal	1980051	US 41 Bus. (SR 45) Venice Ave. to US 41 Bypass	0.32	4402099.002	1999-05145
South Coastal	4063143	I-75 N. River Rd. (CR 577) to SR 681[1]	0.77	43034226.000	2008-02298
		Total:	**1.36**		

[1] The freshwater wetland impacts for this I-75 segment are mitigated at Sarasota's Fox Creek ROMA (SW 79).

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Saltwater Wetland	Credit purchase	South Coastal	1.36
		Total:	**1.36**

PROJECT DESCRIPTION

A. Overall project goals: The Curry Creek ROMA is located within an ecologically significant 95 acre tract known as the Curry Creek Preserve. Since the property was one of the largest remaining areas of native habitat in the basin, Sarasota County purchased the property to preserve and enhance wildlife habitat. Within the Preserve, the County designated and permitted a 19 acre portion to provide a regional mitigation opportunity to compensate for proposed wetland impacts associated with public infrastructure projects. Due in large part to the impacts associated with canal dredging, the western half of the ROMA represented the most disturbed habitat on the Preserve. The primary goal of this portion of the ROMA includes the enhancement, restoration and creation of saltwater wetland habitat. Upland habitat enhancement is the primary objective for the eastern half of the ROMA.

B. Brief description of pre-construction habitat conditions: The Preserve is located along the north side of the City of Venice. The tract includes various habitats, including one of the largest areas (36 acres) of remaining intact longleaf pine habitats in western Sarasota County. Other dominant habitats within the Preserve include xeric oak (16 acres), stream swamp (12 acres), streams and waterways (9 acres), saltwater marsh (6 acres), and minor acreages of other habitats such as mangrove, mixed

hardwood wetland and cabbage palm. The actual Curry Creek was historically dredged into a canal to provide regional drainage improvements. This east-west canal follows along the southern boundary of the Preserve, with a hydrologic connection to Roberts Bay approximately one mile west of the Preserve. Three additional north-south canals within the Preserve connect to the Curry Creek canal. Two of the canals are within the limits of the ROMA. The western portion of the ROMA also has a mangrove pocket and leather fern marsh and both habitats are preserved and enhanced as part of the ROMA plan. A couple small areas of upland habitat in the ROMA border the north side of the Curry Creek canal, with dominant vegetation provided by slash pine, saw palmetto and cabbage palm. The remaining area of the ROMA's western portion was primarily exotic vegetation such as Australian pine and Brazilian pepper. The eastern portion of the ROMA is dominated by pine flatwoods, with a meandering creek that outfalls into the Curry Creek canal.

C. Brief description of construction activities and current habitat conditions: The general plan of the western portion of the ROMA includes preserving and enhancing the native habitat, while grading the exotic vegetated area to create saltwater wetland habitat. The earthwork was finished in early 2006. The two north-south canals were modified to create a meandering creek that provides tidal connectivity to the Curry Creek canal. This creek provides appropriate hydrology for the preserved mangrove and leather fern wetlands, as well as the created mangrove and salt marsh habitat. An extensive planting effort included a dominance of red mangrove (*Rhizophora mangle*), white mangrove (*Laguncularia racemosa*), black mangrove (*Avicennia germinans*), buttonwood (*Conocarpus erectus*), needle rush (*Juncus roemerianus*), leather fern (*Acrostichum aureum*), cordgrass (*Spartina alterniflora, Spartina patens, Spartina bakeri*), needle rush (*Juncus roemerianus*) and bulrush (*Scirpus robustus*). The eastern half of the ROMA includes upland enhancement activities, primarily eradication of exotic and nuisance vegetation and implementation of an appropriate prescribed burning program. The combination of habitat improvements within the ROMA as well as appropriate land management activities within the remaining Preserve provides a mosaic of inter-related upland and wetland habitats that benefit a wide diversity of wildlife species. Even though the created habitat is in the early stages of establishment, extensive quantity and diversity of wildlife documented at the ROMA includes over 20 bird species, bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), otter (*Lontra canadensis*), alligator (*Alligator mississippiensis*), black racer (*Coluber constrictor priapus*), cottonmouth (*Agkistrodon piscivorus*), mullet (*Mugil cephalus*) and blue crab (*Callinectes sapidus*).

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The current mitigation credits available at Curry Creek include tidal creek, salt-marsh and mangrove. The minor saltwater wetland impacts can be adequately and appropriately compensated by the creation and enhancement of these habitats at the Curry Creek ROMA.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: At the time of mitigation selection, there were no existing or proposed mitigation banks in the Lower Coastal watershed basin.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: At the time of mitigation selection, there were no SWIM-sponsored projects proposed in the South Coastal basin that could provide appropriate mitigation for the proposed wetland impacts.

PROJECT IMPLEMENTATION

- Construction and planting: 2006
- Maintenance and monitoring: 2006-2011
- Perpetual management: Ongoing

Entity responsible for construction: Sarasota County or designee.

Entity responsible for monitoring and maintenance: Sarasota County or designee.

Entity responsible for perpetual management: Sarasota County.

Total Cost for FDOT Mitigation (credit purchase): $255,788

ATTACHMENTS
1. Figure A-Location

SW 88 - Curry Creek Regional Off-Site Mitigation Area (ROMA)
Figure A - Location (STR 5/39S/19E)

Legend

- Curry Creek ROMA
- Curry Creek Preserve

2011 Aerial

0 325 650 1,300 Feet

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW-90 BROOKER CREEK BUFFER PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Brooker Creek Buffer Preserve	**Project Number**	SW-90
Project Type	Wetland Enhancement and Preservation		
Landowner	Hillsborough County	**Management Entity**	Hillsborough County
County	Hillsborough	**Watershed**	Tampa Bay Drainage
Water bodies	Brooker Creek	**Water body Designations**	None
Project implementation status: (As of December 2013):	Design and Permitting		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 7		
	Planned, not yet permitted, FDOT projects: 0		
S/T/R:	18,19/27S/17E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Tampa Bay Drainage	2558935	SR 574 (MLK) @ I-75	0.21	44033776.000	No permit required
Tampa Bay Drainage	4055252	SR 60 (ADAMO DR) FROM E OF US 301 TO W OF FALKENBURG RD	0.86		
Tampa Bay Drainage	4143481[1]	North Terminal Phase 1	2.48	49008387.043	2002-01521
Tampa Bay Drainage	4143481	North Terminal Airside 2	5.29	49008387.043	2002-01521
Tampa Bay Drainage	4143481	North Terminal Airside 3	4.29	49008387.043	2002-01521
Tampa Bay Drainage	4143481	North Terminal Airside 4	3.66	49008387.043	2002-01521
Tampa Bay Drainage	4143481	Taxiway A Extension	1.27	49008387.043	2002-01521
Tampa Bay Drainage	4143481	South Development Area	3.94	49008387.043	2002-01521
Tampa Bay Drainage	4143481	**36R-RPZ**	**7.18**	49008387.026	2004-12399
		Total:	**28.11**		

Projects highlighted in yellow have been cancelled and are not included in project totals.

[1] FM 4143481 is used to designate all Tampa International Airport projects.

MITIGATION INFORMATION (As of December 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested wetlands	Enhancement	Tampa Bay Drainage	36.4
Forested wetlands	Preservation and enhancement	Tampa Bay Drainage	97.9
Non-forested wetlands	Preservation and enhancement	Tampa Bay Drainage	35.8
Upland buffer	Preservation and enhancement	Tampa Bay Drainage	30.1
		Total:	**200.2**

PROJECT DESCRIPTION

A. Overall project goals: The Brooker Creek Buffer Preserve (Preserve) is a 489 acre tract located in northwest Hillsborough County along the boundary with Pinellas County. The Preserve was acquired through Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP) to preserve, restore, connect and "buffer" the on-site habitat resources with the adjacent 7,500 acre Brooker Creek Preserve in Pinellas County. Approximately half of the Preserve is comprised of wetland habitat, with much of this habitat altered by a combination of large upland-cut rim ditches constructed around the perimeter of the wetlands, and the construction of an elevated driveway berm across one of the wetlands. Proposed construction activities include minor earthwork grading of spoil material deposited adjacent to the ditches to construct strategically placed ditch blocks and the replacement of a crushed culvert under the driveway to restore drainage patterns and hydrologic connections for the on-site wetlands. The proposed project was adopted to the mitigation program in 2008 and expanded in 2009 as a result of a prior agreement to adopt an additional area to the Preserve. FDOT mitigation funds ($1.2 million) reimbursed the County's 2009 acquisition of an additional 66.5 acres of upland and wetland habitat adjacent to both the Buffer Preserve and Brooker Creek Preserve. This resulted in providing additional mitigation credits due to the substantial ecological benefits this acquisition provided to preserve, protect and enhance the Brooker Creek wetland floodplain and adjacent uplands to provide a continuous habitat corridor between the two Preserves.

B. Brief description of pre-construction habitat conditions: In addition to the wetland habitat, the majority of the remaining portion of the Preserve is comprised of upland fallow fields and ruderal pasture. The soil characteristics and topography indicate the upland fields adjacent to the wetlands were historically flatwood habitat, transitioning into higher grade elevations historically comprised of sandhill and scrub ecosystems. A remnant scrub oak community is present within the eastern portion of the tract. The majority of historic upland habitats were converted to citrus grove, with all but one small grove area removed prior to acquisition by the County. These fallow fields are dominated by bahia grass, however ruderal and nuisance herb species are common (e.g. dog fennel, ragweed, goldenrod, lantana).

The majority of wetlands include mixed forested habitat dominated by bald cypress, red maple, black gum and bay species. Common sub-canopy vegetation includes the same hardwood species, buttonbush and wax myrtle, with groundcover dominated by Virginia chain fern and swamp fern. Marsh habitat is not as prevalent in the Preserve and the majority is located within the interior of the large wetland in the southeast portion of the Preserve. Maidencane and sedges are dominant within the marsh habitat. The rim ditches were constructed along the upland perimeters adjacent to the wetlands. The ditches are typically 20 feet wide at the top-of-bank with depths ranging 4-6 feet and with most of the sideslopes steeper than a 1:1 gradient. The sideslopes and bottom grade of the ditches typically have minimal vegetative coverage in areas of dense shade from trees along the upland top-of-banks. Ditch segments with minimal canopy shade typically have moderate to dense coverage of peppervine along the banks. The large ditch dimensions reduce the quantity and rate of ground and surface water contributing from the uplands to the wetlands, retaining and diverting flow around the wetland perimeter that historically seeped into the wetlands. The large eastern wetland was bisected by construction of an elevated access roadway to a residence. The one culvert connection under the driveway has collapsed, so the southern portion of the wetland has had altered hydroperiods not only from the rim ditches but also from impounded surface water during flood events. This has resulted in more unstable and variable fluctuations in the depth and duration of surface water, and a sequence of vegetative generation during drier periods and tree mortality during the major rainfall periods.

To provide mitigation credit for wetland impacts associated with a transmission line relocation project, Tampa Electric (TECO) filled a portion of one ditch at the Preserve in 1997. Overall, the site's wetlands represent moderate quality; however, the ditching and driveway berm have resulted in adversely impacted hydrologic conditions in adjacent wetlands. The ditch dimensions also hinder wildlife use, access and mobility between the upland and wetland habitats.

The additional 66.5-acre acquisition includes preservation and enhancement of an inter-related mosaic of 30.1 acres of upland habitat buffering 36.4 acres of wetland habitat. The associated uplands were cleared and converted to improved pasture through the 1970's followed by planting of slash pine that are

currently large and provide moderate canopy coverage. Scattered oaks, maples, wax myrtle, and various herbs have naturally recruited, which has greatly increased the overall habitat value and ecosystem benefits for the uplands and the interior Brooker Creek wetland floodplain. The wetlands in the acquired area also have similar vegetative characteristics of the Brooker Creek wetland floodplain east and west of the acquisition area. The combination of wetland and upland habitat on this additional tract provides good cover and foraging opportunities for wildlife use, with particular value as a habitat corridor access back and forth to the adjacent Brooker Creek Preserve.

C. Brief description of construction activities and current habitat conditions: The proposed activities primarily include constructing 100-ft. wide ditch blocks (21) at appropriate locations by grading the adjacent upland spoil material, and replacing the crushed culvert. This will provide the opportunity to conduct hydrologic restoration, resulting in enhancing 129 acres of existing forested wetland habitat and 36 acres of non-forested wetland habitat. Specific hydrologic and topographic data of the wetlands have been incorporated into a surface water model conducted for the Brooker Creek watershed. There are many trees along the upland top-of-slope bordering the ditches, including live oak, laurel oak, slash pine and red maple. Ditch blocks will be constructed at 21 strategic locations to restore drainage flow patterns through the wetland cores. Quick temporary vegetative cover of the blocks will be provided by seeding with winter rye or brown-top millet. Compared to total backfill of the ditches, the ditch block method allows some surface water to be retained in ditch segments for wildlife drinking and foraging during dry season conditions when water levels are typically below grade elevations. The minimum top-of-block widths of 20 ft. provide crossings for wildlife utilizing the wetland and upland areas and encourage more use and easier access for wildlife that utilize the habitats associated with the public lands in the vicinity.

Along with activities proposed for FDOT mitigation credit, Hillsborough County's land management plan for the Preserve proposes restoration of the upland fallow fields into sandhill and pine flatwood habitat. The acquisition of the additional 66.5-acre tract filled a critical and valuable gap of public lands along the Brooker Creek floodplain from Tarpon Springs Road to the adjacent for Brooker Creek Preserve. As Hillsborough County conducted on a similar designated FDOT mitigation project that included land acquisition for preservation mitigation credits (SW 61 – Cypress Creek Preserve, Jennings Tract), the additional area has also been protected by conveying a conservation easement to the District in September, 2009. When the conservation easement was recorded, the District's FDOT mitigation program reimbursed the $1,235,000 acquisition costs with the agreed-upon requirement that the reimbursed funds were allocated toward additional acquisitions of other Hillsborough County ELAPP parcels. The total acreage designated for FDOT mitigation includes: Upland Buffer Preservation (Acquisition) and Enhancement - 30.1 acres; Forested Wetlands Preservation (Acquisition) and Enhancement - 36.4 acres; Forested Wetland Enhancement – 97.9 acres; Non-Forested Wetland Enhancement – 35.8 acres for a total of 200.2 acres of mitigation.

Monitoring will include periodic review of the ditch blocks and observation of hydrologic and vegetative shifts of the associated wetlands for a minimum of three years. Success criteria will include demonstrating the blocks are properly functioning as designed with no erosion problems, vegetative cover of the blocks and desired hydrologic improvements are being achieved within the associated wetlands. Long term management activities will be conducted as necessary to ensure and maintain proper ditch block functions without problems of erosion, scouring, undermining, etc.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): The mitigation activities at the Preserve are primarily proposed to provide compensation for proposed wetland impacts associated with the long-term expansion at Tampa International Airport (TIA). The proposed TIA wetland impacts areas are low-quality habitats located within10 miles from the proposed mitigation activities. Since the acquisition was conducted for preservation credits in 2009 and ditch block construction activities are scheduled for 2014, the habitat acquisition and improvements will occur many years in advance of when the majority of proposed TIA wetland impacts. Freshwater wetland impacts associated with other future roadway projects in the Tampa Bay watershed will be evaluated for possible mitigation at the Preserve.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the mitigation selection for the proposed wetland impacts in 2008, the

Tampa Bay Mitigation Bank (TBMB) was the only existing or proposed mitigation bank within the Tampa Bay Drainage Basin; however, freshwater mitigation credits at the TBMB were not approved for sale.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The Brooker Creek Buffer Preserve is a SWIM / County co-sponsored project since Brooker Creek flows into Lake Tarpon and Tampa Bay, both designated SWIM water bodies.

PROJECT IMPLEMENTATION

- Land Acquisition: 2009
- Design: 2011
- Permitting: 2013
- Construction: 2014
- Maintenance and Monitoring: 2014 – 2017
- Perpetual management: Begin 2017

Entity responsible for construction: Private contractor selected by the SWFWMD.

Entity responsible for monitoring and maintenance: Hillsborough County and the SWFWMD.

Entity responsible for perpetual management: Hillsborough County.

Total Cost for FDOT Mitigation Including O&M (estimate): $1,936,085

ATTACHMENTS

1. Figure A-Location
2. Figure B-Existing Habitat Conditions
3. Figure C-Proposed Habitat Improvements
4. Photographs (2007)

SW 90 - Brooker Creek Buffer Preserve
Figure A - Location (STR 18,19/27S/17E)

Legend

Project Location

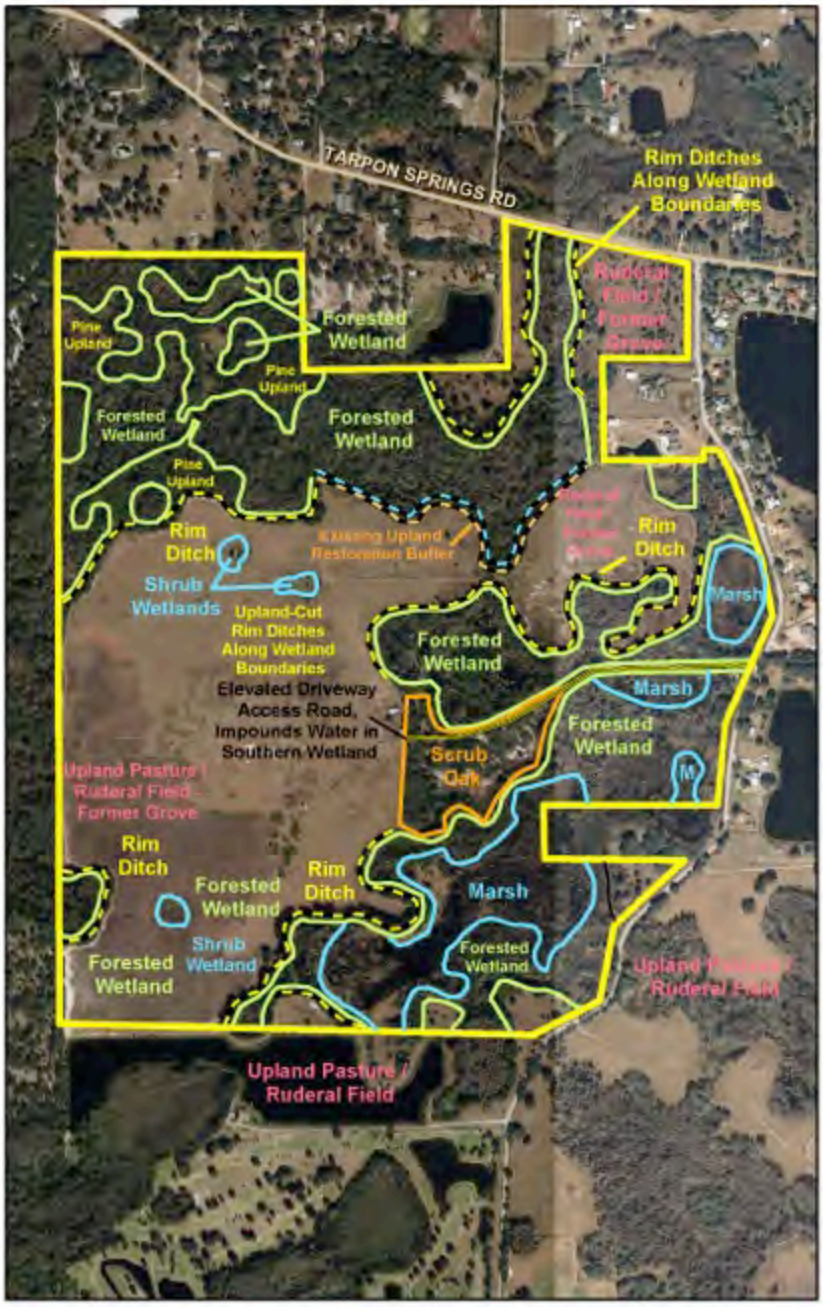
2011 Aerial

Miles
0 0.125 0.25 0.5

Southwest Florida
Water Management District

2014 FDOT Mitigation Plan

SW 90 - Brooker Creek Buffer Preserve
Figure B - Existing Habitat Conditions



Legend

Project Location

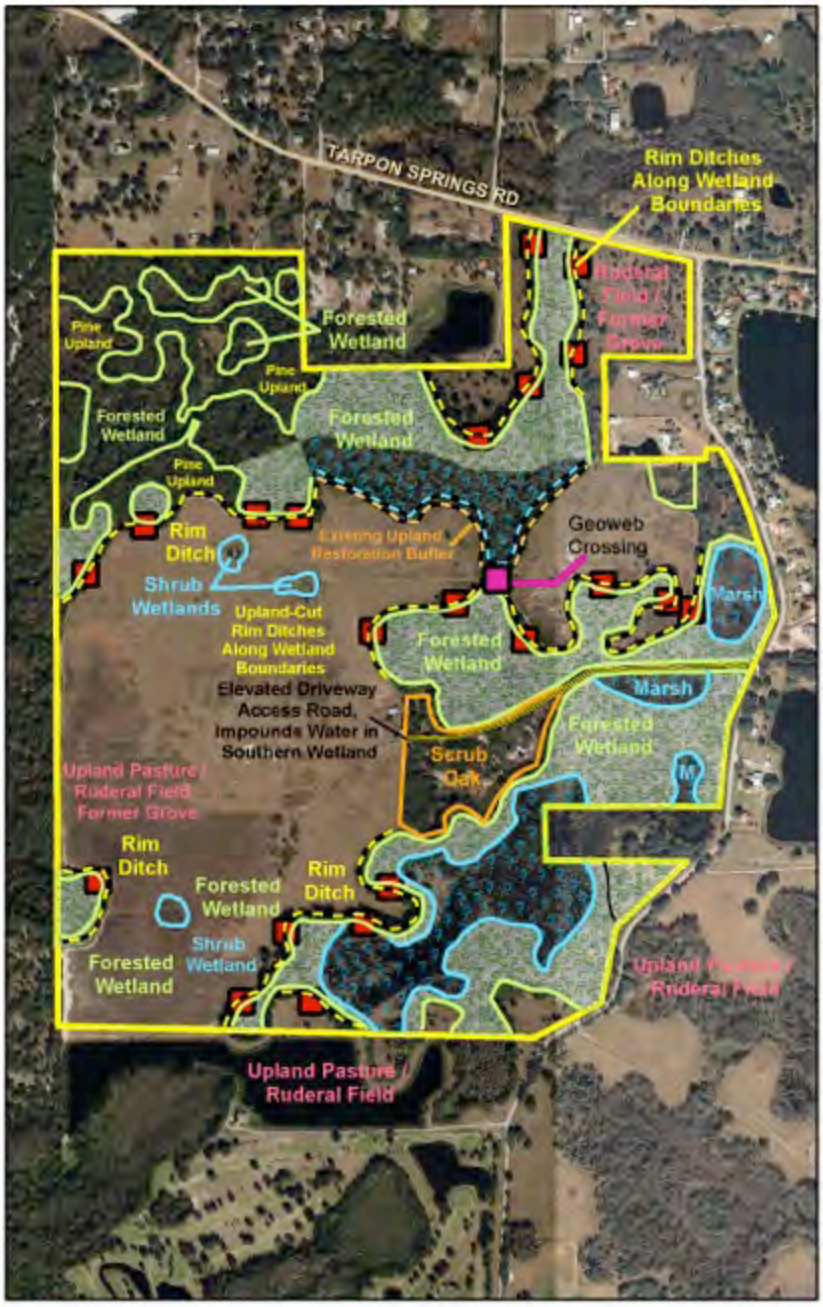
2011 Aerial

Miles
0 0.05 0.1 0.2

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 90 - Brooker Creek Buffer Preserve
Figure C - Proposed Habitat Conditions



Legend

- Ditch Blocks
- Forested Wetland Enhancement Areas
- Non-Forested Wetland Enhancement Areas
- Project Location

2011 Aerial

Feet
0 245 490 980

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

The majority of the upland acreage at the Buffer Preserve includes fallow fields dominated by bahia and scattered dog fennel. These upland areas will be restored to pine flatwood and sandhill habitat. (2007)

The forested wetland floodplain bordering Brooker Creek is dominated by cypress, tupelo, bays and maple over ferns. The rim ditch along the west perimeter diverts and transports a large percentage of the base flow away from the creek. (2007)

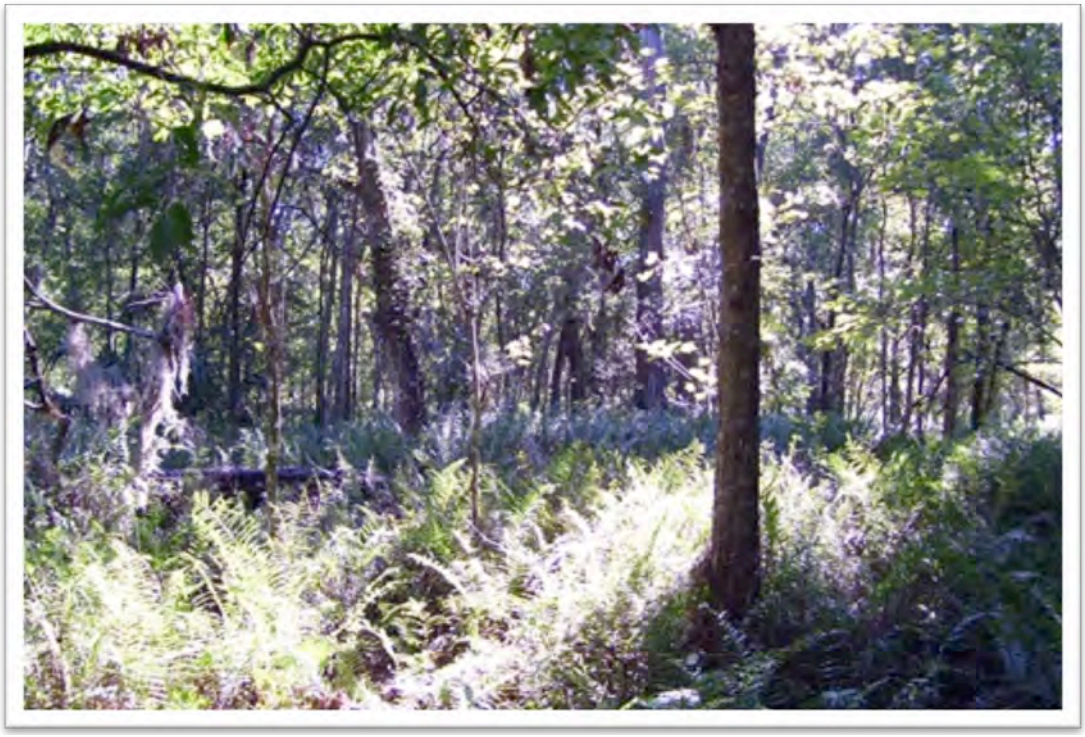
The majority of the upland-cut rim ditches are 4-6 feet deep and 15-20 feet wide between top-of-banks. (2007)

Vine coverage is more common along the banks of the rim ditches without canopy cover resulting in more difficult and restrictive conditions for wildlife access between the upland and wetland habitat. (2007)

The interior of the forested wetland bordering the north side of the elevated driveway. The historic contributing water from south of the driveway has been block by the driveway berm. (2007)

The marsh interior of the wetland south of the driveway. Without positive outfall of drainage, this wetland's unstable hydroperiod from surface water impoundment has resulted in tree and herb generation during droughts. (2007)

The additional 66 acres acquired along the northwest corner of the Buffer Preserve provide a habitat buffer and wildlife corridor. (2007)



Half of the additional acreage is comprised of forested wetlands with moderate to dense canopy of cypress, maple, tupelo and bays. (2007)

SW-92 HÁLPATA TASTANAKI PRESERVE MITIGATION PLAN

BACKGROUND INFORMATION:

Project Name	Hálpata Tastanaki Preserve	**Project Number**	SW-92
Project Type	Wetland Enhancement		
Landowner	Southwest Florida Water Management District	**Management Entity**	Southwest Florida Water Management District
County	Marion	**Watershed**	Withlacoochee River
Water bodies	Withlacoochee River	**Water body Designations**	Outstanding Florida Water
Project implementation status: (As of December 2013):	Perpetual Management		
Project utilization: (As of December 2013)	**Permitted FDOT projects:** 0		
	Planned, not yet permitted, FDOT projects: 1		
S/T/R:	24/17S/19E;19/17S/20E		

IMPACT INFORMATION (As of December 2013)**:**

Watershed	FM #	Project Name	Total Impacts (ac.)	ERP permit #	ACOE Permit #
Withlacoochee River	2571651	US 41 from SR 44 to SR 200	0.70	Not submitted	Not Submitted
Withlacoochee River	4230961	SR 33 at CR 474	1.00		
Withlacoochee River	4295821	I-75/ SW 95th St. Interchange	unknown		
		Total:	**0.70**		

Projects highlighted in yellow have been deleted and are not included in project totals.

MITIGATION INFORMATION (As of December, 2013)**:**

Habitat	Mitigation Type	Watershed	Acreage
Forested and Non-forested wetlands	Enhancement	Withlacoochee River	103
		Total:	**103**

PROJECT DESCRIPTION

A. Overall project goals: The Hálpata Tastanaki Preserve (Hálpata) is an 8,090 acre tract located adjacent to the Withlacoochee River, along the boundary between Marion and Citrus Counties. The tract is owned and managed by the SWFWMD and is adjacent to and within the vicinity of thousands of acres of other public lands comprised of native habitat. Hálpata has a variety of upland and wetland ecosystems, including mixed forested wetland floodplain habitat extending from the banks of the Withlacoochee River. To provide vehicular access, an elevated berm was historically constructed through the floodplain wetland. The berm dimensions and culverts have altered the historic surface water drainage patterns and contributing flow to the adjacent wetland habitat upstream and downstream of the berm. An access road is still necessary for the public and District land management staff, and the berm is primarily used by wildlife as a corridor connection. However, portions of the berm and the majority of the culverts could be removed and replaced with low water crossings, which would maintain access while restoring hydrology.

B. Brief description of pre-construction habitat conditions: The delineated project area within Halpata is dominated by mixed forested wetland habitat. Portions of the Withlacoochee River have substantial surface water fluctuation ranging several feet between base flow and flood elevations, which

directly affects adjacent upland and wetland habitat characteristics and functions. There are variable grade elevations, resulting in a variety of hydroperiods and associated vegetative species in the wetland habitat. The lower elevations have more obligate species, with an overstory dominated by bald cypress and scattered tupelo, red maple and pop ash. The subcanopy includes the same tree species along with scattered buttonbush; however, the dense canopy shade and high flood elevations (ranging 4-6 ft. above grade) associated with this portion of the wetland have substantially limited the coverage of understory and ground vegetation.

The wetland grade elevations are predominantly higher and more variable adjacent to and east of the access road, resulting in more facultative hardwoods and less cypress. Red maple, sweet gum, water hickory, water oak, laurel oak and cabbage palm are common. With shorter frequency, depth and duration of surface water inundation of this habitat, there is more ground cover vegetation including dwarf palmetto (*Sabal minor*), and various low panicums and sedges where the canopy shade is not as prevalent. The highest grade elevations are within a hardwood hammock located in the southeast portion of the wetland. This transitional habitat has dominant overstory coverage provided by laurel oak, water oak, scattered large live oak, loblolly pine, cabbage palm and dwarf palmetto, providing minor to moderate ground coverage.

There is minimal coverage of non-forested wetland habitat within the project area, primarily limited to five borrow pits (each covering less than 0.5 acre) dredged to provide the necessary fill material for the original berm construction. These ponds have predominant coverage of spatterdock, duckweed and floating pennywort, and they provide a valuable dry season water source for wildlife in the vicinity.

The depth of berm fill material for the roadway portion crossing the hardwood hammock averages 1-2 feet above natural grade, compared to the lower elevation obligate zone where the berm material ranges 2-4 feet above grade. Six of the 10 culverts were installed within a 500 ft. long segment of the road that crosses the obligate zone. The berm diverts and concentrates the contributing upstream flow from the east to the lower elevation obligate zone. Thereafter, four culverts located within a 50 ft. length of the berm concentrate the outfall into a meandering creek that discharges into the Withlacoochee River. Historically the contributing basin flow from east of the berm contributed more water to the wetland floodplain west of the berm than the concentrated creek channel. This same but reverse condition existed when the river would overflow the banks and contribute flow to the wetlands east of the berm. In the pre-construction condition, the berm prevented flood waters from reaching the wetland area east of berm.

C. Brief description of construction activities and current habitat conditions: Prior to nominating Halpata to the FDOT mitigation program in 2007, an extensive hydrologic analysis was necessary to determine if a restoration project could be constructed to benefit the wetland floodplain and prevent adverse offsite drainage alterations. This analysis was conducted in 2006-2007 to evaluate the degree of wetland hydrologic impacts caused by the berm and culverts and alternatives to restore flow conditions to benefit the wetland habitat while still maintaining a modified access road. The results of the modeling effort found that wetlands could hydrologically benefit from removing at least portions of the berm and the majority of culverts. The final design includes removing 2,600 cubic yards of berm material at three separate locations to match adjacent natural grade for a total distance of 1,000 feet. After berm removal, an additional 4-6 inches of material were excavated below grade, followed by installation of Geoweb fabric and limerock base material to will provide a stable access road while allowing water to sheet flow over the road. This restored hydrologic connectivity to slightly higher wetland elevations during normal seasonal high water levels as well as during flood events. This includes an isolated cypress dome within the northwest portion of the project area that did not receive historic flood waters due to the berm.

A segment of berm material will be retained through the obligate zone; however, the associated 6 culverts will be replaced with three wedge-shaped breaches lined with geotextile fabric and filled with rip-rap rubble to match the original berm height. Replacing the culverts with rubble rip-rap will slow the rate of surface water discharging from the east side of the berm to the creek channel. This will result in extending the hydroperiod for the wetland east of the berm, enhancing the habitat and provide more water for wildlife use. The remaining 4 culverts will have sumps and riprap placed at each end to reduce water velocity and minimize scouring. The culvert replacement was followed by supplemental herb plantings such as maidencane. Approximately 103 acres of wetland habitat are anticipated to receive

enhancement by the proposed construction activities. An additional 110-150 acres of the same wetland will also receive secondary enhancement by the project; however, the degree of enhancement for the hardwood hammock and the obligate zone closer to the river are considered minor and not included in the total mitigation acreage.

D. Brief explanation of how this work serves to offset the impacts of the specified DOT project(s): This mitigation project was constructed in advance of anticipated permit and construction dates for the above listed FDOT road improvement projects so that mitigation would be available when it was needed.

E. Brief explanation of why a mitigation bank was/was not chosen, in whole or in part, including a discussion of cost: During the 2007 nomination and selection of mitigation options for wetland impacts, there were no existing or proposed private mitigation banks in the Withlacoochee River watershed.

F. Brief explanation of why a SWIM project was/was not chosen as mitigation, in whole or in part, including a discussion of cost, if the anticipated impacts are located within a SWIM water body: The Withlacoochee River is classified as an Outstanding Florida Waters and is not a SWIM-designated water body. The only SWIM-sponsored project in the Withlacoochee River watershed involves sediment removal from Lake Panasoffkee, which previously received mitigation funding to compensate for FDOT wetland impacts associated with expanding the I-75 bridge over Lake Panasoffkee.

PROJECT IMPLEMENTATION

- Design and Permitting: 2006–2008
- Construction: 2009
- Monitoring and maintenance: 2010–2013
- Perpetual management: Ongoing

Entity responsible for construction: Private contractor working for the SWFWMD.

Entity responsible for monitoring and maintenance: Monitoring activities were conducted as part of general site review by the SWFWMD staff and maintenance were initially conducted by the private contractor responsible for construction, then by SWFWMD staff.

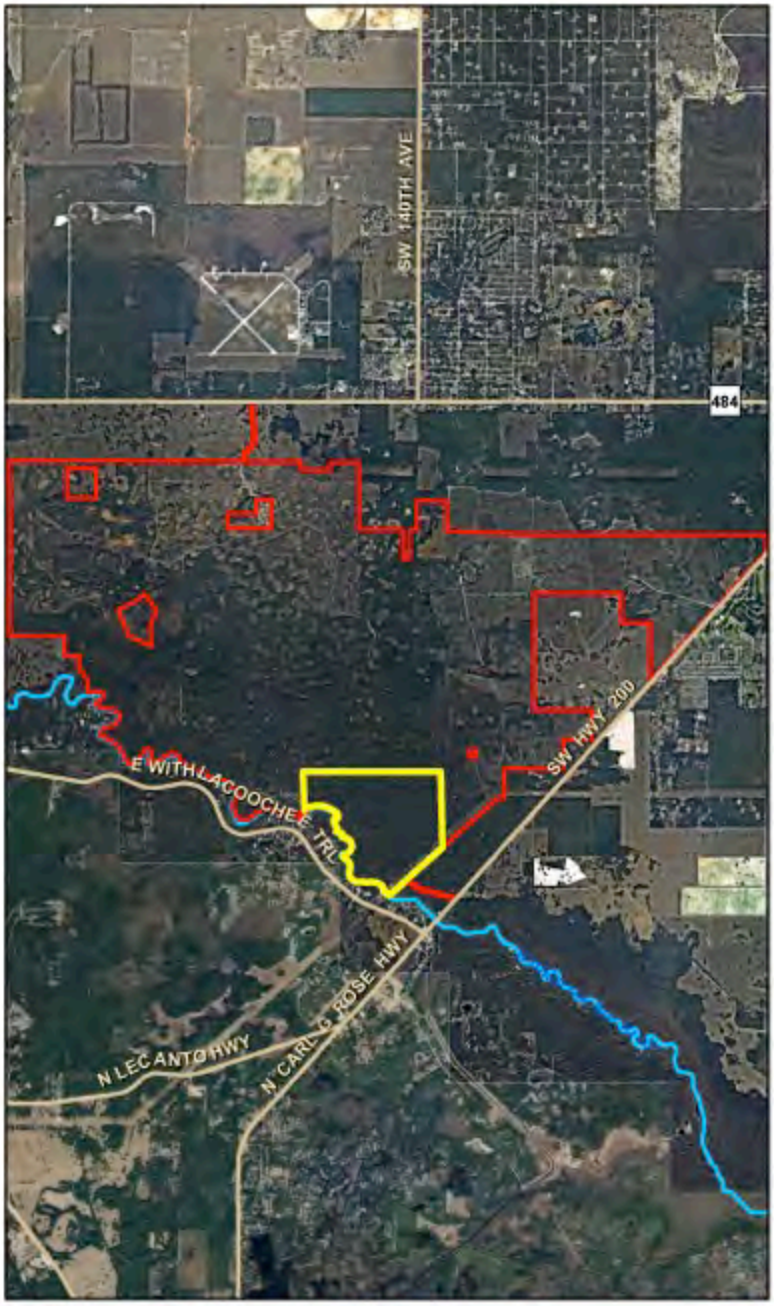
Entity responsible for perpetual management: SWFWMD.

Total Cost for FDOT Mitigation Including O&M: $414,635

ATTACHMENTS

1. Figure A-Location
2. Figure B-Pre-Construction Conditions
3. Figure C-Post-Construction Conditions
4. Photographs (2007)

SW 92 - Halpata Tastanaki Preserve
Figure A - Location (STR 24/17S/19E; 19/17S/20E)



Legend

- Project Location
- Property Boundary
- Withlacoochee River

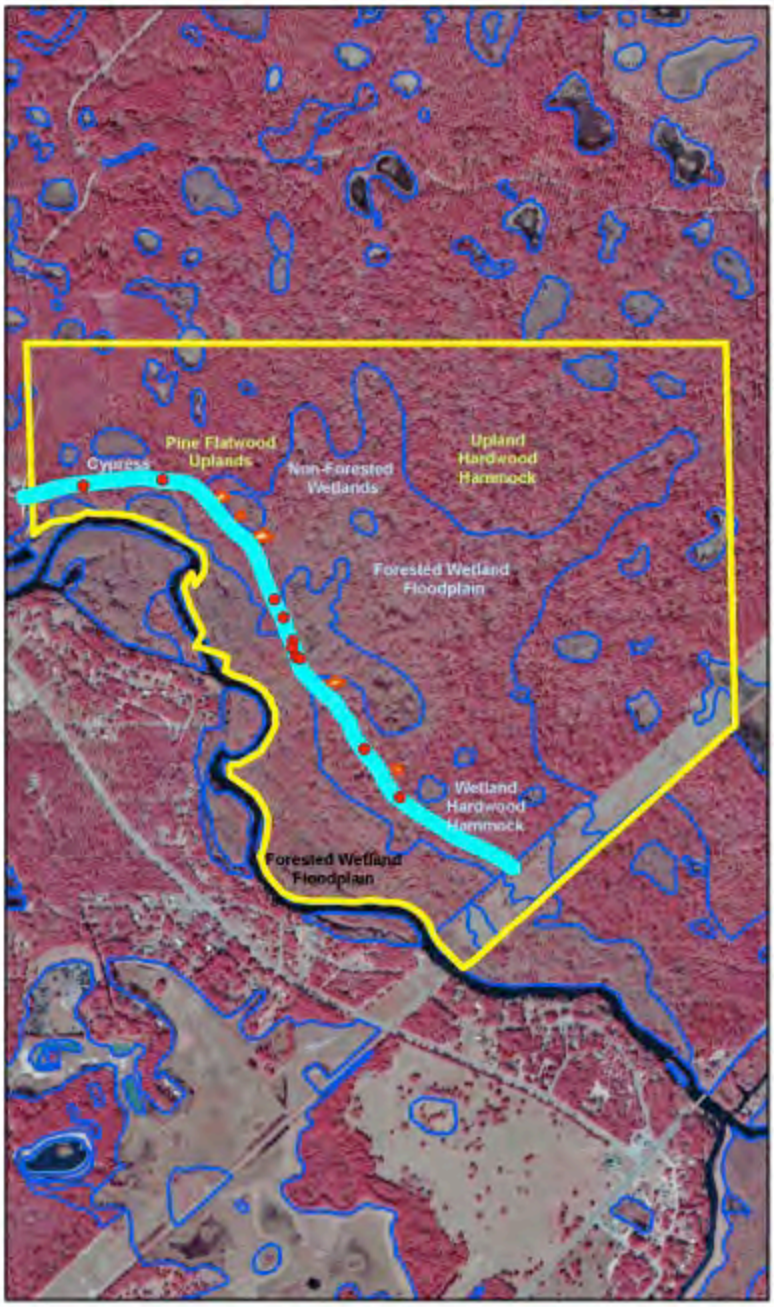
2011 Aerial

Miles
0 0.475 0.95 1.9

Southwest Florida Water Management District

2014 FDOT Mitigation Plan

SW 92 - Halpata Tastanaki Preserve
Figure B - Pre-Construction Conditions



Legend

- Approximate Culvert Locations
- Access Road Berm
- Borrow Pits
- Project Location

2010 Land Use Land Cover

- Wetlands

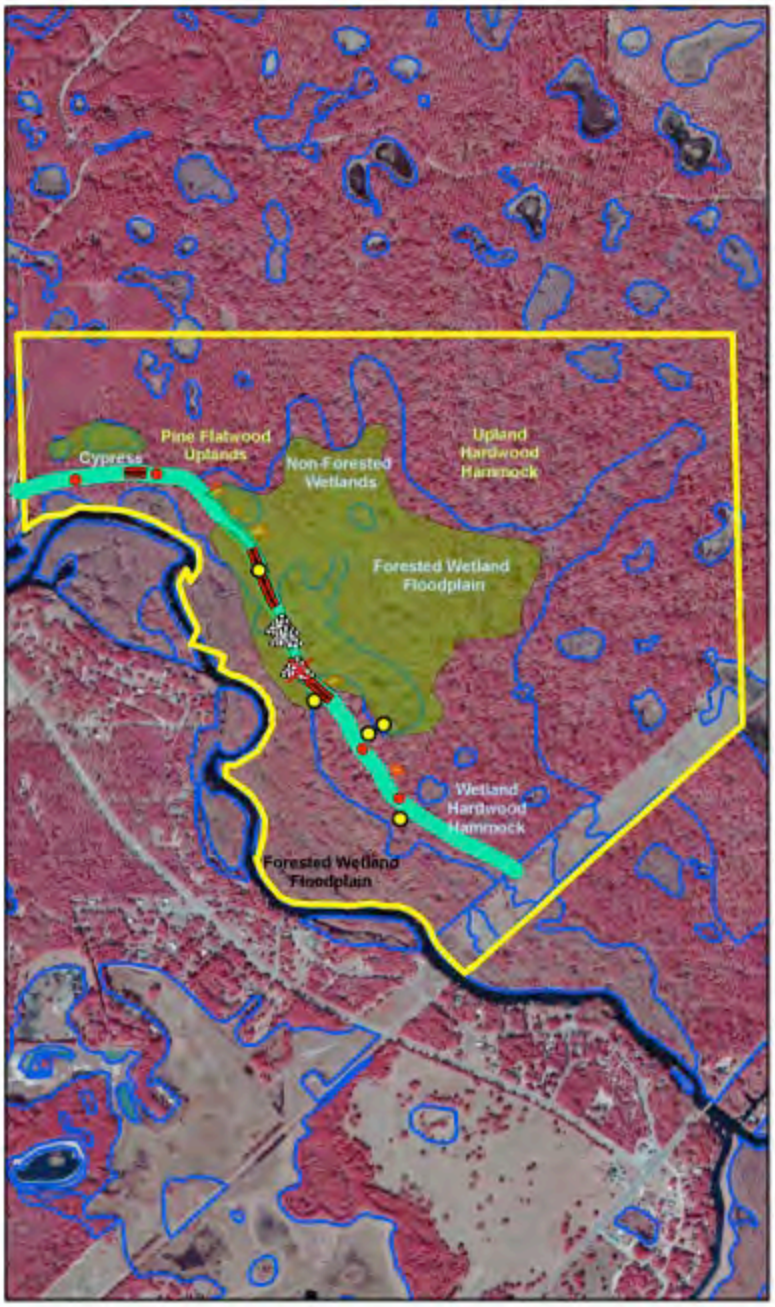
2010 Aerial

0 500 1,000 2,000 Feet

2014 FDOT Mitigation Plan

Southwest Florida Water Management District

SW 92 - Halpata Tastanaki Preserve
Figure C - Post-Construction Conditions



Legend

- Repair
- Chinese_Tallow
- Culverts Replaced with RipRap
- Approximate Culvert Locations
- Wet Road Crossing
- Primary Wetland Enhancement Areas
- Access Road Berm
- Borrow Pits
- Project Location

2010 Land Use Land Cover

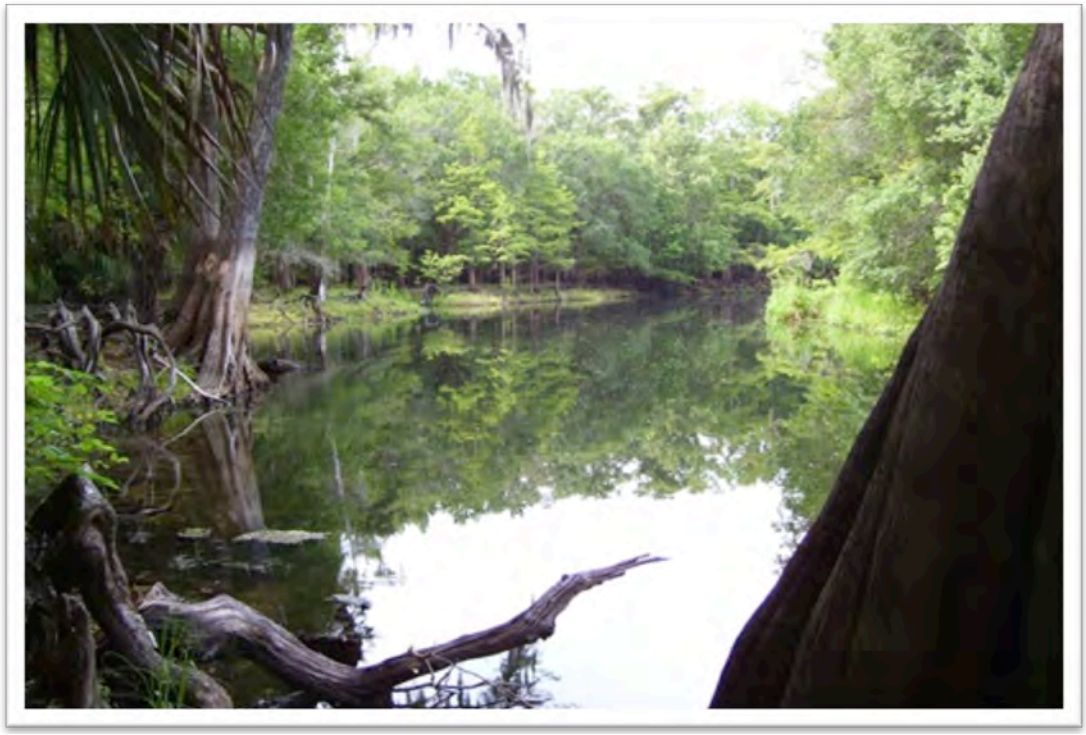
- Wetlands

2010 Aerial

Feet
0 500 1,000 2,000

Southwest Florida Water Management District

2014 FDOT Mitigation Plan



The Withlacoochee River meanders along the southern boundary of the Hálpata Tastanaki Preserve. (2007)

The obligate areas of the wetland floodplain have dominant coverage provided by bald cypress and hardwood species such as tupelo, pop ash, water hickory and red maple. The dark stains of the lower 6 ft. on the trees represent a floodwater elevation from the river. (2007)

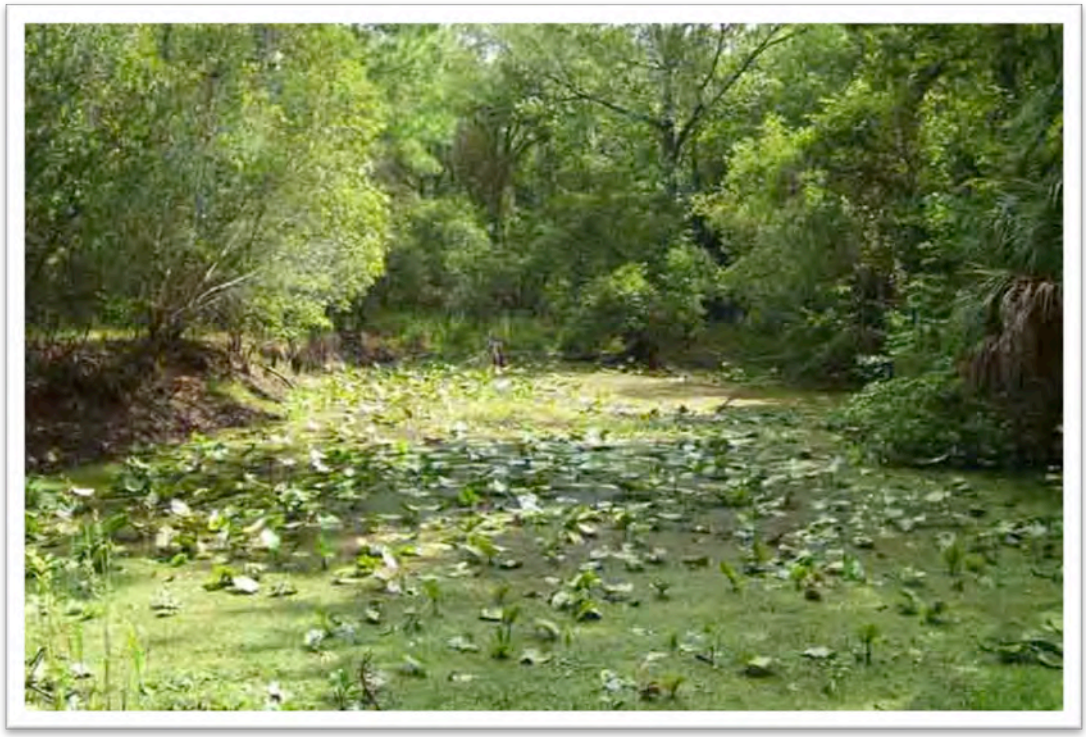
The wetland floodplain grade elevation rises and habitat conditions transition to include less cypress and more facultative species such as laurel oak, red maple, sweet gum and American elm. There is more ground cover of low panicums and sedges where the canopy is more open than in the obligate zone. (2007)

The highest grade elevations are within the southeast portion of the wetland. A hardwood hammock with and overstory of water oak, cabbage palm, laurel oak, live oak and American elm, and ground cover of dwarf palmetto and sedges. Floodwater elevation indicators are evident within two feet of the surface grade. (2007)

Downstream end of two culverts that discharge water into a creek channel. The culverts will be removed and replaced with rip-rap rubble that will allow gradual seepage into the channel; extending the hydroperiod and attenuation of surface water in the wetland portion on the upstream side of the berm. (2007)

Four of the culverts will remain; however, sumps and rip-rap will be placed at the culvert ends to aid in maintaining flow and minimize scouring and undermining of the culverts. (2007)

Portions of the access road berm will be removed and replaced with Geoweb material and small limerock to maintain a wet road crossing for vehicle access. The cleared path will also continue to provide a beneficial wildlife corridor connector through the forested wetland. (2007)



Small borrow ponds exist adjacent to the road with dominant coverage of spatterdock and duckweed. The ponds provide a valuable water source for wildlife, particularly during the dry season. The proposed berm modifications will allow contributing flood waters to reach, recharge and flush the ponds more often than the current conditions. (2007)

Appendix A: 2013 Florida Statutes

From *www.leg.state.fl.us/statutes/* (as of 11-26-13)

Title XXVIII NATURAL RESOURCES; CONSERVATION, RECLAMATION, AND USE
Chapter 373 WATER RESOURCES

373.4137 **Mitigation requirements for specified transportation projects.**

(1) The Legislature finds that environmental mitigation for the impact of transportation projects proposed by the Department of Transportation or a transportation authority established pursuant to chapter 348 or chapter 349 can be more effectively achieved by regional, long-range mitigation planning rather than on a project-by-project basis. It is the intent of the Legislature that mitigation to offset the adverse effects of these transportation projects be funded by the Department of Transportation and be carried out by the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

(2) Environmental impact inventories for transportation projects proposed by the Department of Transportation or a transportation authority established pursuant to chapter 348 or chapter 349 shall be developed as follows:

(a) By July 1 of each year, the Department of Transportation, or a transportation authority established pursuant to chapter 348 or chapter 349 which chooses to participate in the program, shall submit to the water management districts a list of its projects in the adopted work program and an environmental impact inventory of habitats addressed in the rules adopted pursuant to this part and s. 404 of the Clean Water Act, 33 U.S.C. s. 1344, which may be impacted by its plan of construction for transportation projects in the next 3 years of the tentative work program. The Department of Transportation or a transportation authority established pursuant to chapter 348 or chapter 349 may also include in its environmental impact inventory the habitat impacts of any future transportation project. The Department of Transportation and each transportation authority established pursuant to chapter 348 or chapter 349 may fund any mitigation activities for future projects using current year funds.

(b) The environmental impact inventory shall include a description of these habitat impacts, including their location, acreage, and type; state water quality classification of impacted wetlands and other surface waters; any other state or regional designations for these habitats; and a list of threatened species, endangered species, and species of special concern affected by the proposed project.

(3)(a) To fund development and implementation of the mitigation plan for the projected impacts identified in the environmental impact inventory described in subsection (2), the Department of Transportation shall identify funds quarterly in an escrow account within the State Transportation Trust Fund for the environmental mitigation phase of projects budgeted by the Department of Transportation for the current fiscal year. The escrow account shall be maintained by the Department of Transportation for the benefit of the water management districts. Any interest earnings from the escrow account shall remain with the Department of Transportation.

(b) Each transportation authority established pursuant to chapter 348 or chapter 349 that chooses to participate in this program shall create an escrow account within its financial structure and deposit funds in the account to pay for the environmental mitigation phase of projects budgeted for the current fiscal year. The escrow account shall be maintained by the authority for the benefit of the water management districts. Any interest earnings from the escrow account shall remain with the authority.

(c) Except for current mitigation projects in the monitoring and maintenance phase and except as allowed by paragraph (d), the water management districts may request a transfer of funds from an escrow account no sooner than 30 days before the date the funds are needed to pay for activities associated with development or implementation of the approved mitigation plan described in subsection (4) for the current fiscal year, including, but not limited to, design, engineering, production, and staff support. Actual conceptual plan preparation costs incurred before plan approval may be submitted to the Department of Transportation or the appropriate transportation authority each year with the plan. The conceptual plan preparation costs of each water management district will be paid from mitigation funds associated with the environmental impact inventory for the current year. The amount transferred to the escrow accounts each year by the Department of Transportation and participating transportation authorities established pursuant to chapter 348 or chapter 349 shall correspond to a cost per acre of $75,000 multiplied by the projected acres of impact identified in the environmental impact inventory described in subsection (2). However, the $75,000 cost per acre does not constitute an admission against interest by the state or its subdivisions and is not admissible as evidence of full compensation for any property acquired by eminent domain or through inverse condemnation. Each July 1, the cost per acre shall be adjusted by the percentage change in the average of the Consumer Price Index issued by the United States Department of Labor for the most recent 12-month period ending September 30, compared to the base year average,

which is the average for the 12-month period ending September 30, 1996. Each quarter, the projected acreage of impact shall be reconciled with the acreage of impact of projects as permitted, including permit modifications, pursuant to this part and s. 404 of the Clean Water Act, 33 U.S.C. s. 1344. The subject year's transfer of funds shall be adjusted accordingly to reflect the acreage of impacts as permitted. The Department of Transportation and participating transportation authorities established pursuant to chapter 348 or chapter 349 are authorized to transfer such funds from the escrow accounts to the water management districts to carry out the mitigation programs. Environmental mitigation funds that are identified for or maintained in an escrow account for the benefit of a water management district may be released if the associated transportation project is excluded in whole or part from the mitigation plan. For a mitigation project that is in the maintenance and monitoring phase, the water management district may request and receive a one-time payment based on the project's expected future maintenance and monitoring costs. Upon disbursement of the final maintenance and monitoring payment, the escrow account for the project established by the Department of Transportation or the participating transportation authority may be closed. Any interest earned on these disbursed funds shall remain with the water management district and must be used as authorized under this section.

(d) Beginning in the 2005-2006 fiscal year, each water management district shall be paid a lump-sum amount of $75,000 per acre, adjusted as provided under paragraph (c), for federally funded transportation projects that are included on the environmental impact inventory and that have an approved mitigation plan. Beginning in the 2009-2010 fiscal year, each water management district shall be paid a lump-sum amount of $75,000 per acre, adjusted as provided under paragraph (c), for federally funded and nonfederally funded transportation projects that have an approved mitigation plan. All mitigation costs, including, but not limited to, the costs of preparing conceptual plans and the costs of design, construction, staff support, future maintenance, and monitoring the mitigated acres shall be funded through these lump-sum amounts.

(4) Before March 1 of each year, each water management district, in consultation with the Department of Environmental Protection, the United States Army Corps of Engineers, the Department of Transportation, participating transportation authorities established pursuant to chapter 348 or chapter 349, and other appropriate federal, state, and local governments, and other interested parties, including entities operating mitigation banks, shall develop a plan for the primary purpose of complying with the mitigation requirements adopted pursuant to this part and 33 U.S.C. s. 1344. In developing such plans, the districts shall use sound ecosystem management practices to address significant water resource needs and shall focus on activities of the Department of Environmental Protection and the water management districts, such as surface water improvement and management (SWIM) projects and lands identified for potential acquisition for preservation, restoration, or enhancement, and the control of invasive and exotic plants in wetlands and other surface waters, to the extent that the activities comply with the mitigation requirements adopted under this part and 33 U.S.C. s. 1344. In determining the activities to be included in the plans, the districts shall consider the purchase of credits from public or private mitigation banks permitted under s. 373.4136 and associated federal authorization and shall include the purchase as a part of the mitigation plan when the purchase would offset the impact of the transportation project, provide equal benefits to the water resources than other mitigation options being considered, and provide the most cost-effective mitigation option. The mitigation plan shall be submitted to the water management district governing board, or its designee, for review and approval. At least 14 days before approval, the water management district shall provide a copy of the draft mitigation plan to any person who has requested a copy. The plan may not be implemented until it is submitted to and approved, in part or in its entirety, by the Department of Environmental Protection.

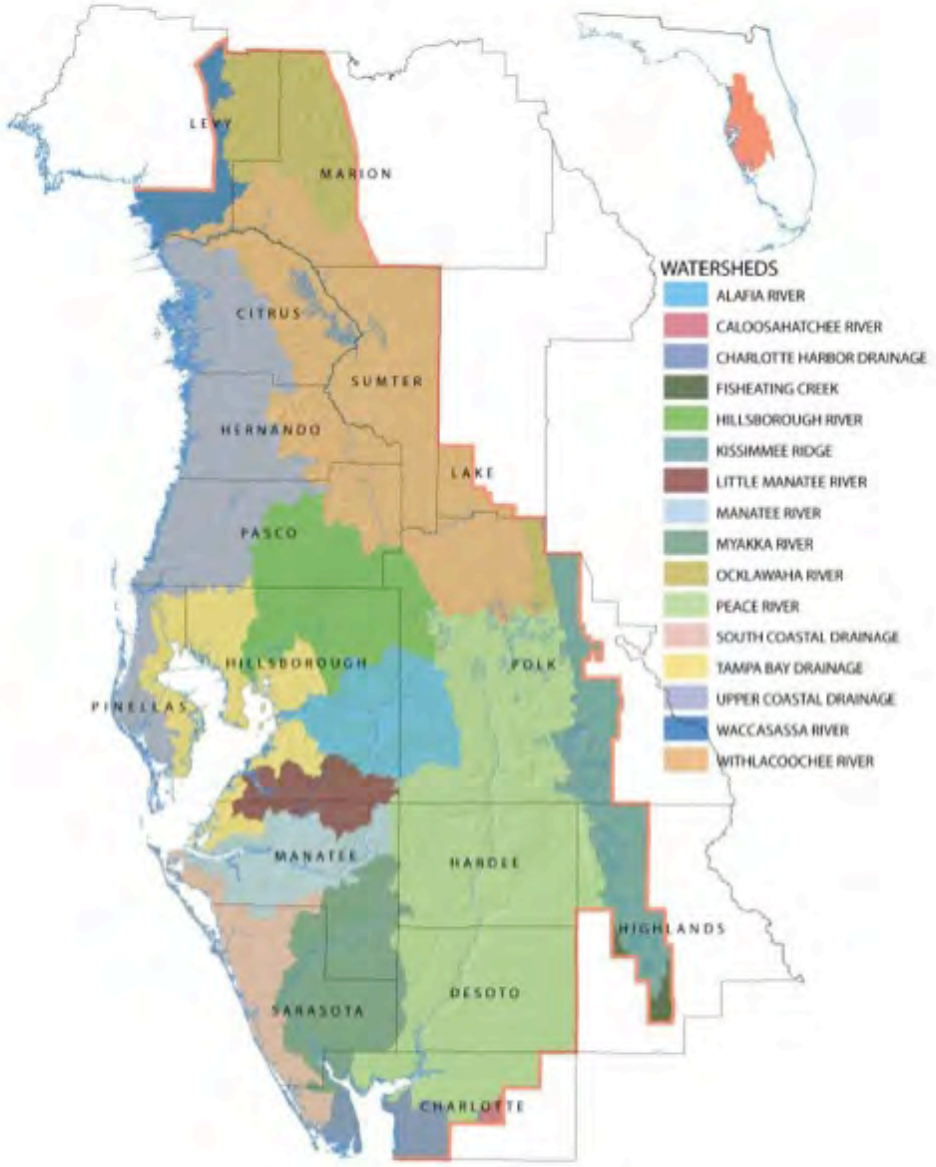
(a) For each transportation project with a funding request for the next fiscal year, the mitigation plan must include a brief explanation of why a mitigation bank was or was not chosen as a mitigation option, including an estimation of identifiable costs of the mitigation bank and nonbank options and other factors such as time saved, liability for success of the mitigation, and long-term maintenance.

(b) Specific projects may be excluded from the mitigation plan, in whole or in part, and are not subject to this section upon the election of the Department of Transportation, a transportation authority if applicable, or the appropriate water management district.

(c) When determining which projects to include in or exclude from the mitigation plan, the Department of Transportation shall investigate using credits from a permitted mitigation bank before those projects are submitted for inclusion in the plan. The investigation shall consider the cost-effectiveness of mitigation bank credits, including, but not limited to, factors such as time saved, transfer of liability for success of the mitigation, and long-term maintenance.

(5) The water management district shall ensure that mitigation requirements pursuant to 33 U.S.C. s. 1344 are met for the impacts identified in the environmental impact inventory described in subsection (2), by implementation of the approved plan described in subsection (4) to the extent funding is provided by the Department of Transportation, or a transportation authority established pursuant to chapter 348 or chapter 349, if applicable. During the federal permitting process, the water management district may deviate from the approved mitigation plan in order to comply with federal permitting requirements.
(6) The mitigation plans shall be updated annually to reflect the most current Department of Transportation work program and project list of a transportation authority established pursuant to chapter 348 or chapter 349, if applicable, and may be amended throughout the year to anticipate schedule changes or additional projects which may arise. Each update and amendment of the mitigation plan shall be submitted to the governing board of the water management district or its designee for approval. However, such approval shall not be applicable to a deviation as described in subsection (5).
(7) Upon approval by the governing board of the water management district or its designee, the mitigation plan shall be deemed to satisfy the mitigation requirements under this part for impacts specifically identified in the environmental impact inventory described in subsection (2) and any other mitigation requirements imposed by local, regional, and state agencies for these same impacts. The approval of the governing board of the water management district or its designee shall authorize the activities proposed in the mitigation plan, and no other state, regional, or local permit or approval shall be necessary.
(8). This section shall not be construed to eliminate the need for the Department of Transportation or a transportation authority established pursuant to chapter 348 or chapter 349 to comply with the requirement to implement practicable design modifications, including realignment of transportation projects, to reduce or eliminate the impacts of its transportation projects on wetlands and other surface waters as required by rules adopted pursuant to this part, or to diminish the authority under this part to regulate other impacts, including water quantity or water quality impacts, or impacts regulated under this part that are not identified in the environmental impact inventory described in subsection (2).
(9) The process for environmental mitigation for the impact of transportation projects under this section shall be available to an expressway, bridge, or transportation authority established under chapter 348 or chapter 349. Use of this process may be initiated by an authority depositing the requisite funds into an escrow account set up by the authority and filing an environmental impact inventory with the appropriate water management district. An authority that initiates the environmental mitigation process established by this section shall comply with subsection (6) by timely providing the appropriate water management district with the requisite work program information. A water management district may draw down funds from the escrow account as provided in this section.
History.—s. 1, ch. 96-238; s. 36, ch. 99-385; s. 1, ch. 2000-261; s. 93, ch. 2002-20; s. 39, ch. 2004-269; s. 30, ch. 2005-71; s. 12, ch. 2005-281; s. 1, ch. 2009-11; s. 3, ch. 2012-174.

Appendix B: ERP Watersheds in the Southwest FL Water Management District



Appendix C:

FDOT Wetland Impact Inventory

APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects

New Projects

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Hillsborough	Alafia River	4131361	from Balm Riverview to Boyette Road		44034708.000	2009-0890																																												0.20																		0.20	0.00	Balm Boyette
Hillsborough	Alafia River	4154892	US 301, Balm Road to Gibsonton Drive	Issued	43031128.000	2006-04230	1-Sep-08																																							0.30																						0.30	0.00	Balm Boyette
Charlotte	Charlotte Harbor Drainage	4130423	I-75 from Tucker's Grade to N. Jones Loop Road	Issued	43035560.000	2001-01386	1-Nov-10																																											1.10																		1.10	0.00	Little Pine Island Mit. Bank
Polk	Hillsborough River	2012081	Line to Memorial Blvd. - Sec. 1	Issued	4311869.009	1995-01846	1-Oct-97																							6.57																				6.98																		13.55	0.00	U.H. 4&5
Polk	Hillsborough River	2012171	Memorial Blvd. to west of US	Issued	43011896.028	1995-02569	1-Sep-02			1.70																1.80				0.80																																						4.30	0.00	Jennings Tract
Hillsborough	Hillsborough River	2555361	Blackwater Creek Bridge	Issued	43020526.000	2000-0574	1-Aug-01																			1.40																								0.70																		2.10	0.00	Jennings Tract
Hillsborough	Hillsborough River	2555851	(Alexander St) I-4 to Knights	Issued	43034467.007	2009-04064	1-Nov-14																							7.10	5.00																			7.10	4.39																	14.20	9.39	Colt Creek State Park
Hillsborough	Hillsborough River	2558591	Ave.) Florida Ave. to	Issued	44019802.002	2001-01181	1-Nov-02																									0.10																																				0.10	0.00	Jennings Tract
Pasco	Upper Coastal Drainage	2563221	SR 52 Moon Lake to Suncoast Parkway	Issued	43007396.001	2002-6047	1-Oct-05																							3.40	1.56	1.00	0.49					2.30	1.38																													6.70	3.43	Conner Preserve
Pasco	Upper Coastal Drainage	2563231	SR 52 (SCHRADER HWY) FROM W OF SUNCOAST PKWY TO E OF US 41 (SR 45)	1-Jul-13			1-Oct-20													2.50	1.75											2.50	1.75					2.50	1.75											5.00	2.50																	12.50	7.75	Conner Preserve
Pasco	Hillsborough River	2563151	Lake to Tower Road	Issued	4418030.002	1992-41273	1-Jun-01																															1.10																														1.10	0.00	Hills. River Corridor
Pasco	Upper Coastal Drainage	2563241	Tower Rd. to Ridge Road	Issued	43033570.000	2008-329	1-Oct-09			0.06	0.04									0.95	0.94									0.03	0.02							5.21	3.77							1.96	0.83			0.05	0.03							0.59	0.37									8.85	6.00	Conner Preserve
Pasco	Hillsborough River	2563431	SR 54 US 41 to Cypress Creek	Issued	4319567.000	1995-01451	1-Oct-00																					0.80						4.10				4.60												4.70																		14.20	0.00	Lk. Thonotasassa
Pasco	Upper Coastal Drainage	2563242	US 41: from Ridge Rd to N of SR 52	1-Jun-13			1-Oct-18																							7.00								1.50												1.00																		9.50	0.00	Conner Preserve
Hillsborough	Hillsborough River	2578071	Downs Bike Path Amberly Dr. - Hunter's	Issued	44018710.000	1998-03683	1-Oct-99																									0.40																		0.10																		0.50	0.00	Jennings Tract
Hillsborough	Hillsborough River	2578072	Downs Bike Path Tampa	Issued	44021434.000	2001-01187	1-Feb-02													0.20																																																0.20	0.00	Jennings Tract
Hillsborough	Hillsborough River	2578391	Alexander Street US 92 to I-4	Issued	43011896.025	2000-03012	1-Sep-04																							2.60																																						2.60	0.00	Jennings Tract
Hillsborough	Hillsborough River	2578622	Park Road I-4 (SR 400) to Sam Allen Rd.	Issued	44029780.001	2007-01606	1-Sep-10																							0.53	0.36			0.28	0.17																																	0.81	0.53	Colt Creek State Park
Pasco	Upper Coastal Drainage	2563321	SR 54 - Rowan Rd. to Mitchell Bypass	Issued	4011641.004	1993-2010	1-Jul-96																							0.10	0.05	0.20	0.10																	3.38	2.60																	3.68	2.75	Conner Preserve
Hillsborough	Hillsborough River	2584131	SR 93 (I-275) US 41 to Pasco Co. Line	Issued	44024745.005	2003-02685	1-Oct-15													4.60																		0.20						0.10				0.70		2.00																		7.60	0.00	Jennings Tract
Hillsborough	Hillsborough River	2584491	I-4 (SR 400) at Alexander Street Ramp	Issued	43011896.025	2000-03012	1-Sep-04																							1.70																																						1.70	0.00	Jennings Tract
Pasco	Hillsborough River	2587341	SR 56, Cypress Creek to CR 581 (B.B. Downs)	Issued	43012944.004	1995-00079	1-Jul-99																															5.20												0.10																		5.30	0.00	Jennings Tract
Pasco	Hillsborough River	2587362	I-75 (SR 93) FROM NORTH OF SR/CR 54 TO NORTH OF SR 52 (Design-Build)	1-Dec-11	43040738.002	2009-01384	1-Jul-13													7.07	3.57																																															7.07	3.57	
Pasco	Upper Coastal Drainage	2563341	(SCHRADER HWY)US 41 to CR 581	1-Sep-14			1-Oct-20																			4.00																																										4.00	0.00	Conner Preserve
Pasco	Hillsborough River	4079441	I-75 Northbound Rest Area	Issued	43033020.007	2009-04372	1-Oct-08																							1.20	0.57																																							1.20	0.57	Colt Creek State Park
Pasco	Hillsborough River	4079442	Southbound Rest Area	Issued	43034467.007	2009-04064	1-Oct-08																							1.00	0.57																																							1.00	0.57	Colt Creek State Park
Hillsborough	Hillsborough River	4084592	I-75 Fowler Avenue to CR 581	Issued	43021639.006	2007-04495	1-Sep-11																			4.54	3.47			8.94	5.62									1.03	0.75			3.66	2.99	5.62	4.01																							23.79	16.84	Colt Creek State Park
Pasco	Hillsborough River	4084593	(BB Downs) to SR 56 (Mainline)	Issued	43033020.004	2008-03059	1-Sep-11			0.90	0.60																			4.30	2.70							2.50	1.50					4.20	2.80	3.60	2.00			0.60	0.40																	16.10	10.00	Colt Creek State Park
Pasco	Hillsborough River	4084594	I-75 SR 56 to S of CR 54	Issued	43033030.008	2010-00468	1-Jan-11																							1.50	0.76													8.60	5.18	1.00	0.45			0.80	0.34																	11.90	6.73	Colt Creek State Park
Hillsborough	Hillsborough River	4084602	I-75 Off-Ramp at CR 581	Issued	44021639.000	1998-03683	1-Dec-01																															0.50																														0.50	0.00	Jennings Tract

FDOT Wetland Impact Inventory

APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects (yellow)

New Projects (green)

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Hillsborough	Hillsborough River	4089321	Hillsborough River	Issued	43033500.001	2008-00211	1-Jul-09	1.70	1.34	Colt Creek State Park
Pasco	Upper Coastal Drainage	2563371	Highway to Suncoast	Issued	4316251.000	1999-5203	1-Sep-02	6.00	3.20	Conner Preserve
Pasco	Hillsborough River	4110142	FROM N OF SR 52 TO	1-Sep-12	670082.000	2012-2483	1-Oct-13	0.36	0.18	North Tamp Mitigation Bank
Hillsborough	Hillsborough River	4113371	Springs to Thonotasassa	Issued	43031172.000	2006-4072	1-Sep-07	1.65	0.80	Colt Creek State Park
Pasco	Hillsborough River	4165611	SR 54 I-75 to US 301	Undetermined			Undetermined	0.00	0.00	Colt Creek State Park
Pinellas	Upper Coastal Drainage	2567742	of SR 580 to Northside	1-Jun-14			1-Oct-20	0.50	0.35	Conner Preserve
Hillsborough	Hillsborough River	4218311	(BB Downs) to SR 56	Issued	430330200.002	2008-01707	1-Oct-09	30.70	21.45	Colt Creek State Park
Pasco	Hillsborough River	4218314	I-75 S of CR 56 to N of CR 54	Issued	43033020.002	2007-04508	1-Dec-08	17.34	7.77	Colt Creek State Park
Hillsborough	Hillsborough River	4271591	580/600) Benjamin Rd.	1-Dec-11			1-Mar-13	0.20	0.00	Colt Creek State Park
Pinellas	Upper Coastal Drainage	2568151	Rd.) CR 1 to Fisher Road	Issued	44009837.008	2002-5245	1-Jul-04	0.08	0.06	Conner Preserve
Pinellas	Upper Coastal Drainage	2570501	(Ulmerton Rd.) Oakhurst Rd. to	Issued	4412347.010	2002-4931	1-May-04	0.20	0.06	Conner Preserve
Hernando	Upper Coastal Drainage	2571741	Hernando Co. Line to US 19	Issued	4323430.000	1998-3481	1-Aug-03	1.40	0.82	Conner Preserve
Highlands	Kissimmee Ridge	1945101	Glenada to Hal McRae	Issued	4412845.060	1993-42314	1-Sep-01	0.39	0.00	Reedy Ck. Mit. Bank
Polk	Kissimmee Ridge	2012041	557 to Osceola County (Sec. 6-	Issued	44011896.033	2002-08260	1-Sep-02	2.35	0.00	Reedy Ck. Mit. Bank
Hillsborough	Little Manatee River	4154893	City Center to Balm Road	Issued	43034464.000	2008-03613	1-Oct-16	0.90	0.00	River, Lower Tract
Manatee	Manatee River	1960222	I-75 to Lena Rd.	Issued	43020580.009	1999-01379	1-Dec-01	2.42	0.00	Rutland Ranch
Manatee	Manatee River	1960223	Lena Rd. to Lakewood	Issued	44016872.018	2004-2700	1-Sep-06	0.84	0.00	Rutland Ranch
Manatee	Manatee River	1960224	Lakewood Ranch Rd. to	Issued	43025776.000	2004-00734	1-Sep-06	4.06	1.65	Hidden Harbour
Manatee	Manatee River	1960581	(Ellenton) 60th Ave. to Erie	Issued	4412295.002	1994-02564	1-Oct-00	0.87	0.00	Terra Ceia
Manatee	Manatee River	1961211	I-75 to Lakewood	Issued	44025920.001	2003-11659	1-Jul-05	1.40	0.00	Rutland Ranch
Manatee	Manatee River	2010322	I-75 at SR 70 Interchange	14-Jul-14			1-Jul-16	9.45	5.67	
Manatee	Manatee River	2010324	University Pkwy -	6-Apr-15			1-Apr-16	1.30	0.58	
Manatee	Manatee River	2010325	I-75 at US 301	18-Jun-14			1-Jun-17	3.00	2.37	
Manatee	Manatee River	2010326	I-75 at SR 64	11-Aug-16			Unknown	0.50	0.30	Hidden Harbour
Manatee	Manatee River	4043232	Lakewood Ranch Rd. to	Issued	43025920.000	2004-00032	1-Sep-04	3.62	0.00	Rutland Ranch
Manatee	Manatee River	4161201	Arms Blvd. to I-75	Issued	44035561.000	2010-01414	Undetermined	0.78	0.28	Hidden Harbour
Manatee	Manatee River	4226031	B) Erie Rd. to CR 675	Issued	43012295.006	2008-01430	1-Mar-09	2.73	0.41	Hidden Harbour
Charlotte	Myakka River	1937941	to Willow Bend Rd.	Issued	4316676.000	1996-01986	1-Jul-99	2.08	0.00	Little Pine Island Mit. Bank
Charlotte	Myakka River	1937941	to Willow Bend Rd.	Issued	4316676.000	1996-01986	1-Jul-99	8.88	0.00	Cattle Dock
Sarasota	Myakka River	1979251	Slough to DeSoto C/L	Issued	43018471.000	1998-02683	1-Jan-99	1.49	0.00	Myakka River State Park
Sarasota	Myakka River	1980131	Prairie to Big Slough	Issued	44018399.000	1998-02683	1-Sep-99	0.87	0.00	Myakka River State Park
Sarasota	Myakka River	4138871	SR 72 Myakka River to Big Slough	Issued	43018399.001	2005-7108	1-Aug-06	5.00	0.00	Myakka River State Park
Marion	Ocklawaha River	238641	Co. Line to SR 326	Issued	43014024.002	NPR	1-Sep-02	3.50	0.00	Ledwith Prairie
Marion	Ocklawaha River	238679	US 27 SR 326 to CR 225a	Issued	43008697.001	1997-02099	1-Sep-99	1.09	0.00	Ledwith Prairie
Marion	Ocklawaha River	238719	SR 40 CR 328 to SW 80th	Issued	44022268.000	NPR	1-Jun-04	0.08	0.00	Ledwith Prairie
Polk	Ocklawaha River	1976791	to Blue Heron Bay	Issued	43023431.000	2002-02574	1-Jun-03	0.46	0.00	Lake Lowery
Polk	Ocklawaha River	2012041	I-4 East of CR 557 to Osceola County (Sec. 6-7,9)	Issued	43011896.032	1994-03591	1-Sep-02	4.35	0.00	Lake Lowery
Polk	Ocklawaha River	4038901	US 27 Blue Heron Bay to CR 547	Issued	43023431.001	2002-05885	1-Aug-03	1.90	0.00	Lake Lowery
Charlotte	Peace River	1937911	CR 74 to CR 764 North	Issued	4113562.002	1995-00627	1-Oct-00	0.27	0.00	Boran Ranch Mit. Bank
Charlotte	Peace River	1937981	CR 764 South to CR 764	Issued	4413562.020	1995-00267	1-Oct-02	3.60	0.00	Boran Ranch Mit. Bank
Desoto	Peace River	1938851	SR 72 Sarasota Co. Line to SR 70	Issued	4317646.000	1998-01103	1-Oct-00	1.19	0.00	Boran Ranch Mit. Bank
Polk	Peace River	1938991	Livingston to Hardee County	Issued	43022736.000	2001-05669	1-Sep-02	11.59	0.00	Circle B Bar Reserve
Hardee	Peace River	1940931	Peace River to Tropicana Rd.	Issued	43016955.001	2001-02990	1-Oct-02	4.42	0.00	Circle B Bar Reserve
Hardee	Peace River	1941021	SR 64 to Peace River Bridge	Issued	4316955.000	1994-05245	1-Feb-01	2.30	0.00	Boran Ranch Mit. Bank
Polk	Peace River	1971681	Fleet Dr.) CR 555 to	Issued	44023032.000	2002-000069 (NW-MS)	1-Aug-02	0.46	0.00	Circle B Bar Reserve

FM No.	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL
4089321																														
2563371																														
4110142																							0.36	0.18						
4113371													0.75	0.37									0.00		0.43	0.20				
4165611																														
2567742																														
4218311			0.80	0.55																			8.30	6.68						
4218314																							1.34	0.71						
4271591																														
2568151																									0.08	0.06				
2570501																														
2571741																														
1945101															0.05															
2012041																							1.53							
4154893													0.60																	
1960222																							0.68							
1960223																														
1960224																														
1960581																	0.20													
1961211																														
2010322																														
2010324																														
2010325																	1.90	1.71												
2010326																														
4043232			0.25																1.80											
4161201																														
4226031																							1.64	0.25						
1937941									2.08																					
1937941							2.20										3.10										1.38			
1979251																			0.30											
1980131																														
4138871																														
238641																														
238679																														
238719																														
1976791			0.02																											
2012041																														
4038901																														
1937911																														
1937981							0.30																							
1938851																			1.19											
1938991																									0.48					
1940931																														
1941021																			1.84											
1971681																														

FM No.	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL
4089321							1.70	1.34																						
2563371	6.00	3.20																												
4110142																														
4113371											0.47	0.23																		
4165611																														
2567742													0.50	0.35																
4218311					7.40	5.93	4.60	3.22	9.60	5.07																				
4218314							10.04	4.82	2.10	0.63			2.22	1.09							1.64	0.52								
4271591													0.20																	
2568151																														
2570501							0.20	0.06																						
2571741	1.40	0.82																												
1945101											0.34																			
2012041											0.11		0.71																	
4154893											0.30																			
1960222											1.29		0.45																	
1960223							0.33						0.51																	
1960224							3.52	1.46					0.54	0.19																
1960581													0.67																	
1961211													0.84		0.56															
2010322							4.68	2.81			4.77	2.86																		
2010324							0.16	0.10			1.14	0.48																		
2010325							1.10	0.66																						
2010326							0.50	0.30																						
4043232											1.57																			
4161201													0.78	0.28																
4226031									0.07	0.01			1.02	0.15																
1937941																														
1937941															2.20															
1979251													1.19																	
1980131													0.87																	
4138871															3.00						2.00									
238641											3.50																			
238679													1.09																	
238719													0.08																	
1976791							0.30		0.14																					
2012041	0.59										3.76																			
4038901							1.90																							
1937911							0.27																							
1937981							3.00						0.30																	
1938851																														
1938991							6.92				0.59		0.20		3.40															
1940931							3.00				0.49		0.93																	
1941021													0.46																	
1971681							0.46																							

FDOT Wetland Impact Inventory

APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects

New Projects

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Polk	Peace River	1974711	(Cypress Gardens) 9th Street to Overlook	Issued	4417859.000	1994-03139	1-Nov-00																																											0.06												0.35								0.41	0.00	Tenoroc/Saddle Creek
Polk	Peace River	1974751	(Cypress Gardens)	Issued	4401612.000	1994-01950	1-Jul-00													0.59		0.33				2.86				1.35																						0.74																				5.87	0.00	Tenoroc/Saddle Creek
Polk	Peace River	1975331	Towerview Rd. to SR 540	Issued	43023834.002	2002-05668	1-Jun-03																																											3.90																				3.90	0.00	Circle B Bar Reserve
Polk	Peace River	1976381	Carpenter's Way to	Issued	44013552.003	2002-06904	1-Aug-03																			0.10																																												0.10	0.00	Circle B Bar Reserve
Polk	Peace River	1976791	to Blue Heron Bay	Issued	43023431.000	2002-02574	1-Jun-03																																							0.60						0.90																				1.50	0.00	Circle B Bar Reserve
Polk	Peace River	1977014	Extension SR 655 (Recker	Issued	44035330.000	2009-04277	1-Jul-10													0.18																																0.21																				0.39	0.00	Circle B Bar Reserve
Polk	Peace River	1977051	Towerview Blvd.	Issued	44023431.003	2004-02920	1-Jul-06			0.01												0.18																																																		0.19	0.00	Circle B Bar Reserve
Polk	Peace River	1977061	US 27 SR 540 to SR 542	Issued	43023431.007	2008-02283	1-Oct-14			0.01										0.29																										0.74						2.90																				3.94	0.00	Circle B Bar Reserve
Polk	Peace River	1977071	US 27 SR 542 to CR 546	Issued	44021373.000	2006-00538	1-Jul-07																																													0.60																				0.60	0.00	Circle B Bar Reserve
Charlotte	Peace River	1984711	Harborwalk Bike Path	Issued	4417560.001	1997-05303	1-Oct-00									0.16																																																							0.16	0.00	Little Pine Island Mit. Bank
Hardee	Peace River	1986371	(Seg. 2) Vandola to North of	Issued	4317734.001	1998-01201	1-Oct-00																																													7.22																				7.22	0.00	Boran Ranch Mit. Bank
Hardee	Peace River	1986381	(Seg. 3) SR 64 to Vandolah	Issued	4317734.002	1998-01201	1-Oct-03																			0.68				0.43																				4.12																						5.23	0.00	Boran Ranch Mit. Bank
Hardee	Peace River	1986401	Road (Seg. 1) Vandolah to SR	Issued	4317734.000	1988-01201	1-May-99																							2.08																																												2.08	0.00	Boran Ranch Mit. Bank
Polk	Peace River	2012092	98 to East of CR 557 (Sec. 3-	Issued	43011896.026	2002-04891	1-Oct-02			0.20												1.68																																																		1.88	0.00	Tenoroc/Saddle Creek
Charlotte	Peace River	4046971	Widening over Peace River	Issued	43021917.000	2001-02749	1-Jan-02																	2.75	2.75																																															2.75	2.75	Little Pine Island Mit. Bank
Charlotte	Peace River	4046971	Widening over Peace River	Issued	43021917.000	2001-02749	1-Jan-02																	3.31																																																3.31	0.00	Peace Restor.
Polk	Peace River	4082685	Drive to CR 540A	Issued	44029183.004	2009-04276	1-Oct-10																																													0.63																				0.63	0.00	Circle B Bar Reserve
Polk	Peace River	4110391	US 27 CR 546 to SR 544	Issued	43033368.000	2008-01942	1-Oct-09			1.13																																																				0.83										1.96	0.00	Circle B Bar Reserve
Desoto	Peace River	4154901	Charlotte C.L. to SW Collins	Issued	43013044.006	2007-04765	1-Oct-10																			1.38	0.69			0.85	0.48																																									2.23	1.17	Peace River Mit. Bank
Desoto	Peace River	4154901	Charlotte C.L. to SW Collins	Issued	43013044.006	2007-04765	1-Oct-10																																													1.98																				1.98	0.00	Boran Ranch Mit. Bank
Polk	Peace River	4251371	Mountain Lake Cutoff	Issued	44023020.001	NPR	1-Dec-11																																													0.16																				0.16	0.00	Circle B Bar Reserve
Sarasota	South Coastal Drainage	1979421	SR 789 Ringling Causeway Blvd.	Issued	44018555.001	1995-00210	1-Jun-01																																																													0.27	0.27	0.27	0.27	Curry Creek ROMA
Sarasota	South Coastal Drainage	1980051	(SR 45) Venice Ave. to	Issued	4402099.002	1999-05145	1-Sep-00																	0.32	0.32																																													0.32	0.32	Curry Creek ROMA
Sarasota	South Coastal Drainage	4063143	I-75 N. River Rd. (CR 577) to SR 681	Issued	43034226.000	2008-02298	1-Mar-10																			0.60	0.36																							1.31	0.79			12.64	7.41																			14.55	8.56	Fox Creek ROMA
Sarasota	South Coastal Drainage	4063143	Rd. (CR 577) to SR 681	Issued	43034226.000	2008-02298	1-Mar-10																			0.77	0.49																																															0.77	0.49	Curry Creek ROMA
Hillsborough	Tampa Bay Drainage	2555991	SR 676 (Causeway Blvd.) US 301 to US 41	Issued	43027063.000	2004-05583	1-Aug-07			0.20										0.20																																1.00																				1.40	0.00	Boyd Hill Nature Preserve
Hillsborough	Tampa Bay Drainage	2555991	(Causeway Blvd.) US 301	Issued	43027063.000	2004-5583	1-Aug-07			0.20										0.20																																1.00																				1.40	0.00	Cockroach Bay (Fresh)
Hillsborough	Tampa Bay Drainage	2556301	Courtney Campbell to Fish Creek	Issued	43000920.005	2001-05084	1-Aug-04									3.70								4.40																																4.10																12.20	0.00	Gateway Tract
Hillsborough	Tampa Bay Drainage	2557031	St. to Fish Creek	Issued	43002958.003	2002-05816	1-Aug-04																																																	5.40																5.40	0.00	Cockroach Bay (Salt)
Hillsborough	Tampa Bay Drainage	2557031	SR 60 Cypress St. to Fish Creek	Issued	43002958.004	2002-05816	1-Aug-04																																													0.80																				0.80	0.00	Cockroach Bay (Fresh)
Hillsborough	Tampa Bay Drainage	2557031	St. to Fish Creek	Issued	43002958.003	2002-05816	1-Aug-04																																																	10.70																10.70	0.00	Apollo Beach
Hillsborough	Tampa Bay Drainage	2557031	St. to Fish Creek	Issued	43002958.003	2002-05816	1-Aug-04	0.60						0.10										0.30																																0.60				3.50														5.10	0.00	Tappan Tract
Hillsborough	Tampa Bay Drainage	2557341	Maritime Blvd. to SR 60	Issued	4413736.003	1995-02501	1-Jan-01																	1.00										0.50																																								1.50	0.00	Gateway Tract
Hillsborough	Tampa Bay Drainage	2558881	Ave. to Tampa Bypass Canal	Issued	43024246.000	2002-06711	1-Oct-05																							6.40		1.90																																										8.30	0.00	Boyd Hill Nature Preserve
Hillsborough	Tampa Bay Drainage	2558881	US 301 Sligh Ave. to Tampa Bypass Canal	Issued	43024246.000	2002-06711	1-Oct-05																																													3.00																				3.00	0.00	Cockroach Bay (Fresh)
Hillsborough	Tampa Bay Drainage	2558935	SR 574 (MLK) @ I-75	Issued	44033776.000	NPR	1-Jan-09																																							0.21	0.08																									0.21	0.08	Brooker Ck. Buffer Preserve
Pinellas	Tampa Bay Drainage	2568811	Whitney Rd. to Seville Dr.	Issued	44025287.003	2006-02199	1-Oct-09																	0.50	0.29																																															0.50	0.29	Mobbly Bayou
Pinellas	Tampa Bay Drainage	2568812	Seville Dr. to SR 60	Issued	44025287.002	2006-2199	1-Oct-09																											0.20																																						0.20	0.00	Cockroach Bay (Fresh)
Pinellas	Tampa Bay Drainage	2568881	Coachman Rd. to Sunset Rd.	Issued	4411760.013	2001-04383	1-Feb-03																							0.30		0.10																																										0.40	0.00	Boyd Hill Nature Preserve
Pinellas	Tampa Bay Drainage	2569051	(Bayway) Bunces Pass	Issued	52-0148752-001	1991-00289	1-Feb-00									0.10																																						0.50																0.60	0.00	Gateway Tract
Pinellas	Tampa Bay Drainage	2569311	(SR 694) US 19 to 4th St.	beyond 2015			Undetermined							0.50																																								0.10																		0.60	0.00	Alligator Lake

FDOT Wetland Impact Inventory
APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects (yellow)
New Projects (green)

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Pinellas	Tampa Bay Drainage	2569312	(SR 694) 9th Street to 4th	Issued	43011339.007	2010-00652	1-Apr-17																	0.33	0.17									2.98	0.80																																			3.31	0.97	Mobbly Bayou
Pinellas	Tampa Bay Drainage	2569571	(Drew St.) to Railroad	Issued	4411760.000	1994-00608	1-Sep-02																									0.20																		0.30																				0.50	0.00	Cockroach Bay (Fresh)
Pinellas	Tampa Bay Drainage	2569941	Connector 40th St. to 28th St.	Issued	43008898.006	2003-1070	1-Jul-09																																							1.00																								1.00	0.00	Cockroach Bay (Fresh)
Pinellas	Tampa Bay Drainage	2569942	Connector NB I-275 (Ramp P)	Issued	43018980.001	2004-09454	1-Jul-09																																																					1.10										1.10	0.00	Cockroach Bay (Fresh)
Pinellas	Tampa Bay Drainage	2569951	EXTENSION FROM CR 296 (118TH AVE N)	1-Jan-13	43041223.000	Pending	1-Jan-13																											0.76	0.53																																			0.76	0.53	Alligator Lake
Pinellas	Tampa Bay Drainage	2569951	EXTENSION FROM CR 296 (118TH AVE N)	1-Jan-13	43041223.000	Pending	1-Jan-13			2.79	1.95																																																											2.79	1.95	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	2569952	EXTENSION FROM CR 296 (118TH AVE N)	1-Jan-13			1-Jan-13																											0.72	0.53																																			0.72	0.53	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	2569953	SR 688/ULMERTON RD FM E OF 49TH STREET TO W OF 38TH STREET NORTH	1-Oct-13			1-Oct-13			1.19	0.39																																							5.82	2.91							7.22	3.57									14.23	6.87	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	2569961	SR 686 AT CR 611 (49TH ST)	1-Nov-13			1-Nov-13			0.30	0.15													0.40	0.28																																													0.70	0.43	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	2569971	(ROOSEVELT) FROM 49TH	1-Jul-19			design-build			1.15	0.34			1.14	0.34																																																					2.29	0.68	Bahia Beach
Pinellas	Tampa Bay Drainage	2569981	W OF I-275 TO W OF 9TH ST N	Unknown	4302690.009	2008-01606	Unknown																											2.10												0.70																								2.80	0.00	Mobbly Bayou
Pinellas	Tampa Bay Drainage	2570701	49th St. to 118th Avenue	Issued	44000188.002	2002-06325	1-Jul-06																							0.10																																										0.10	0.00	Boyd Hill Nature Preserve
Pinellas	Tampa Bay Drainage	2570861	(GANDY BLVD) FROM	1-Feb-16			1-Jul-20																																											0.10	0.07																	0.10	0.07	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	2571391	(Ulmerton Rd.), US 19 to 49th Street	Issued	44026223.000	2003-11664	1-Sep-05																	0.10																																														0.10	0.00	Cockroach Bay (Salt)
Pinellas	Tampa Bay Drainage	2571471	(Ulmerton Rd.) 38th to I-275	1-Dec-11			1-Jun-13																									0.70																																						0.70	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	2583982	Franklin to Himes Ave.	Issued	43002958.006	2005-3876	1-Aug-06																	0.70																												0.80																1.50	0.00	Gateway Tract
Hillsborough	Tampa Bay Drainage	2584151	I-4 (SR 400) @ Selmon Expressway	Issued	44012347.014	2010-03007	1-Nov-09																	6.30	3.97																											0.10	0.03																	6.40	4.00	Mobbly Bayou
Pinellas	Tampa Bay Drainage	2588701	I-275 Roosevelt to Big Island Gap	Issued	43001034.006	1994-02523	1-May-02																	4.90										3.20																0.50				0.50														9.10	0.00	Gateway Tract
Pinellas	Tampa Bay Drainage	4037701	(Alderman) to SR 582	Issued	44022085.001	NW-14	1-Apr-02																									0.10																																						0.10	0.00	Boyd Hill Nature Preserve
Hillsborough	Tampa Bay Drainage	4055252	(ADAMO DR) FROM E OF	1-Jun-13	44016057.003	2013-02512	1-Jul-16			0.85	0.15									0.01	0.00																																																	0.86	0.15	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4061511	Veteran's Expressway Memorial Hwy. to Gunn Hwy.	Unknown	49007864.026	2009-03478	1-Jan-11																			0.17	0.09													3.15	1.74					0.10	0.05	0.05	0.03			2.93	1.81																	6.40	3.72	Bahia Beach
Pinellas	Tampa Bay Drainage	4062531	SR 686 (Roosevelt) at 49th Street	Issued	44007482.012	2002-06320	1-Nov-03																	0.20																																														0.20	0.00	Gateway Tract
Pinellas	Tampa Bay Drainage	4062561	East-West Trail, Coopers Bayou to Bayshore	Issued	44022718.001	2001-05298	1-Nov-03																									0.10																																						0.10	0.00	Boyd Hill Nature Preserve
Pasco	Tampa Bay Drainage	4080752	US 301 (SR 39) FM S OF CR 54/EILAND BLVD TO N OF KOSSIK RD	1-Sep-15			1-Oct-20																																											0.10	0.07																	0.10	0.07	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4082011	Hillsborough Ave.	Issued	44002448.002	2002-08419	1-Sep-03																									0.10																																						0.10	0.00	Boyd Hill Nature Preserve
Pinellas	Tampa Bay Drainage	4091551	(Ulmerton Rd.) Lake Seminole	Issued	43011339.007	2010-03007	1-Dec-11			0.02	0.02																																																												0.02	0.02	Mobbly Bayou
Hillsborough	Tampa Bay Drainage	4113371	Springs to Thonotasassa	Issued	43031172.000	2006-00602	1-Sep-07													0.10																														0.10																				0.20	0.00	Ekker Tract
Hillsborough	Tampa Bay Drainage	4125311	(Memorial HWY) fom I-	1-Oct-13			1-Mar-19																	1.00	0.70																											0.10	0.07																	1.10	0.77	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	4125313	I-275 @ I-275 NB Off-Ramp to SR 60 Airport Flyover	Issued	43008209.002	2008-02506	1-Jun-09																	0.90	0.50																																															0.90	0.50	Mobbly Bayou
Pinellas	Tampa Bay Drainage	4136222	296(FUTURE SR690) FROM	1-Aug-11	43008209.002	Pending	1-Aug-11			0.92	0.52													0.80	0.52							2.87	1.97																																					4.59	3.01	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4143481	North Terminal Phase 1		49008387.043	2002-01521																								0.97	0.68							0.77	0.54					0.74	0.52																									2.48	1.74	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	Runway 17-35		49008387.043	2002-01521																												2.82	1.97			0.33	0.23									1.64	1.15					1.93	1.35													6.72	4.70	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Taxiway S West Extension		49008387.043	2002-01521																																										0.43	0.30																					0.43	0.30	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	North Terminal Airside 2		49008387.043	2002-01521																								3.22	2.25							1.03	0.72					1.04	0.73																									5.29	3.70	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	North Terminal Airside 3		49008387.043	2002-01521														0.08	0.06																							4.21	2.95																									4.29	3.01	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	North Terminal Airside 4		49008387.043	2002-01521																												0.73	0.51									2.93	2.05																									3.66	2.56	Brooker Ck. Buffer Preserve

FDOT Wetland Impact Inventory

APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects (yellow)

New Projects (green)

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Hillsborough	Tampa Bay Drainage	4143481	Taxiway A Extension		49008387.043	2002-01521														1.27	0.89																																															1.27	0.89	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	East Devepment Area (Drew Park Improvements)		49008387.043	2002-01521																												0.63	0.32																																			0.63	0.32	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Development Area		49008387.043	2002-01521														0.80	0.40											0.12	0.06					0.61	0.31									2.41	1.21																			3.94	1.98	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	Taxiway B rehab, Bridge and N. Terminal Stormwater	Issued	43008387.054	2002-1521																								1.28	0.91													2.01	1.08																							3.29	1.99	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	36R RPZ	Issued	490008387.026	2004-12399																								7.18	5.03																																							7.18	5.03	Brooker Ck. Buffer Preserve
Hillsborough	Tampa Bay Drainage	4143481	36R RPZ	Issued	49008387.026	2004-12399																												0.55	0.39																																			0.55	0.39	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Taxiway V&W	Issued	49008387.037	2002-1521																								0.28	0.08													0.38	0.20																							0.66	0.28	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Drainage Rehab (fna Taxiway N	Issued	49008387.062	2002-01521																																												2.17	1.00			0.68	0.41													2.85	1.41	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Taxiway E Reconstruction		49008387.043	2002-01521				2.87																																																												2.87	0.00	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	High Speed Txwy for RW18R (fna Taxiway "W3")	Issued	49008387.028	2002-01521				2.20	1.10																																																											2.20	1.10	Bahia Beach
Hillsborough	Tampa Bay Drainage	4143481	Cargo/ Ground Support Equip. Facility	Issued	44008387.045	2002-01521																												0.63	0.13																																			0.63	0.13	Bahia Beach
Hillsborough	Tampa Bay Drainage	4152349	Mabry) Lakeview Dr. to	1-Jun-12			1-Sep-13																																											0.30																				0.30	0.00	Bahia Beach
Hillsborough	Tampa Bay Drainage	4154892	Road to Gibsonton	Issued	43031128.000	2006-04230	1-Sep-08													1.50																										7.20		2.80																						11.50	0.00	Ekker Tract
Hillsborough	Tampa Bay Drainage	4154893	City Center to Balm Road	Issued	43034464.000	2008-03613	1-Oct-16													2.00																																																		2.00	0.00	Boyd Hill Nature Preserve
Hillsborough	Tampa Bay Drainage	4154893	City Center to Balm Road	Issued	43034464.000	2008-03613	1-Oct-16							1.20																																2.00																								3.20	0.00	Ekker Tract
Pinellas	Tampa Bay Drainage	4168381	/ Gandy) Pelican Sound	Issued	43011339.006	2009-03493	1-Sep-10																	1.50	0.94																																													1.50	0.94	Mobbly Bayou
Hillsborough	Tampa Bay Drainage	4209331	Ave. Van Dyke Rd. to Lutz	beyond 2015			1-Feb-21																															0.90																																		0.90	0.00	Alligator Lake
Pinellas	Tampa Bay Drainage	4230801	SOUTHBOUND @ BUNCES	1-Aug-13			1-Jun-19																																																													0.10		0.10	0.00	Mobbly Bayou
Pinellas	Tampa Bay Drainage	4230801	SOUTHBOUND @ BUNCES	1-Aug-13			1-Jun-19																	0.10																																														0.10	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4230881	SR 616 FROM E OF OBRIEN ST TO DALE MABRY HWY	1-Mar-13			1-Mar-14																																											0.20	0.14																			0.20	0.14	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4245501	FROM MANATEE/HIL	1-Oct-12	47041105.000	2012-03010	1-Aug-13			0.54																																								0.26	0.13																			0.80	0.13	Bahia Beach
Hillsborough	Tampa Bay Drainage	4245611	Pinellas/Hillsborough C.L. to	Issued	44000920.009	2010-00993	1-Apr-12																	0.06	0.04																																											0.06	0.04	Mobbly Bayou
Pinellas	Tampa Bay Drainage	4245613	(CCAMPBLL CWY) FROM	1-Dec-12			1-Oct-13			0.34	0.24																																																											0.34	0.24	Tampa Bay Mitigation Bank
Pinellas	Tampa Bay Drainage	4245614	(CCAMPBLL CWY) FROM E	1-Nov-12			1-Oct-13																	0.10																																														0.10	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4255001	FROM N OF LINWOOD DR	1-Jan-13			1-Jan-14																																											0.20																				0.20	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4289241	Mabry) Cheval Blvd. to County	1-Oct-12			1-Apr-13			0.07																																																														0.07	0.00	Bahia Beach
Hillsborough	Tampa Bay Drainage	4289361	ADAMO DR FROM E OF N	1-Jan-13			1-Sep-13																																											0.20																				0.20	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4290001	US 41 (SR 45) FROM E OF 47TH ST TO E END BRIDGE #299/338	1-Jul-13			1-Jul-14																																											0.10	0.07																			0.10	0.07	Tampa Bay Mitigation Bank
Pasco	Tampa Bay Drainage	4290081	MABRY FROM COUNTY LINE	1-Oct-12	44007155.014	2013-00588	1-Aug-13																															0.25	0.12																																	0.25	0.12	Alligator Lake
Pinellas	Tampa Bay Drainage	4290601	(ROOSEVELT) FROM N OF	1-May-13			1-Jul-15																																											1.25	0.88																			1.25	0.88	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4290732	580(HILLSBOROUGH) FROM E OF AIR	1-Jan-13			1-Oct-13																																											0.20																				0.20	0.00	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	4290741	US 41/SR45/599/50TH FROM N OF 27TH AVE S TO N OF E 10TH AVE	1-May-13			1-Jun-14																																											0.10	0.07																			0.10	0.07	
Hillsborough	Tampa Bay Drainage	4293501	Veteran's Expressway Gunn Hwy. to Van Dyke	Unknown			Unknown																			0.82	0.42											1.37	0.63					0.27	0.14	0.54	0.22																							3.00	1.41	Bahia Beach
Pinellas	Tampa Bay Drainage	4309001	106TH AVE N TO E OF BIG	1-Mar-14			1-Mar-15																																											0.10	0.07																			0.10	0.07	Tampa Bay Mitigation Bank

FDOT Wetland Impact Inventory

APPENDIX C: 2014 Inventory of FDOT Road Improvement Projects

Deleted Projects (yellow)

New Projects (green)

County	Drainage Basin	FM No.	Project Description	Permit Application Date	ERP Permit Number	ACOE Permit Number	Proposed Construction Commencement	500 Open Water (Canal) acres	500 Open Water (Canal) FL	510 Streams & Waterways acres	510 Streams & Waterways FL	522 Lakes acres	522 Lakes FL	530 Reservoir (Ponds) acres	530 Reservoir (Ponds) FL	540 Bays & Estuaries acres	540 Bays & Estuaries FL	650 Non-Vegetated acres	650 Non-Vegetated FL	610 Freshwater Hardwood Forest acres	610 Freshwater Hardwood Forest FL	611 Bay Swamp acres	611 Bay Swamp FL	612 Mangrove acres	612 Mangrove FL	615 Stream Swamp acres	615 Stream Swamp FL	616 Inland Pond acres	616 Inland Pond FL	617 Mixed Hardwood Forest acres	617 Mixed Hardwood Forest FL	618 Willow & Elderberry acres	618 Willow & Elderberry FL	619 Exotic Hardwood acres	619 Exotic Hardwood FL	620 Wetland Coniferous Forest acres	620 Wetland Coniferous Forest FL	621 Cypress acres	621 Cypress FL	624 Cypress, Pine & C. Palm acres	624 Cypress, Pine & C. Palm FL	625 Hydric Flatwoods acres	625 Hydric Flatwoods FL	630 Mixed Wetland Forest acres	630 Mixed Wetland Forest FL	631 Wetland Scrub acres	631 Wetland Scrub FL	640 Freshwater Non-For. Acres	640 Freshwater Non-For. FL	641 Freshwater Marsh acres	641 Freshwater Marsh FL	641x Freshwater (Ditch) acres	641x Freshwater (Ditch) FL	642 Estuarine Marsh acres	642 Estuarine Marsh FL	642x S. Water (Ditch) acres	642x S. Water (Ditch) FL	643 Wet Prairie acres	643 Wet Prairie FL	644 Lake Marsh acres	644 Lake Marsh FL	645 Submergent Aquatic Vegetation acres	645 Submergent Aquatic Vegetation FL	653 Intermittent Pond acres	653 Intermittent Pond FL	911 Seagrass acres	911 Seagrass FL	Total Impacted Acreage	Total Impacted FL	Mitigation Project Name
Pinellas	Tampa Bay Drainage	4325341	US 19 FROM 38TH AVENUE NORTH TO 44TH AVENUE NORTH	1-Aug-13			1-Feb-14																																											0.66	0.20																			0.66	0.20	Tampa Bay Mitigation Bank
Hillsborough	Tampa Bay Drainage	9999999	Lee Roy Selmon Crosstown Extension - Temporary Haul Road	Issued	44021031.006	NPR	1-Jun-03																																											0.21																				0.21	0.00	Ekker Tract
Pasco	Upper Coastal Drainage	2563161	SR 52 Hicks to Moon Lake Rd.	Issued	4007804.005	1990-03363	1-Nov-96																							1.60																																								1.60	0.00	Serenova - Sites 2,3,4,8
Pasco	Upper Coastal Drainage	2572982	CR 578 (County Line Rd.) US 19 to East Rd.	Issued	4406732.000	NPR	1-Aug-08																																											0.55	0.39																			0.55	0.39	Conner Preserve
Pasco	Upper Coastal Drainage	2572983	FROM East Rd to Mariner Blvd	1-May-11	44006732.003	NPR	1-Sep-19																																											0.21	0.14																			0.21	0.14	Conner Preserve
Pasco	Upper Coastal Drainage	2572985	(County Line Rd.) Suncoast	Issued	44014061.002	NPR	1-Feb-18																							0.29	0.20																																							0.29	0.20	Conner Preserve
Hernando	Upper Coastal Drainage	2572992	Road); from SR 50 to US 98	41395			44197																																							6.20																										6.20	0.00	Conner Preserve
Pasco	Upper Coastal Drainage	2589581	Parkway and Ridge Road	Unknown	43018792.005	Pending	Unknown																																	1.63						0.60						0.10																				2.33	0.00	Conner Preserve
Pinellas	Upper Coastal Drainage	4037711	Republic Drive to CR 816	Issued	44022085.001	NPR	1-Apr-02																									0.10	0.04																																			0.10	0.04	Conner Preserve
Pasco	Upper Coastal Drainage	2563361	SR 54 Mitchell to Gunn	Issued	43016251.002	1999-05202	1-Jan-04																																	1.60						0.50		2.30				2.20																				6.60	0.00	Anclote Parcel
Citrus	Upper Coastal Drainage	4058222	Green Acres to Jump Ct.	Issued	44009590.005	2008-03044	1-Oct-16																							0.07	0.05									0.21	0.15											0.25	0.10																			0.53	0.30	Conner Preserve
Pasco	Upper Coastal Drainage	2563391	SR 54 N. Suncoast to US 41	Issued	43016251.000	1995-04576	1-Jan-03																							1.30				0.80				3.00												0.50		1.40																		7.00	0.00	Anclote Parcel
Citrus	Upper Coastal Drainage	4058223	Jump Court to Ft. Island Trail	1-Aug-11	43009590.006	2011-2373	6/30/2017			0.19	0.11															7.26	4.53																									1.39	0.52																			8.84	5.16	Conner Preserve
Hernando	Upper Coastal Drainage	4079513	SR 50 US 19 to Mariner Dr.	Issued	44035066.000	NPR	1-Oct-13																																																					1.25	0.60											1.25	0.60	Conner Preserve
Pinellas	Upper Coastal Drainage	2569031	(Bayway Bridge) SR 679	Issued	4423532.000	NPR	1-Sep-03									0.10																																				0.30																		0.40		0.80	0.00	Ft. DeSoto Park
Pinellas	Upper Coastal Drainage	4091541	SR 688 (Ulmerton) - Wild Acres to El Centro/Ranchero Blvd.	Issued	44012347.015	2010-3007	1-Dec-11																							0.64	0.31																																							0.64	0.31	Conner Preserve
Pinellas	Upper Coastal Drainage	2570831	SR 699 (Gulf Blvd.) - 192nd Ave. to Walsingham/Ulmerton Rd.	Issued	44025373.000	2003-07110	1-Jun-11																	0.10																																																0.10	0.00	Ft. DeSoto Park
Pinellas	Upper Coastal Drainage	2570931	SR 60, Clearwater Harbor Bridge Replacement	Issued	44021540.001	20002-4966	1-Feb-02																	1.30																																0.20														1.50	0.00	Gateway Tract
Pasco	Upper Coastal Drainage	4110142	FROM N OF SR 52 TO PASCO/HERNANDO CO/L	1-Sep-12	670082.000	2012-2483	1-Oct-13			0.08	0.02																																									0.84	0.37																			0.92	0.39	Conner Preserve
Pinellas	Upper Coastal Drainage	4188602	US 19 (SR 55) Continuous Right Turn Lane	Issued	44027483.001	2010-080	1-Oct-10																							0.40	0.21																																							0.40	0.21	Conner Preserve
Pasco	Upper Coastal Drainage	4271571	US 19 (SR 55) FROM NEW YORK AVE TO PASCO/HERNANDO CO/L	1-Feb-12	44007590.001	Pending	1-Jun-13																																													0.02																				0.02	0.00	Conner Preserve
Citrus	Upper Coastal Drainage	4300211	S RIVER FROM W OF	1-Oct-13			1-May-16																			0.50																																														0.50	0.00	Conner Preserve
Pasco	Upper Coastal Drainage	4303811	52/SCHRADER HWY @ US	1-Dec-14			1-Mar-17																																													0.10	0.14																			0.10	0.14	Conner Preserve
Hernando	Upper Coastal Drainage	4311431	45/BROAD) FM S OF CR	1-Nov-13			1-Nov-14																																											0.10	0.07																			0.10	0.07	Conner Preserve
Hillsborough	Hillsborough River	2558934	BLVD) FROM EAST OF KINGSWAY	1-May-15			1-Jun-18																																											0.10	0.07																			0.10	0.07	Conner Preserve
Pasco	Hillsborough River	2562432	(SCHRADER HWY) FROM	1-May-13			1-Jul-18			0.06	0.03																			0.02	0.01																	1.49	0.99			0.93	0.65																			2.50	1.68	Conner Preserve
Pasco	Hillsborough River	2563341	(SCHRADER HWY)US 41 to	1-Sep-14			1-Oct-20																													3.00		3.00						7.00						3.00								3.00										19.00	0.00	Conner Preserve
Pasco	Hillsborough River	2564222	41) SR 39 to South of CR 54	1-Jul-16			1-Jul-18																																											0.10	0.03																			0.10	0.03	Conner Preserve
Hillsborough	Hillsborough River	2578623	Rd; from Alexander St to	1-Jan-15			1-Jul-17																																							0.82	0.57	1.26	0.88			0.37	0.26																			2.45	1.71	Conner Preserve
Pinellas	Upper Coastal Drainage	4107552	(Pinellas Bay Structure E) at	Issued	47023803.000	2002-04286	Undetermined			0.20														0.10																																														0.10		0.40	0.00	Ft. DeSoto Park
Pasco	Upper Coastal Drainage	4110142	FROM N OF SR 52 TO	1-Sep-12	670082.000	2012-2483	1-Oct-13																			12.42	5.56																									0.99	0.72																			13.41	6.28	Upper Coastal Mitigation Bank

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Pasco	Hillsborough River	2587362	FROM NORTH OF SR/CR 54	1-Dec-11	43040738.002	2009-01384	1-Jul-13																																											1.63	0.77																			1.63	0.77	Conner Preserve
Pasco	Hillsborough River	4110142	FROM N OF SR 52 TO	1-Sep-12	670082.000	2012-2483	1-Oct-13			0.52	0.06																			4.64	2.34																					5.96	2.74																	11.12	5.14	Conner Preserve
Pasco	Hillsborough River	4165612	CR 577/CURLEY	1-Jun-13			1-Jul-15			0.08	0.05																																			0.09	0.06			2.41	1.62																	2.58	1.73	Conner Preserve
Hillsborough	Hillsborough River	4289611	L REDMAN FROM SR	1-Feb-13			1-Dec-13			0.32	0.22																																							0.01	0.01																	0.33	0.23	Conner Preserve
Hillsborough	Hillsborough River	4306851	BLVD AT GALLAGHER	1-Nov-13			1-Jun-15																																					0.20	0.14																							0.20	0.14	Conner Preserve
Pinellas	Upper Coastal Drainage	4306601	595) FM N OF SR	1-Sep-13			1-Sep-14																	0.80	0.56																									0.20																		1.00	0.56	
Hillsborough	Hillsborough River	4311371	JR BLVD FM E OF MCINTOSH	1-Apr-13			1-May-14																																											0.20																		0.20	0.00	Conner Preserve
Polk	Withlacoochee River	2012041	I-4 East of CR 557 to Osceola County (Seg. 6-7,9)	Issued	43011896.032	1994-3591	1-Sep-02																																					0.03				3.18		0.55								0.12										3.88	0.00	Hampton Tract
Polk	Withlacoochee River	2012092	98 to East of CR 557 (Sec. 3-	Issued	43011896.026	2002-04891	1-Oct-02			0.86												0.02								0.28		2.76						3.84						8.46				0.05		1.21								1.40										18.88	0.00	Hampton Tract
Sumter	Withlacoochee River	2426262	Co. Line to SR 470	1-Jan-12			Unknown																																																															0.00	0.00	Colt Creek State Park
Sumter	Withlacoochee River	2426263	Co. Line to Florida	7-Jan-13	43033330.001	Pending	1-Feb-14			0.05										0.26						3.12						3.11												1.31						1.02								0.48										9.35	0.00	Colt Creek State Park
Citrus	Withlacoochee River	2571631	SR 44 US 41 to CR 470	Issued	4310152.003	1996-06491	1-Aug-02																			3.10						3.20																		1.60																		7.90	0.00	Withlacoochee S.F. - Baird
Citrus	Withlacoochee River	2571641	to Withlacoochee	Issued	4310152.004	1996-06491	1-Dec-02																							4.90														0.50		3.60				4.90																		13.90	0.00	Withlacoochee S.F. - Baird
Citrus	Withlacoochee River	2571651	US 41 from SR 44 to SR 200	1-Mar-14			1-Sep-20																							0.50	0.35	0.20	0.14																																			0.70	0.49	Halpata Tastanaki Preserve
Citrus	Withlacoochee River	2571841	Watson St. to SR 44 East	Issued	44024198.000	2002-06293	1-Nov-04																																											0.10																		0.10	0.00	Withlacoochee S.F. - Baird
Citrus	Withlacoochee River	2571882	SR 200 US 41 to Marion Co. Line	Undetermined			Undetermined																																											2.00								0.50		0.30								2.80	0.00	Halpata Tastanaki Preserve
Sumter	Withlacoochee River	4061101	Turnpike/ I-75 Interchange-Wildwood	Unknown			Unknown																																											2.00	1.00																	2.00	1.00	
Sumter	Withlacoochee River	4061101	Turnpike/ I-75 Interchange-Wildwood	Unknown			Unknown																			15.00	9.00																							3.00	1.50																	18.00	10.50	Colt Creek State Park
Sumter	Withlacoochee River	4063291	I-75 Lk. Panasoffkee Bridge	Issued	4320508.000	2000-00754	1-Nov-00			5.93																																																											5.93	0.00	Lake Panasoffkee
Citrus	Withlacoochee River	4092071	CR 470 (Gospel Isle)	Issued	44027068.000	2004-06915	1-Nov-04																							0.10																				0.20																		0.30	0.00	Withlacoochee S.F. - Baird
Hernando	Withlacoochee River	4110113	FROM PASCO/HERN	1-Apr-13			1-Apr-13			0.95	0.40															1.94	1.17			1.38	0.81															0.99	0.76			1.31	0.83																	6.57	3.97	Colt Creek State Park
Hernando	Withlacoochee River	4110114	FROM PASCO/HERN ANDO CO/L	1-Feb-13			1-Feb-13			0.05	0.00																					0.08	0.05																	0.21	0.12																	0.34	0.17	Colt Creek State Park
Hernando	Withlacoochee River	4110122	Hernando/Sumter CL	1-Nov-11	44033330.002	2011-3376	1-Jul-17			0.01																																																										0.01	0.00	Colt Creek State Park
Pasco	Withlacoochee River	4110142	FROM N OF SR 52 TO PASCO/HERN	1-Sep-12	670082.000	2012-2483	1-Oct-13																			3.05	1.92	0.12	0.07																																							3.17	1.99	Colt Creek State Park
Hernando	Withlacoochee River	4167323	SR 50 from US 98/ McKethan Rd. to US 301	1-May-14			1-Jul-19																																																										3.85	1.54			3.85	1.54	Colt Creek State Park
Hernando	Withlacoochee River	4167324	Windmere Rd./ Bronson Bl. To US 98/	1-May-14			1-Jul-19			1.16	0.93			0.58	0.17																																																	1.60	0.48			3.34	1.58	
Hernando	Withlacoochee River	4167324	Windmere Rd./ Bronson Bl. To US 98/	1-May-14			1-Jul-19																															0.10	0.06																															0.10	0.06	Green Swamp Mitigation Bank
Lake	Withlacoochee River	4230961	SR 33 at CR 474	1-May-13			1-Dec-13																																					1.00																								1.00	0.00	Halpata Tastanaki Preserve
Sumter	Withlacoochee River	4245241	SR 50 Bridge Removal over Van Fleet Trail	Undetermined			Undetermined																																									0.50																						0.50	0.00	Colt Creek State Park
Pasco	Withlacoochee River	4271651	35/700) Pioneer Museum Rd. to	1-Dec-11			1-Jan-13																																											0.20																		0.20	0.00	Colt Creek State Park
Marion	Withlacoochee River	4295821	I-75/ SW 95th St. Interchange	Undetermined			Undetermined																																																															0.00	0.00	Halpata Tastanaki Preserve
Pasco	Withlacoochee River	4312431	ALL BLVD FROM N OF KOSSIK RD	1-Aug-13			1-Jun-14																									0.10	0.04																	0.10	0.03																	0.20	0.07	Colt Creek State Park

Deleted FDOT Project (yellow)

New FDOT Project (green)

Totals 689.33 impacts that haven't been deleted

777.50 total impacts