2012 INTEGRATED FINANCIAL PLAN

PURPOSE

In 1996 Congress directed the Task Force to prepare an Integrated Financial Plan (IFP) for the restoration, preservation, and protection of the South Florida Ecosystem. The IFP is updated annually and posted on the South Florida Ecosystem Restoration Task Force website http://www.sfrestore.org/documents/index.html. Every two years it accompanies the Task Force Strategy and Biennial Report (Volume 1) as Volume 2 (Coordinating Success/Tracking Success). The last combined report was published in June 2010.

The purpose of the IFP is to provide detailed information about the federal, state, tribal, and local restoration projects that contribute towards the accomplishment of the vision, goals, subgoals, and objectives of the Task Force strategy for restoration of the South Florida Ecosystem.

BACKGROUND

The overall premise of restoration is that the ecosystem must be managed from a broader system-wide perspective. Rather than dealing with issues independently, the challenge is to seek out the interrelationships that exist between all the components of the ecosystem. The same issues that are critical to the natural environment — getting the water right and restoring, preserving, and protecting diverse habitats and species — are equally necessary in maintaining a quality built environment and lifestyle for south Florida's residents and visitors.

The success of this comprehensive approach depends upon the coordination and integration of hundreds of individual restoration projects carried out by various agencies at all levels of government with the input of many stakeholders. Each agency brings its own authority, jurisdiction, capabilities, and expertise to the overall initiative and applies them through their respective individual programs, projects, and activities.

CRITERIA AND ASSUMPTIONS

The IFP is the compilation of project specific information provided by the members of the Task Force. It is important to note that the cost estimating protocols, fiscal year cycles, time frames and methodologies used by each member varies. As such, the IFP reflects criteria and assumptions specific to that reporting Task Force entity and does not follow a single format. Specific criteria and assumptions for each project are annotated with footnotes.

For policy reasons, the Florida Department of Environmental Protection (FDEP) and the South Florida Water Management District (SFWMD) do not make individual project cost projections related to future non- Comprehensive Everglades Restoration Plan (CERP) land acquisitions for habitat preservation and conservation purposes listed under the Task Force Goal 2. The cost of lands already purchased for habitat preservation and conservation purposes are the actual costs. An estimate of future land costs for non-CERP Goal 2 land acquisition is provided as a Total Cost Estimate found within this report.

The following criteria and assumptions apply to all of the project financial information, as provided, in this Task Force 2012 Integrated Financial Plan:

- Federal agencies and the SFWMD operate and report financial activities on an October 1 to September 30 fiscal year, while other State of Florida agencies operate on a July 1 to June 30 fiscal year.
- The U.S. Army Corps of Engineers (USACE), in seeking project authorization, utilizes current year dollars in developing detailed cost estimates for authorizing documents. The costs reflected in this document were derived in the following manner. These costs are inflated using the Office of Management and Budget (OMB) inflation indices as of October 1, 2011.

CERP

For projects where a decision document has not yet been initiated, an estimated cost was derived from the CERP Yellow Book (1999) and inflated to current day dollars. It is important to note that the original project estimates acknowledged that the final methodology to reach the goal would vary and that the actual real estate footprint was still an unknown.

The Project Implementation Report (PIR) is the primary decision document used to obtain approval and/or authorization of CERP projects. Project cost estimates are revised and updated during the PIR development. Once a PIR is approved, the estimated cost contained in the PIR is the new estimated project cost.

For pilot projects a Pilot Project Design Report (PPDR) is completed instead of a PIR and contains similar cost information to that in a PIR.

Central & Southern Florida (C&SF) Projects:

Other previously authorized Central & Southern Florida (C&SF) projects including C-111 (South Dade), West Palm Beach STA 1 East/C-51 West; the Everglades and South Florida Ecosystem Restoration (E&SF) Critical Projects Projects; Kissimmee River Restoration, and Herbert Hoover Dike have been reported in 2011 dollars.

- The SFWMD project costs are reported as follows:

a) Lake Okeechobee Protection Plan – Directed in the Northern Everglades and Estuaries Protection Act, the SFWMD updated the Lake Okeechobee Protection Plan (LOPP) in 2011 for operation and maintenance of current (existing) projects and implementation of the next phase of "near-term" projects (2011-2013) are estimated to be $92.6 million. This estimate was calculated using 2010 dollars and adjusted using a 3.5 percent inflation rate from 2011 to 2013. Cost estimates for subsequent phases will be developed in the future.

    - The Long-Term Phase of the LOPP includes the CERP Lake Okeechobee watershed project. The plan assumes that the cost for non-CERP features will be primarily borne by the SFWMD and the State, while CERP costs are eligible for up to fifty percent cost share with the federal government. It is important to note that the SFWMD expedited a portion of the CERP Lake Okeechobee Watershed Project (specifically Lakeside Ranch Stormwater Treatment Area Phase I) ahead of federal authorization in order to achieve environmental benefits earlier.

Expediting Phase II of this project is dependent upon continued State and SFWMD funding in advance of federal appropriation.

- In general, non-CERP costs include dispersed water management projects, Lake Okeechobee Protection Plan Phosphorus Source Control projects, Hybrid Wetland Treatment Technology projects, local government initiatives, implementation of BMPs throughout the entire Lake Okeechobee watershed, and ongoing in-lake restoration activities, monitoring, research, and exotics removal.

b) Long Term Plan and Expedited Projects – Project cost estimates are updated as each project progresses through the design process. Each updated cost estimate is reported as the present day value at the time the estimate is performed. Contingencies are included in each estimate with larger contingencies (30%) used during early stages of the design phase and smaller contingencies (10%) used at the final design phase. The contingencies are intended to account for cost escalation due to inflation.

- Reporting agencies needed to presume annual levels of Congressional and State of Florida appropriations to develop project completion schedules. If the actual appropriations vary from presumed levels, then project completion schedules and estimated projects costs may change.
- Federal project execution is contingent upon Administration priorities and subject to available appropriations.
- The Project Summary Table and IFP do not include operational costs or agency programmatic costs that would be incurred regardless of the restoration initiative. For example, the National Park Service costs to operate and maintain Everglades National Park, Fish and Wildlife Service costs to provide for Endangered Species Act consultation and USACE and SFWMD costs to operate and maintain water delivery infrastructure are not included herein.
- The Project Summary Table and IFP do not include the costs of land development and associated infrastructure as well as infrastructure improvements in existing urban areas including but not limited to redeveloping declining urban areas, wastewater and storm water management systems construction and improvements, schools, roadways, utilities, government services, and light rail.
- The Project Summary Table and IFP do not include any costs or future resource needs projected for environmental and system-wide monitoring programs (for example, the $100 million funded over 10 years for the CERP monitoring programs is not included).
- The Project Summary Table and IFP do not include any post-construction operations and maintenance costs in the total financial requirement, except where stated in individual project sheets or footnoted in the Project Summary Table.

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
GOAL 1. GET THE WATER RIGHT											
1.A.1		**SURFACE WATER STORAGE PROJECTS**						**ACRE-FT.**			
	1101	C&SF: CERP Indian River Lagoon-South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/SFWMD	2002	TBD	$2,070,860,000	$439,656,628	130,000	1.A.1	1.B.1/2.A.3	23
	1102	C&SF: CERP Central Everglades Planning Project (CEPP)	USACE/SFWMD	2001	TBD	$10,700,000	$0	360,000	1.A.1	1.A.3	34
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/SFWMD	2001	TBD	$2,089,000,000	$42,310,000	272,823	1.A.1	1.B.1/2.A.3	37
	1105	C&SF: CERP North Lake Belt Storage Area (XX P2) (CERP Project WBS # 25)	USACE/SFWMD	TBD	TBD	$357,436,000	$0	90,000	1.A.1		42
	1106	C&SF: CERP Palm Beach County Agriculture Reserve Reservoir - Part 1 (VV P1) (CERP Project WBS # 20)	USACE/SFWMD	2006	TBD	$124,765,000	$1,377	20,000	1.A.1		44
	1107	C&SF: CERP Site 1 Impoundment (M P1) a/k/a Site 1 Impoundment (Fran Reich Preserve) (CERP Project WBS # 40)	USACE/SFWMD	2004	2014	$104,524,000	$36,835,248	13,280	1.A.1	2.A.3	45
	1109	C&SF: CERP C-43 Basin Storage Reservoir --Part 1 (D P1) [Caloosahatchee River (C-43) West Basin Storage Reservoir (PIR #1); Caloosahatchee Watershed (PIR #2)] (CERP Project WBS # 04)	USACE/SFWMD	2001	2014	$584,880,000	$39,088,217	170,000	1.A.1		49
	1110	C&SF: CERP Central Lake Belt Storage Area (S); Flows to Eastern Water Conservation Ares (EEE - previously WBS #23).	USACE/SFWMD	TBD	TBD	$700,568,000	$0	190,000	1.A.1	1.B.1	55
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/SFWMD	1997	2011	$50,000,000	$49,669,000	6,000	1.A.1	2.A.3	57
	1113	C&SF: CERP Water Preserve Area Conveyance (XX P1) (CERP Project WBS # 49)	USACE/SFWMD	2002	TBD	$357,714,000	$227,451	90,000	1.A.1		60
	1114	C&SF: CERP Everglades National Park Seepage Management (V) (FF) (BB) (U) (CERP Projects WBS # 27 and # 43)	USACE/SFWMD	2004	2016	$485,662,000	$2,868,630	11,500	1.A.1		61
	1115	C&SF: CERP North Palm Beach County-- Part 1 (X) (Y) (GGG) (K P1) (OPE) (CERP Project WBS # 17) (Formerly Project ID 1503)	USACE/ SFWMD	2001	TBD	$842,728,174	$16,616,181	46,000	1.A.1		64

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	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS # 45) (Formerly Project ID 1501)	USACE/ SFWMD	2002	2020	$866,707,000	$26,252,000	11,648	1.A.1	2.A.3	69
	2100	Allapattah Flats/Ranch	FDEP	1997	TBD	Footnote 1	Footnote 1	32,000	1.A.1	2.A.1	209
		Closed Projects									
	1112	Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2010	$3,685,505	$3,685,505	0	1.A.1		408
1.A.2		**ALTERNATIVE WATER STORAGE SYSTEMS PROJECTS**						**BGD**			
	1200	C&SF: CERP North Palm Beach County - Part 2 (LL) (K P2) (CERP Project WBS # 18)	USACE/SFWMD	TBD	TBD	$233,009,000	$0	0.220	1.A.2		73
	1201	C&SF: CERP Lake Okeechobee ASR (GG P1, GG P2, GG P3) (CERP Project WBS # 03)	USACE/SFWMD	2010	TBD	$1,432,270,000	$0	1.000	1.A.2		75
	1202	C&SF: Hillsboro ASR Phase 2 (M P2) (CERP Project WBS # 22)	USACE/SFWMD	2014	TBD	$119,091,000	$540	0.150	1.A.2		77
	1203	C&SF: CERP ASR Regional Study (CERP Project WBS # 44)	USACE/SFWMD	2003	2017	$90,364,000	$22,045,362		1.A.2		79
	1204	C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery - – Part 2 (VV P2) (CERP Project WBS # 21)	USACE/SFWMD	TBD	TBD	$56,542,000	$0	0.075	1.A.2		81
	1205	C&SF: CERP C-43 Basin Aquifer Storage and Recovery (ASR) (D P2) Caloosahatchee River Aquifer Storage and Recharge Project (C-43ASR) (CERP Project WBS # 05)	USACE/SFWMD	TBD	TBD	$304,185,000	$0	0.220	1.A.2		83
	1206	Seminole Tribe Brighton Reservation Aquifer Storage and Recovery (ASR) Pilot Project	SFWMD/Seminoles	2007	2013	$2,500,000	$450,000		1.A.2		85
	1207	Taylor Creek Aquifer Storage and Recovery (ASR) Project	SFWMD	2006	2013	$2,000,000	$850,000		1.A.2		87
	1208	Fisheating Creek Feasibility Study	SFWMD/State of Florida	2008	2012	$1,036,230	$755,342		1.A.2		89
1.A.3.		**MODIFY IMPEDIMENTS TO SHEETFLOW PROJECTS**						**MILES MODIFIED**			
	1300	C&SF: C-111 (South Dade)	USACE/SFWMD	1994	2017	$331,300,000	$117,520,000	4.75	1.A.3	3.B.1	92
	1301	C&SF: CERP WCA -3 Decompartmentalization and Sheetflow Enhancement (AA) (QQ P1 & QQ P2) (SS) (ZZ) (CERP Projects WBS # 12, # 13 and # 47)	USACE/SFWMD	2001	TBD	$372,388,000	$20,623,465	240	1.A.3		95

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	1302	C&SF: CERP Florida Keys Tidal Restoration (OPE) (CERP Project WBS # 31)	USACE/SFWMD	2001	TBD	$1,427,000	$1,395,748	0.6	1.A.3		100
	1303	E&SF: Critical Projects Southern CREW Project Addition/ Imperial River Flowway (also CERP OPE) Southern CREW	USACE/SFWMD	1999	2015	$33,321,000	$1,524,920		1.A.3	2.A.3	102
	1306	Kissimmee River Restoration Project	USACE/SFWMD	1994	2015	$738,600,000	$638,130,000	31	1.A.3	2.A.3	104
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	$417,156,385	$357,211,000	21	1.A.3	2.A.3	108
	1308	E&SF: Critical Projects Tamiami Trail Culverts Additional Water Conveyance Structures under Tamiami Trail (Formerly Project ID 1400)	USACE/SFWMD	2003	TBD	$25,584,000	$3,574,969	16	1.A.3		117
	1309	Tamiami Trail Modifications: Next Steps (f/k/a Tamiami Trail 2 or Enabling Northeast Shark River Slough Restoration SFO –"support for others" (DOI))	DOI/USACE	2009	2012	$285,000,000	$216,631		1.A.3		119
	1310	C&SF: CERP Southern CREW Project Addition/ Imperial River Flowway (also CERP OPE) Southern CREW	USACE/SFWMD	1999	2015	$53,533,000	$0		1.A.3	2.A.3	121
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	Footnote 1	Footnote 1		1.B.1	1.A.3	122
		Completed Projects									
	1305	Kissimmee Prairie	FDEP/ SFWMD	1996	1997	Footnote 1	Footnote 1	38.3	1.A.3	2.A.1	382

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		OTHER RELATED HYDROLOGY PROJECTS									
	1401	Biscayne Bay Feasibility Study	USACE/M-DADE	1996	TBD	$5,900,000	$2,112,079				123
	1403	C&SF: CERP Broward County Secondary Canal System (CC) (CERP Project WBS # 24)	USACE/SFWMD	2001	TBD	$17,777,000	$62,068				124
	1408	C&SF: CERP Loxahatchee National Wildlife Refuge Internal Canal Structures (KK) (CERP Project WBS # 14)	USACE/SFWMD	2004	TBD	$10,323,000	$49,426				125
	1409	C&SF: CERP Seminole Tribe Big Cypress Water Conservation Plan (CERP Project WBS # 96)	USACE/Seminole Tribe	TBD	TBD	$102,344,000	$0				126
	1411	C&SF: CERP C-43 Aquifer Storage and Recovery Pilot F/k/a Caloosahatchee (C-43) River ASR Pilot (CERP Project WBS # 33)	USACE/SFWMD	2002	2013	$6,000,000	$3,255,310				128
	1412	C&SF: CERP WCA 2B Flows to Everglades National Park (YY) (CERP Project WBS # 48)	USACE/SFWMD	2005	TBD	$109,554,000	$284,370				131
	1416	C&SF: CERP L-31N (L-30) Seepage Management Pilot F/k/a L-31N Seepage Management Pilot (CERP Project WBS # 36)	USACE/SFWMD	2010	TBD	$16,443,000	$8,061,142				132
	1417	C&SF:CERP Lake Belt (In-Ground Reservoir) Technology - Pilot (CERP Project WBS # 35)	USACE/SFWMD	2001	TBD	29,715,000	$1,918,971				135
	1418	C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery Pilot Lake Okeechobee ASR Pilot [Kissimmee River ASR (KRASR); Port Mayaca ASR (PMASR)] (CERP Project WBS # 32)	USACE/SFWMD	2001	2012	$35,382,000	$20,708,163				136
	1419	C&SF: CERP Lake Okeechobee Regulation Schedule (LORS)	USACE/SFWMD	TBD	TBD	TBD	$0				139
	1420	C&SF: CERP Modify Holey Land Wildlife Management Area Operation Plan (DD) (CERP Project WBS # 15)	USACE/SFWMD	TBD	TBD	$0	$0				140
	1421	C&SF: CERP Modify Rotenberger Wildlife Management Area Operation Plan (EE) (CERP Project WBS # 16)	USACE/SFWMD	TBD	TBD	$0	$0				141
	1422	C&SF: CERP Modifications to Southern L-31N and C-111 (OO) F/k/a Operational Modification to Southern Portion of L-31N and C-111 (OO)	USACE/SFWMD	TBD	TBD	$0	$0				142
	1423	C&SF:CERP Hillsboro Aquifer Storage and Recovery Pilot A/k/a Hillsboro ASR (CERP Project WBS # 34)	USACE/SFWMD	2000	2012	$6,645,000	$0				143
	1425	E&SF: Critical Projects - Seminole Tribe Big Cypress Water Conservation Plan	Seminole Tribe/ USACE	1997	2016	$60,000,000	$46,678,240				145
	1426	C&SF: CERP Florida Bay Florida Keys Feasibility Study (CERP Study)	USACE	2001	TBD	$6,500,000	$6,012,059				149

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	1431	C&SF: CERP Southwest Florida Feasibility Study (CERP Study)	USACE/SFWMD	2001	2012	$17,000,000	$16,369,000				151
	1435	C&SF: CERP C-4 Control Structures (T) (CERP Project WBS # 46)	USACE/SFWMD	2004	TBD	$3,190,000	$113,481				153
	1437	C&SF: CERP PLA /Information and Data Management	USACE/SFWMD	2000	TBD	PLA Budget	$0				154
	1438	C&SF: CERP PLA/Interagency Modeling Center	USACE/ SFWMD	2000	TBD	PLA Budget	$0				155
	1439	C&SF: CERP PLA/Environmental and Economic Equity	USACE/SFWMD	2000	TBD	PLA Budget	$0				157
	1440	C&SF: CERP PLA/Master Recreation Plan (MRP)	USACE/SFWMD	2000	TBD	PLA Budget	$0				159
	1441	C&SF: CERP PLA /Restoration Coordination and Verification (RECOVER)	USACE/ SFWMD	2000	TBD	PLA Budget	$0				160
	1442	C&SF: CERP Program Management	USACE/SFWMD	2000	TBD	$656,780,000	$385,185,000				164
		Completed Projects:									
	1406	E&SF: Critical Projects - East Coast Canal Structures (C-4)	USACE/SFWMD	1999	2003	$3,737,000	$3,737,000				383
	1428	Indian River Lagoon Restoration Feasibility Study	USACE/SFWMD	1996	2002	$6,150,000	$6,150,000				384
		Closed Projects									
	1436	Permanent Forward Pumps – Expedited Project –The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2006	2010	$2,000,000	$2,000,000				409
Sub-Goal 1.B GET THE WATER QUALITY RIGHT											
1.B.1		**STORMWATER TREATMENT AREA (STA) PROJECTS**						**ACRES**			
	1500	C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CCC) (CERP Project WBS # 10)	USACE/SFWMD	2015	TBD	$59,098,000	$0	1,900	1.B.1		166
	1502	C&SF: CERP Miccosukee Tribe Water Management Plan (OPE) (CERP Project WBS # 90)	USACE/Miccosukee Tribe	2003	TBD	$33,207,000	$0	900	1.B.1		167
	1505	C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (DDD) (CERP Project WBS # 06)	USACE/SFWMD	2011	TBD	$114,640,000	$0	5,000	1.B.1		168
	1506	E&SF: Critical Projects - Lake Okeechobee Water Retention/ Phosphorus Removal	USACE/SFWMD	1997	TBD	$28,082,416	$23,160,953	940	1.B.1		169
	1513	C&SF: West Palm Beach Canal STA-1E / C-51 West	USACE/SFWMD	1994	2018	$391,550,000	$307,776,000	6,500	1.B.1		171
	1514A	State Expedited project includes Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion	SFWMD	2009	2012	334,499,557	334,499,557	18,000	1.B.1		173

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	1515	Lakeside Ranch STA - Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2012	$90,660,000	$42,348,274	2,700	1.B.1		177
	1518	C&SF: CERP Henderson Creek/Belle Meade Restoration (OPE) (CERP Project WBS # 93)	USACE/FDEP	TBD	TBD	$5,622,000	$128,009	10	1.B.1		180
	1519	C-43 Water Quality Treatment Area and Test Facility	SFWMD	2007	2010	$1,700,000	$1,499,742	1,200	1.B.1		181
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	$1,200,000,000	$60,450,000	45,000	1.B.1		122
	1101	C&SF: CERP Indian River Lagoon-South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/SFWMD	2002	TBD	Footnote 1	Footnote 1	9,000	1.A.1	1.B.1/2.A.3	23
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/SFWMD	2001	TBD	Footnote 1	Footnote 1	12,000	1.A.1	1.B.1/2.A.3	37
	1110	C&SF: CERP Central Lake Belt Storage Area (SP1 & SP2) (EEE) (CERP Project WBS # 26)	USACE/SFWMD	TBD	TBD	Footnote 1	Footnote 1	640	1.A.1	1.B.1	55
1.B.2.		**TOTAL MAXIMUM DAILY LOAD (TMDL) PLAN DEVELOPMENT**					Completed Plans				
	1600	Total Maximum Daily Load (TMDL) for South Florida	FDEP	2000	2013	$1,300,000	$10,560		1.B.2		183
	OTHER RELATED WATER QUALITY PROJECTS										
	1701	C&SF: CERP Comprehensive Integrated Water Quality Feasibility Study (CERP Study)	USACE/FDEP	2001	TBD	$8,100,000	$734,921				185
	1702	E&SF: Critical Projects - Lake Trafford Restoration	USACE/SFWMD	1999	2011	$26,000,000	$13,091,135				189
	1706	Everglades Regulation Division -Phosphorus Source Controls for Basins Tributary to the Everglades	SFWMD	1998	TBD	Footnote 2	$41,674,000				191
	1714	Seminole Tribe Best Management Practices for the Big Cypress Reservation	Seminole Tribe	1996	2014	$4,779,000	$3,731,260				193
	1715	Seminole Tribe Best Management Practices for the Brighton Reservation	Seminole Tribe	1998	2014	$374,000	$374,000				195
	1716	Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation	Seminole Tribe	1999	2010	$15,818,000	$15,818,000				197
	1717	Seminole Tribe Water Conservation Project for Big Cypress Reservation	Seminole Tribe	2002	2011	$60,000,000	$60,000,000				198
	1722	Lake Okeechobee Protection Plan	SFWMD	1999	2015	TBD	$500,137,000				200
	1723	Hybrid Wetland Treatment	SFWMD/State of Florida	2007	TBD	$13,484,000	$13,484,000				203

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
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	1724	Local Cost-Share Projects with Martin County	SFWMD/State of Florida/Martin County	2010	2011	$25,977,000	$1,319,151				205
	1725	C&SF: CERP - Lake Trafford Restoration	USACE/SFWMD	1999	2011	$20,821,000	$0				207
		Completed Projects:									
	1700	Chapter 298 Districts/Lease 3420 Improvements	SFWMD	1994	2005	$24,115,521	$24,115,521				385
	1703	E&SF: Critical Projects - Western C-11 Water Quality Treatment	USACE	1997	2006	$18,494,996	$18,494,996				386
	1705	Everglades National Park Water & Wastewater	NPS	1997	2006	$18,965,000	$18,965,000				387
	1708	Lake Okeechobee Sediment Removal Feasibility Study and Pilot	SFWMD	2000	2003	$955,069	$955,069				388
	1709	Lake Okeechobee Tributary Sediment Removal Pilot	SFWMD	2000	2004	$440,000	$440,000				389
	1713	S-5A Basin Runoff Diversion Works	SFWMD	1994	2005	$14,233,758	$14,233,758				390
	1719	STA-1 Inflow and Distribution Works	SFWMD	1994	2005	$12,679,955	$12,679,955				391
		Closed Projects									
	1707	Floridan Aquifer Restoration	NRCS	2002	2009	$900,000	$900,000				410

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
Goal 2 Restore Preserve and Protect Natural Habitats and Species											
Sub-Goal 2.A. RESTORE, PRESERVE AND PROTECT NATURAL HABITATS											
2.A.1.		**HABITAT PROTECTION LAND ACQUISITION PROJECTS**						**ACRES**			
		State Acquisitions									
	2181	Adams Ranch	FDEP	2008	TBD	TBD	$0	10,841	2.A.1		208
	2100	Allapattah Flats/Ranch (Footnote 4)	FDEP	1997	TBD	TBD	$371,558	40,363	2.A.1		209
	2101	Atlantic Ridge Ecosystem (Footnote 4)	FDEP/SFWMD	1995	TBD	TBD	$7,655,751	16,283	2.A.1		210
	2104	Belle Meade	FDEP	1993	TBD	TBD	$39,412,158	28,810	2.A.1		211
	2105	Big Bend Swamp/Holopaw Ranch	FDEP	2000	TBD	TBD	$6,829,000	59,132	2.A.1		212
	2106	Biscayne Coastal Wetlands (Footnote 4)	SFWMD/M-DADE	1998	TBD	TBD	$240,985	1,995	2.A.1		213
	2107	Bombing Range Ridge	FDEP	1998	TBD	TBD	$20,352,608	41,465	2.A.1		214
	2108	Caloosahatchee Ecoscape	FDEP	1998	TBD	TBD	$1,948,038	18,497	2.A.1		215
	2109	Catfish Creek	FDEP	1990	TBD	TBD	$9,444,266	13,198	2.A.1		216
	2111	Charlotte Harbor Estuary/ Flatwoods/Cape Haze	FDEP	1986	TBD	TBD	$17,781,504	12,305	2.A.1		217
	2112	Corkscrew Regional Ecosystem Watershed	FDEP	1991	TBD	TBD	$83,949,310	73,365	2.A.1		218
	2114	Coupon Bight/ Key Deer/ Big Pine Key	FDEP	1985	TBD	TBD	$30,650,827	3,373	2.A.1		219
	2172	Cypress Creek/Loxahatchee	SFWMD	2002	2007	TBD	$64,630,767	4,374	2.A.1		220
	2115	Cypress Creek/Trail Ridge	SFWMD	1997	TBD	TBD	$25,027,417	32,639	2.A.1		221
	2183	Devils Garden	FDEP	2002	TBD	TBD	$0	82,508	2.A.1		222
	2117	East Coast Buffer(Footnote 4)	FDEP/SFWMD	1994	TBD	TBD	$75,604,803	48,108	2.A.1		223
	2118	Estero Bay	FDEP	1985	TBD	TBD	$69,418,260	14,358	2.A.1		224
	2120	Fakahatchee Strand	FDEP	1980	TBD	TBD	$25,278,263	80,332	2.A.1		225
	2121	Fisheating Creek	SFWMD/FDEP	1999	TBD	TBD	$101,928,563	176,876	2.A.1		226
	2122	Florida Keys Ecosystem	FDEP	1992	TBD	TBD	$94,995,304	13,632	2.A.1		227
	2186	Half Circle L Ranch	SFWMD	2003	TBD	TBD	$0	11,269	2.A.1		228
	2124	Indian River Lagoon Blueway	FDEP	1998	TBD	TBD	$41,887,018	2,044	2.A.1		229
	2125	Juno Hills /Dunes	FDEP	1994	TBD	TBD	$41,892,718	590	2.A.1		230
	2176	Jupiter Ridge	FDEP	1991	TBD	TBD	$23,099,950	280	2.A.1		231
	2126	Kissimmee - St. John Connector	FDEP	2001	TBD	TBD	$0	9,463	2.A.1		232
	2127	Kissimmee River (Lower Basin)	SFWMD	1985	2005	TBD	$175,285,978	75,617	2.A.1		233

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2128	Kissimmee River (Upper Basin)	SFWMD	1990	2005	TBD	$85,971,014	38,591	2.A.1		234
	2129	Lake Wales Ridge Ecosystem/ Henscratch Ranch	FDEP	1992	TBD	TBD	$32,786,399	14,310	2.A.1		235
	2132	Loxahatchee Slough Land Acquisition	SFWMD	1996	TBD	TBD	$74,447,218	13,099	2.A.1		236
	2134	Miami-Dade County Archipelago	FDEP	1994	TBD	TBD	$23,717,314	884	2.A.1		237
	2135	Model Lands (Footnote 4)	SFWMD/M-DADE	1994	2007	TBD	$1,413,273	54,458	2.A.1		238
	2138	North Fork St Lucie River (Footnote 4)	FDEP/SFWMD	1988	TBD	TBD	$5,567,581	3,714	2.A.1		239
	2139	North Key Largo Hammocks	FDEP	1983	TBD	TBD	$84,087,154	5,415	2.A.1		240
	2141	Okaloacoochee Slough	FDEP/ SFWMD	1996	TBD	TBD	$20,570,673	35,201	2.A.1		241
	2142	Okeechobee Battlefield	FDEP	2001	TBD	TBD	$3,217,250	211	2.A.1		242
	2143	Osceola Pine Savannas	FDEP	1995	TBD	TBD	$310,000	6,357	2.A.1		243
	2144	Pal-Mar (Footnote 4)	FDEP/SFWMD	1992	TBD	TBD	$95,810,036	39,146	2.A.1		244
	2145	Panther Glades	FDEP	2001	TBD	TBD	$75,049,836	60,007	2.A.1		245
	2146	Paradise Run	SFWMD	1998	TBD	TBD	$4,908,582	3,841	2.A.1		246
	2147	Lake Marion Creek and Reedy Creek/Lake Hatchineha Watershed	SFWMD	1996	TBD	TBD	$12,339,666	43,322	2.A.1		247
	2186	Pine Island Slough Ecosystem	FDEP	2005	TBD	TBD	$0	21,583	2.A.1		248
	2148	Pineland Site Complex	FDEP	1996	TBD	TBD	$1,751,874	206	2.A.1		249
	2178	Ranch Reserve	SFWMD	1997	TBD	TBD	$39,286	2,217	2.A.1		250
	2149	Rookery Bay	FDEP	1980	TBD	TBD	$49,583,833	18,721	2.A.1		251
	2150	Rotenberger/Holey Land Tract	FDEP	1984	TBD	TBD	$20,114,395	79,170	2.A.1		252
	2151	Shingle Creek	SFWMD	1987	TBD	TBD	$4,365,170	7,702	2.A.1		253
	2152	Six Mile Cypress Land Acquisition	SFWMD	1987	2007	TBD	$36,909,895	2,193	2.A.1		254
	2154	South Savannas	FDEP/SFWMD	1981	TBD	TBD	$20,902,290	6,046	2.A.2		255
	2155	Southern Glades (Footnote 4)	SFWMD/M-DADE	1964	TBD	TBD	$7,268,193	34,093	2.A.1		256
	2156	Southern Golden Gate Estates (Save Our Everglades)- Picayune Strand (Footnote 4)	FDEP	1984	TBD	TBD	$353,704	55,051	2.A.1		257
	2180	Ten Mile Creek	SFWMD	1990	TBD	TBD	$2,042,586	240	2.A.1		258
	2182	Tiger Cattle Company Ranch	FDEP	2009	TBD	TBD	$0	2,230	2.A.1		259
	2186	Triple Diamond	FDEP	2009	TBD	TBD	$0	7,991	2.A.1		260
	2158	Twelve Mile Slough	SFWMD	1998	TBD	TBD	$11,000,000	15,835	2.A.1		261
	2160	Water Conservation Areas 2, and 3	SFWMD	1948	TBD	TBD	$9,606,104	709,618	2.A.1		262

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2184	Florida Communities Trust lands, State Park Lands and State Wildlife Mgmt Areas	FDEP		TBD	TBD	$652,602,332	256,139	2.A.1		263
		Completed Projects:									
	2102	Babcock Ranch	FDEP	2001	2007	$350,000,000	$350,000,000	73,542	2.A.1		392
	2110	Cayo Costa	FDEP	1980	2004	$29,002,346	$29,002,346	1,954	2.A.1		393
	2116	Dupuis Reserve	SFWMD	1985	1986	$23,016,601	$23,016,601	21,878	2.A.1		394
	2123	Frog Pond	FDEP/SFWMD	1982	2007	$20,005,367	$20,005,367	2,484	2.A.1		395
	1305	Kissimmee Prairie	FDEP	1996	1997	$21,953,790	$21,953,790	38,282	2.A.1		382
	2130	Sumica (previously Lake Walk-In-Water)	SFWMD	1995	1998	$3,950,000	$3,950,000	4,009	2.A.1		396
	2131	Loxahatchee River Land Acquisition	SFWMD	1984	2001	$19,738,769	$19,738,769	1,915	2.A.1		397
	2137	Nicodemus Slough	SFWMD	1981	1988	$1,894,501	$1,894,501	2,231	2.A.1		398
	2153	South Fork St. Lucie River Land Acquisition	SFWMD	1995	1995	$2,480,000	$2,480,000	184	2.A.1		399
	2157	Tibet-Butler Preserve	SFWMD	1988	1999	$3,601,900	$3,601,900	439	2.A.1		400
	2161	Yamato Scrub	FDEP	1992	1996	$25,932,850	$25,932,850	217	2.A.1		401
		Federal Acquisitions									
	2161	A.R. M. Loxahatchee National Wildlife Refuge	USFWS	1955	TBD	$30,119,000	$119,000	147,392	2.A.1		264
	2163	Big Cypress National Preserve Addition	NPS	1989	TBD	$77,373,737	$75,206,737	146,117	2.A.1		265
	2164	Big Cypress National Preserve Private Inholdings (Footnote 3)	NPS	1974	TBD	$244,000,000	$222,155,000	574,449	2.A.1		266
	2165	Biscayne National Park	NPS	1968	TBD	$33,699,000	$31,851,000	172,971	2.A.1		267
	2166	Crocodile Lake National Wildlife Refuge	USFWS	1979	TBD	$14,319,000	$13,093,000	7,100	2.A.1		268
	2184	Everglades and Dry Tortugas National Parks	NPS	1947	TBD	TBD	$24,000,000	1,463,779	2.A.1		269
	2167	Everglades National Park Expansion	NPS	1990	TBD	$109,897,000	$97,678,000	109,504	2.A.1		270
	2169	Florida Panther National Wildlife Refuge	USFWS	1989	TBD	$10,692,000	$10,682,000	61,573	2.A.1		271
	2168	Florida Keys National Wildlife Refuge Complex	USFWS	1960	TBD	$60,434,000	$32,669,000	415,433	2.A.1		272
	2170	Hobe Sound National Wildlife Refuge	USFWS	1968	TBD	$5,935,000	$135,000	1,130	2.A.1		273
	2171	J.N. "Ding" Darling National Wildlife Refuge	USFWS	1945	TBD	$13,805,000	$9,785,000	10,255	2.A.1		274
	2185	Lake Wales Ridge National Wildlife Refuge	USFWS	1945	TBD	TBD	$268,000	3,384	2.A.1		275

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
2.A.2.		**CORAL REEF PROTECTION PROJECTS**						**% Reef Protected**			
	2200	Planning and Implementation of the Tortugas Ecological Reserve	NOAA	1997	TBD	Footnote 2	$59,435,000	10	2.A.2		276
2.A.3		**IMPROVE NATURAL AREAS HABITAT QUALITY PROJECTS**						**ACRES**			
Note – The April 1999 USACE C&SF Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement included an extensive environmental evaluation of habitat units tha would be improved through implementation of the CERP projects. Table 7-18 in this publication identifies in detail which projects are anticipated to achieve this objective. However, appropriate measures by project are currently being developed through the establishment of interim goals. There are some projects included in our tracking matrix that exemplify how this objective will be achieved.											
	2302	C&SF: CERP Lakes Park Restoration (CERP Project WBS # 94)	USACE/Lee Co.	1999	TBD	$6,567,000	$832,347	60	2.A.3		278
	2303	C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-111 Basin (OPE) (CERP Project WBS # 92)	USACE	2016	2022	$802,000	$0	50	2.A.3		281
	2304	A.R.M. Loxahatchee NWR Prescribed Fire program	USFWS	2002	TBD	Footnote 2	$916,000	TBD	2.A.3		282
	2305	Loxahatchee Impoundment Landscape Assessment (LILA)	USFWS	2002	2012	Footnote 2	$6,440,500				283
	2306	C&SF: CERP Acme Basin B Discharge (OPE) (CERP Project WBS # 38)	USACE/SFWMD	2002	TBD	$24,241,000	$2,870,275	365	2.A.3	3.C.2	284
	2307	C&SF: CERP Picayune Strand Restoration *(f/k/a Southern Golden Gate Estates Hydrologic Restoration)* (OPE) (CERP Project WBS # 30)	USACE/SFWMD	2001	2018	$478,854,000	$275,241,000	55,000	2.A.3		289
	2308	C&SF: CERP PLA / Adaptive Assessment and Monitoring	USACE/SFWMD	ongoing	TBD	$167,112,000	$86,486,000	TBD	2.A.3		293
	2309	C&SF: CERP Biscayne Bay Coastal Wetlands (FFF) (OPE) (CERP Project WBS # 28) (Formerly project ID 1410)	USACE/SFWMD	2001	TBD	$475,811,000	$22,265,279	1,695	2.A.3		297
	2310	C&SF: CERP C-111 Spreader Canal (WW) (Formerly Project ID 1517) (CERP Project WBS # 29)	USACE/SFWMD	2000	TBD	$165,098,000	$25,711,661	TBD	2.A.3		303
	2312	C&SF: CERP Strazzulla Wetlands (OPE) (CERP Project WBS # 39)	USACE/SFWMD	2002	2010	$67,390,000	$498,000	3,335	2.A.3		311
	2313	C&SF: CERP Winsberg Farms Wetland Restoration (OPE) (CERP Project WBS # 91)	USACE/PBCWUD	2000	2009	$16,736,000	$3,834,000	114	2.A.3	3.C.2	312
	1101	C&SF: CERP Indian River Lagoon--South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/SFWMD	2002	TBD	Footnote 1	Footnote 1	99,781	1.A.1	1.B.1/2.A.3	23

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1104	C&SF: CERP Lake Okeechobee Watershed (A) (W) (OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	TBD	Footnote 1	Footnote 1	3,730	1.A.1	1.B.1/2.A.3	37
	1107	C&SF: CERP Site 1 Impoundment (M P1) *[a/k/a Site 1 Impoundment (Fran Reich Preserve)]* (CERP Project WBS # 40)	USACE/SFWMD	2002	2014	Footnote 1	Footnote 1	114	1.A.1	2.A.3	45
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/SFWMD	1997	2011	Footnote 1	Footnote 1	2,740	1.A.1	2.A.3	57
	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS 45) (Formerly Project ID 1501)	USACE/ SFWMD	2002	2020	Footnote 1	Footnote 1	4,633	1.A.1	2.A.3	69
	1303	E&SF:Critical Projects - Southern CREW	USACE	1999	2015	Footnote 1	Footnote 1	4,090	1.A.3	2.A.3	102
	1306	Kissimmee River Restoration Project	USACE/SFWMD	1994	2012	Footnote 1	Footnote 1	27,000	1.A.3	2.A.3	104
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	Footnote 1	Footnote 1	190,000	1.A.3	2.A.3	108
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/SFWMD	2001	TBD	Footnote 1	Footnote 1	3,500	3.C.2	2.A.3	372
	OTHER NATURAL HABITAT AND SPECIES PROJECTS										
	2402	South Florida Multi-Species Recovery Plan	USFWS	1994	TBD	$386,112,000	$13,939,000				314
	2403	WCA-2A Regulation Schedule Review	USACE	TBD	TBD	TBD	$0				316
	2404	C&SF: Manatee Pass Gates	USACE/SFWMD	2001	2012	$16,750,000	$16,380,000				317
		CLOSED PROJECTS									
	2300	C&SF: CERP Strazzulla Wetlands (OPE) (CERP Project WBS # 39)	USACE/SFWMD	2002	2010	$497,866	$497,866	3,335	2.A.3		411
	2301	C&SF: CERP Winsberg Farms Wetland Restoration (OPE) (CERP Project WBS # 91)	USACE/PBCWUD	2000	2009	$3,833,780	$3,833,780	114	2.A.3	3.C.2	412
	2311	C&SF: S-169/Nine Mile Canal Basin	USACE/SFWMD	2001	2009	$1,200,000	$1,200,000				414
Sub-Goal 2.B. CONTROL INVASIVE PLANT AND ANIMAL SPECIES											
2.B.1	**EXOTIC PLANT SPECIES MAINTENANCE CONTROL PROJECTS**										
	2502	Invasive exotic plants control in terrestrial and aquatic natural systems	SFWMD	2007	TBD	TBD	$48,302,000		2.B.1		319
	2503	Invasive Species Research and Information Exchange	SFWMD	2007	TBD	Footnote 2	$1,146,000		2.B.1		323

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2504	Develop and implement a FWS Florida Invasive Species Strike Team	USFWS	2003	TBD	$10,000,000	$6,795,000		2.B.1		325
	2505	C&SF:CERP Melaleuca Eradication and Other Exotic Plants (OPE) (Formerly Project ID 2602) (CERP Project WBS # 95)	USACE	2011	2038	$4,400,000	$2,665,000		2.B.1		328
	2506	Everglades National Park Exotic Control Program (Formerly Project ID 2604)	NPS	2002	TBD	Footnote 2	$683,022		2.B.1		330
	2507	Hole-in-the-Donut (Formerly Project ID 2606)	NPS	1994	TBD	$123,750,000	$123,750,000		2.B.1	2.A.3	333
	2508	Aquatic and Upland Invasive Plant Management	FWC	TBD	TBD	TBD	$252,576		2.B.1		334
	2509	Exotic Species Removal (Formerly Project ID 2605)	Seminole	1998	2015	$988,000	$988,000		2.B.1		335
2.B.2	**CONTROL OF INVASIVE EXOTIC PLANTS**										
	2601	Casuarina Biological Control Agents	USDA/ARS	2004	TBD	TBD	TBD				336
	2602	Melaleuca Biological Control Agents	USDA/ARS	1986	TBD	TBD	TBD				337
	2603	Lygodium Biological Control Agents	USDA/ARS	1996	TBD	TBD	TBD				338
2.B.3	**ERADICATION OF THE GAMBIAN POUCH RAT**										
	2700	Eradication of Gambian Pouch Rat	FDACS	2006	2014	$500,000	$305,000				339
		COMPLETED PROJECTS									
	2604	Estero Bay Aquatic Preserve and Buffer Reserve Enhancement and Exotic Removal Project	FDEP	1998	2004	$587,600	$587,600		2.B.2		402
	2701	Melaleuca Quarentine Facility	USDA/ARS	1997	2005	$7,100,000	$7,100,000				403
GOAL 3. FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEM											
Sub-Goal 3.A. USE AND MANAGE LAND COMPATIBLE WITH RESTORATION											
3.A.1	**FLORIDA PARK, RECREATION AND OPEN SPACE LANDS PROJECTS**							**Acres**			
	3200	Florida Keys Overseas Heritage Trail (Formerly Project ID 3301)	FDEP	TBD	TBD	$56,227,700	$52,827,200	TBD	3.A.1		342

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	3201	Lake Okeechobee Scenic Trail (Formerly Project ID 3102)	FDEP	2003	TBD	$27,000,000	$14,000,000	TBD	3.A.1		347
	3202	Florida Greenways and Trails Program (Formerly Project ID 3100)	FDEP/ OGT	2000	2013	$4,500,000	$1,363,400	10,000	3.A.1		349
3.A.2	**AGRICULTURE LANDS CONSERVATION MANAGEMENT PROJECTS**							**Acres**			
	3300	Technical Assistance to Seminole and Miccosukee Indian Reservations (Formerly Project ID 3201)	NRCS	1998	2011	$15,000,000	$478,000	107,000	3.A.2		351
	3301	2008 Farm Bill (Formerly Project ID 3202)	NRCS	2009	2012	$300,000,000	$224,574,000	408,135	3.A.2		352
3.A.3	**INCREASE COMMUNITY UNDERSTANDING OF RESTORATION PROJECTS**										
	3502	C&SF: CERP PLA/Public Outreach	USACE	2000	TBD	TBD	PLA Budget		3.A.3		353
	3503	SFWMD Outreach Program	SFWMD	TBD	TBD	Footnote 2	$2,347,684		3.A.3		359
Sub-Goal 3.B FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION											
3.B.1	**FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION PROJECTS**										
	3600	C-4 Flood Mitigation Projects	SFWMD	2005	2013	Footnote 2	$1,023,363		3.B.1		360
	1300	C&SF: C-111 (South Dade)	USACE/SFWMD	1994	2014	Footnote 1	Footnote 1		1.A.3	3.B.1	92
3.B.2	**HERBERT HOOVER DIKE REHABILITATION**										
	3700	Herbert Hoover Dike Rehabilitation	USACE	2006	2022	$2,073,370,000	$270,164,000		3.B.2		363
Sub-Goal 3.C PROVIDE SUFFICIENT WATER RESOURCES FOR BUILT AND NATURAL SYSTEMS											
3.C.1		**WATER RESOURCE DEVELOPMENT PROJECTS**						**MG**			
	3800	Regional Water Supply Plans (Formerly Project ID 3704)	SFWMD	2004	2013	$10,693,000	$0		3.C.1		367
3.C.2		**INCREASE VOLUME OF WATER RESOURCE PROJECTS**						**MGD**			
	3900	C&SF: CERP South Miami-Dade County Reuse (BBB) (CERP Project WBS # 98) (Formerly Project ID 3800)	USACE/M-DADE	TBD	TBD	$492,183,000	$0	131	3.C.2		369
	3901	C&SF: CERP West Miami-Dade County Reuse (HHH) (CERP Project WBS # 97) (Formerly Project ID 3801)	USACE/M-DADE	TBD	TBD	$592,046,000	$0	100	3.c.2		371
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/SFWMD	2001	TBD	$37,049,000	$1,876,008		3.C.2	2.A.3	372

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY11	Measurable Output	Primary Objective	Secondary Objective(s)	Pg #
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
3.C.3		**ALTERNATIVE WATER SUPPLY PROJECTS**						**MGD**			
	4000	Alternative Water Supply Grant (Formerly Project ID 3900)	SFWMD	1996	TBD	TBD	$157,147,000	105	3.C.3		374
	OTHER BUILT AND NATURAL SYSTEM COMPATIBILITY PROJECTS										
	4101	BMPs for Agriculture	NRCS	1997	2015	$160,278,000	$119,338,000				376
	4102	Monitoring of Organic Soils in the Everglades	NRCS	1998	2017	$1,236,000	$36,000				377
	4103	Soil Survey Update for the Everglades Agricultural Area	NRCS	2007	2012	$2,100,000	$0				378
	4104	Soil Survey Update for Everglades National Park, Big Cypress National Preserve and Water Conservation Areas	NRCS	2007	2013	$6,000,000	$35,000				379
	4105	C&SF: CERP Flow to Northwest and Central WCA -3A (II) (RR) (CERP Project WBS # 11)	USACE/SFWMD	2002	TBD	$41,259,000	$66,298				380
		Completed Projects									
	4100	E&SF: Critical Projects - Keys Carrying Capacity Study	FDCA/USACE	1997	2003	$4,493,067	$4,493,067				404

Project Specific Footnotes:

The following information is project specific and is provided in reference to its appearance as a numbered notation on the project summary table:

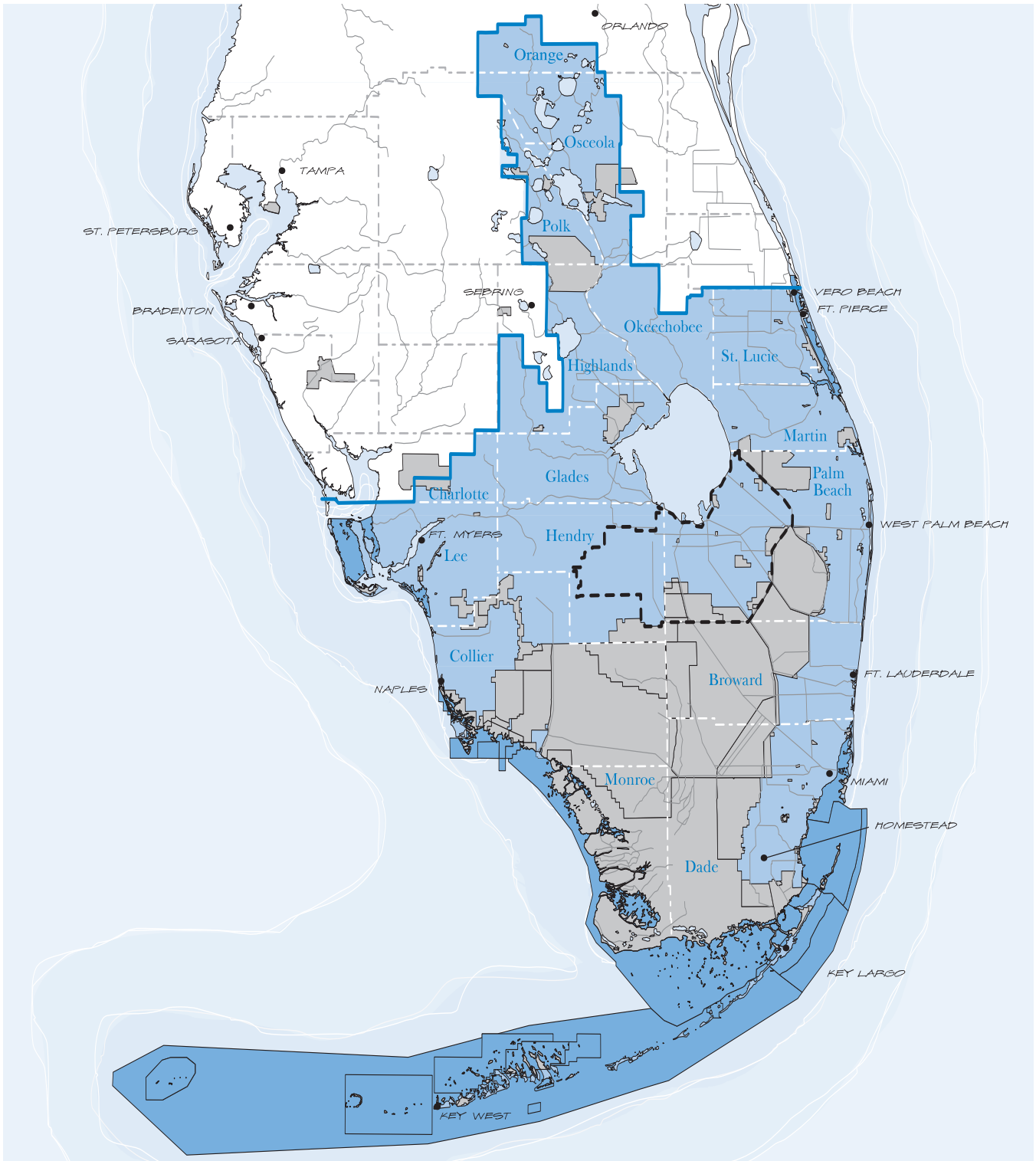
[1] This is a multiple objective project, funding is listed in other objective.

[2] Available funding through project completion is not provided on the project sheet, due to the uncertainty of the annual Federal and State appropriations process. For the purposes of calculating Goal subtotals for all projects, only the dollars appropriated to date have been used for this project.

[3] Consistent with authorizing Big Cypress legislation.

[4] The cost information for this project reflects the adjusted total cost information provided on the project sheet.

Project ID 1102 C&SF: CERP Everglades Agricultural Area Storage Reservoir(s) (G P1 & G P2) (CERP Project WBS # 08) is now a component of C&SF: CERP Central Everglades Planning Project



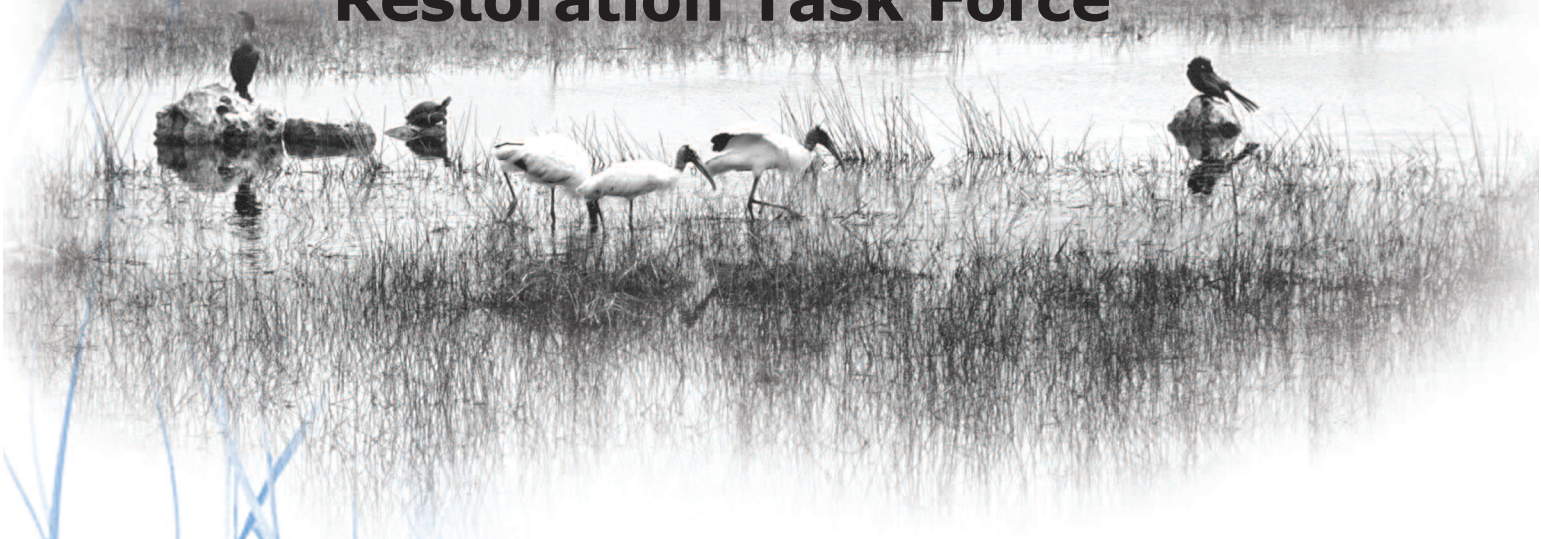
The South Florida Ecosystem

- South Florida Ecosystem Boundary
- Everglades Agricultural Area
- Conservation and Tribal Lands
- Non-Public Land

Strategic Goals and Objectives

of the

South Florida Ecosystem Restoration Task Force



Goal 1: Get the Water Right

Subgoal 1-A: Get the hydrology right

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

Subgoal 1-B: Get the water quality right

Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035

Objective 1-B.2: Prepare locally–based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011

Goal 2: Restore, Preserve, and Protect Natural Habitats and Species

Subgoal 2-A: Restore, preserve, and protect natural habitats

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

Subgoal 2-B: Control invasive exotic plants and animals

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012

Goal 3: Foster the Compatibility of the Built and Natural Systems

Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration

Objective 3-A.1: Prepare a land use analysis for selected restoration projects

Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015

Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem Restoration by 2014

Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration

Objective 3-A.5: Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem Restoration

Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration

Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

Subgoal 3-C: Provide sufficient water resources for built and natural systems

Objective 3-C.1: Plan for regional water supply needs

Objective 3-C.2: Increase volumes of reuse on a regional basis

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

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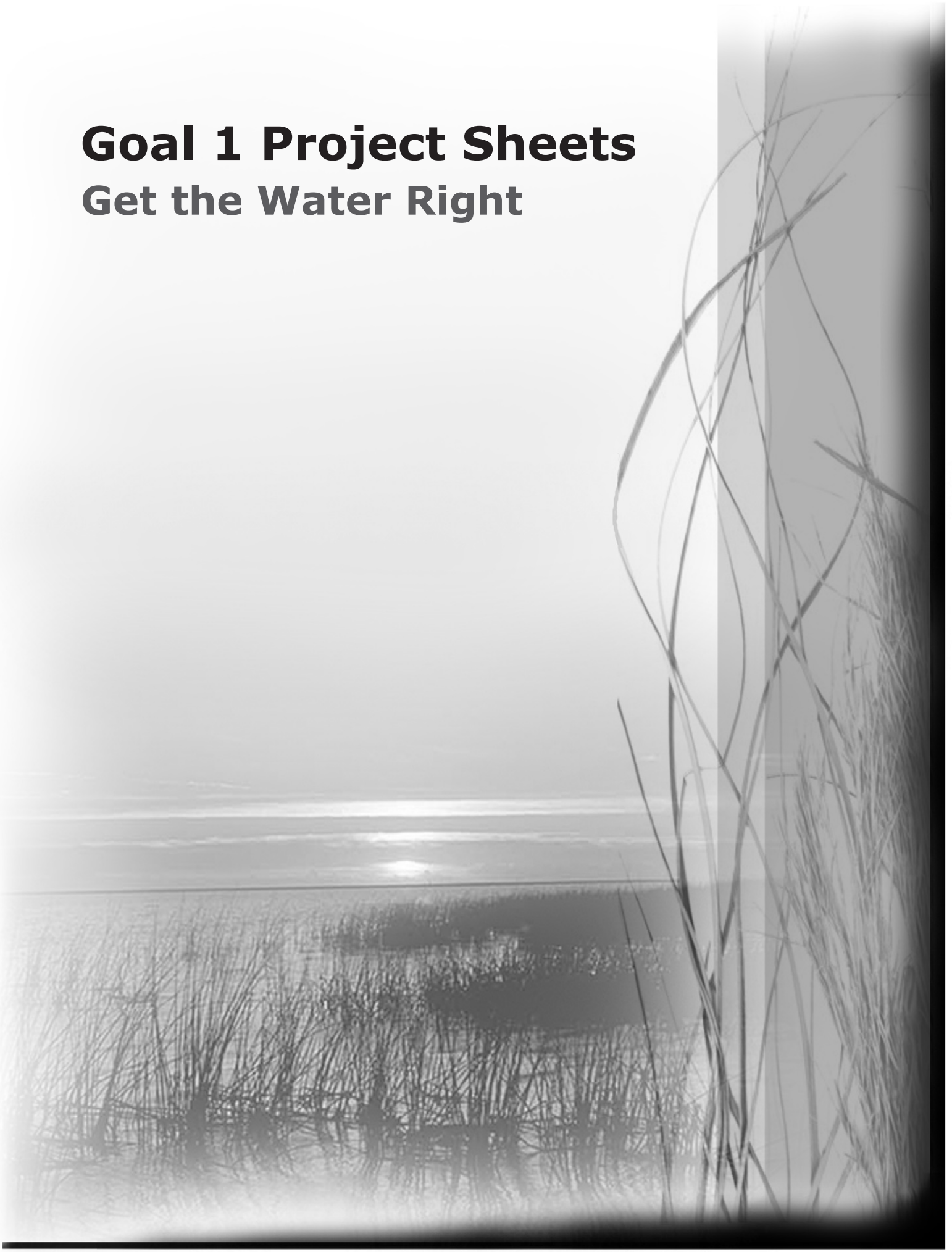
Goal 1 Project Sheets

Get the Water Right



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Project Name: **C&SF: CERP Indian River Lagoon – South (IRLS)**
C-23/C-24/C-25/Northfork and Southfork Storage Reservoirs (UU P1 & UU P2) and C-44 Basin Storage Reservoir (B)
Project ID: 1101 (CERP Project WBS # 07)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000; WRDA 2007; *("C-44 Basin Storage Reservoir (B)" was a WRDA 2000 Initially Authorized Project; uncompleted portions were de-authorized in WRDA 2007 when the broader IRL-S project was authorized for construction)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 **Secondary:** 1-B.1 and 2-A.3

Measurable Output(s):

- 130,000 acre-feet reservoir storage (12,000 acres of above-ground storage)
  (C-23/24 N: 43,920 ac-ft; C-23/24 S: 48,900 ac-ft; C-44: 33,150 ac-ft; C-25: 5,176 ac-ft)
- 9,000 acres of manmade wetlands (C-23/24: 2,363 acres; C-44: 6,000 acres; C-25: 142 acres)
  - 122 metric tons/yr. phosphorus expected load reduction
  - 475 metric tons/yr. nitrogen load expected reduction
- 99,781 acres of habitat improvement/restoration and additional water storage
  - Mosaic**:** 95,230 acres natural upland/wetlands habitat
    - Allapattah: 42,348 acres
    - Palmar: 17,143 acres
    - Cypress Complex: 32,639 acres
    - North Fork: 3,100 acres (flood plain preservation)
  - Aquatic Habitat: 4,551 acres in St. Lucie River and Estuary
    - Benthic: 2,650 acres
    - Submerged: 922 acres aquatic vegetation restoration
    - 90 acres artificial submerged vegetation habitat
    - 889 acres or more of oyster habitat (muck removal at 1.8 ft = 7.9 M yd^2)

April 1999 (Restudy) Project Synopsis: Included above-ground reservoirs with a combined storage capacity of approximately 349,400 acre-feet located in the C-23/C-24/C-25**/** Northfork and Southfork basins in St. Lucie and Martin Counties, as well as an above-ground reservoir with a total storage capacity of approximately 40,000 acre-feet located in the C-44 Basin in Martin County. The initial design of the reservoirs in the C-23/C-24/C-25 Basins assumes 39,000 acres (water levels up to 8 feet above grade) and 9,350 acres (water levels up to 4 feet above grade). And the initial design of the reservoir in the C-44 basin assumes 10,000 acres (water levels up to 4 feet above grade). Features are to capture runoff and provide water quality improvement including reduced loading of nutrients, pesticides and runoff pollutants.

Current Project Synopsis: This project is located in the Martin, St. Lucie, and Okeechobee counties. The C-44 storage area feature, to initiate construction in August 2011, was one of the initially authorized projects for implementation in WRDA 2000, was recommended by the Chief of Engineers in August 2004, and finally authorized by the Congress in WRDA 2007 as one of the components in the IRL-S.

Since that time, the combined cost for the IRL-S project was estimated at $1.365 billion when the entire project was authorized for construction in WRDA 2007, dependent on appropriations from Congress. Based on the feasibility study and the PIR, and further refinements, the entire IRL-S project is expected to include the following components:

- Construction and operation of an additional 12,000 acres of above-ground storage and their connecting canals, control structures, levees and pumps to capture water from the C-44, C-23, C-24 and C-25 canals.
- Construction and operation of four new storm water treatment areas to reduce sediment, phosphorus, and nitrogen going to the St. Lucie River estuary and the lagoon. STAs are planned for each of the basins: C-44 basin (1), C-23/24 basin (2) and C-25 basin (1) reducing damaging effects of watershed runoff
- Restoration of the upland/wetland mosaic with ditch plugging, berm construction, and periodic fire maintenance at three locations.
- Redirection of water from the C-23/24 basin to the Northfork of the St. Lucie River attenuating freshwater flows to the estuary.
- Muck removal from the north and south forks of the St. Lucie River and the middle estuary reducing nutrients (nitrogen and phosphorus). Oyster shell, reef balls, and artificial submerged aquatic vegetation near muck removal sites will be added for habitat improvement.

Current Status:
The first of three contracts for the construction of the C-44 Reservoir and STA was awarded in July 2011 for Troup Indiantown. Construction is scheduled for completion in March 2014 and includes canals, access roads, culverts, and bridgework. The first of two PPAs was executed in September 2010 with a total project cost estimate of approximately $1.133B (October 2010 price level). The second PPA for a total estimated amount of approximately $732.3M (October 2010 price level) will be negotiated in the following years. The Construction Phasing, Transfer, and Warranty Plan was executed in August 2010. Contract for P&S conversion and redesign of reservoir embankment protection, reservoir associated structures, and the discharge canal is currently in procurement process and will be awarded in FY 2012, with scheduled construction contract award in the fourth quarter of FY 2014.

Est. Cost: $ 2,070,860,000

Project Schedule:

2011	C-44 reservoir construction begins
2020 (after)	C-23/24 north and south reservoirs construction begins
2020 (after)	C-25 reservoir and STA construction begins
2020 (after)	Allapattah complex construction begins
2020 (after)	Palmar complex construction begins
2020 (after)	Cypress Creek / Trail Ridge complex construction begins
2020 (after)	Muck removal & artificial habitat construction begins
2020 (after)	North fork land acquisition (flood plain restoration) begins

Detailed Project Budget Information(Rounded):

IRLS	Expenditures Thru FY 2011
USACE	$21,712,999
SFWMD	$417,943,629
Total	**$439,656,628**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_07_irl_south.cfm

C-44 State expedited
https://my.sfwmd.gov/portal/page?_pageid=1855,2831854,1855_2831665&_dad=portal&_schema=PORTAL&navpage=prjc44

Contact: Orlando Ramos-Gines, Senior Project Manager, Everglades Division, USACE
Orlando.Ramos-Gines@usace.army.mil

Beth Kacvinsky, Regional Project Manager, SFWMD
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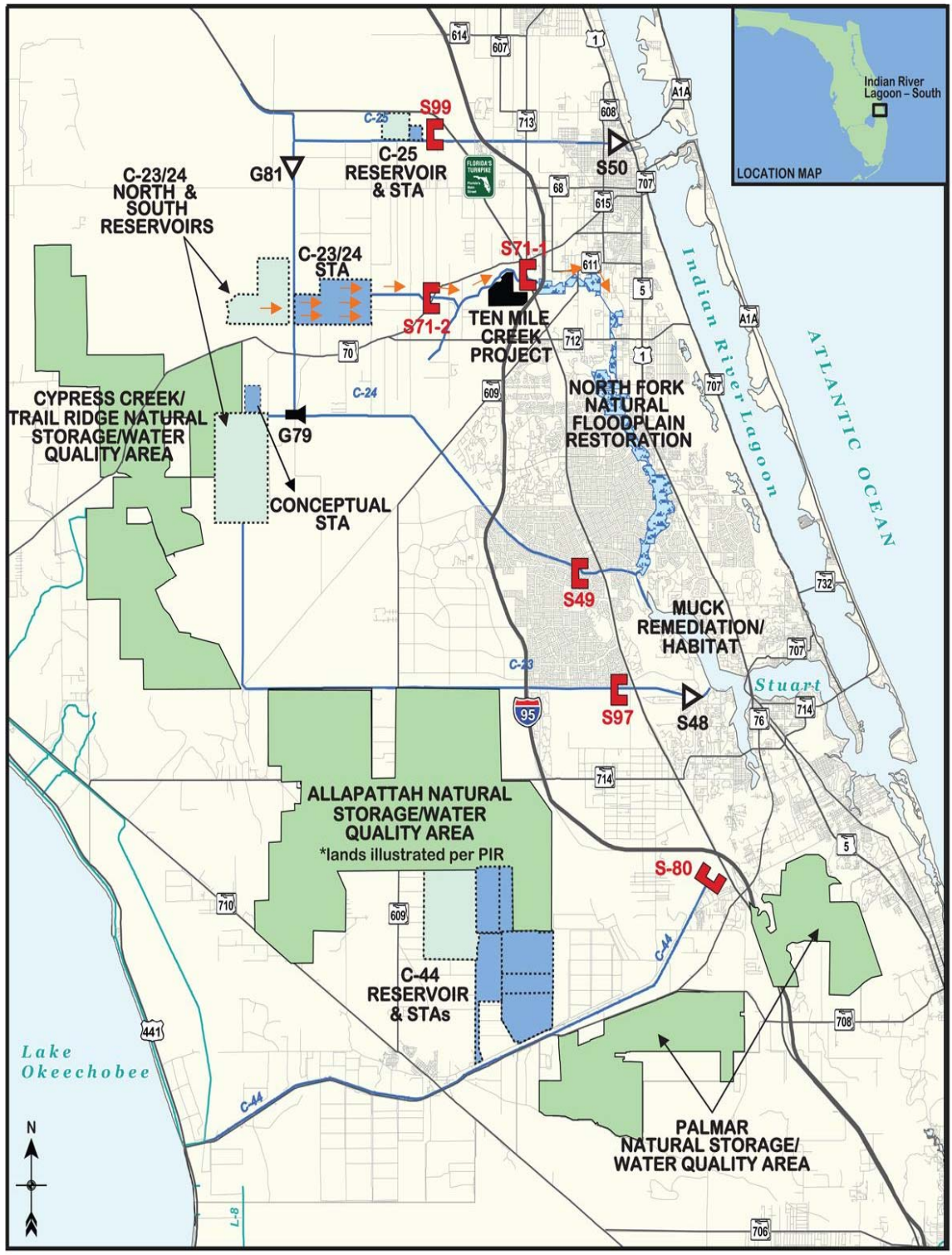
Sue Ray, Chief Engineer and C-44 Project Manager, SFWMD
sray@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate and current project status includes information summarized from the *Central and Southern Florida Project Indian River Lagoon – South Final Integrated Project Implementation Report (PIR) and Environmental Impact Statement (EIS)* (2004) and is updated to reflect current price levels in October 2009 dollars; along with the authorization in WRDA 2007. Current status was provided by the project manager. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and approved in kind credit through 4th quarter FY11.

Additional Information: *(see next page)*

Indian River Lagoon – South



View of intake canal, western side of C-44 RSTA, pre-construction looking south toward Citrus Boulevard.

View of C133 canal, eastern of C-44 RSTA, pre-construction looking north from Citrus Boulevard.

Program Name: Infrastructure
Project Name: **C&SF: CERP – Indian River Lagoon South - C-23/C-24/ C-25/Northfork and Southfork Storage Reservoirs (UU) and C-44 Basin Storage Reservoir (B) – Project includes C-44 (St. Lucie Canal) Reservoir / Stormwater Treatment Area (STA)**
Project ID: 1101A (CERP Project WBS #07)
Lead Agency: SFWMD
Authority: C-44 initially authorized in WRDA 2000;
Memorandum of Agreement Regarding Acceleration of the CERP
WRDA 2007
Funding Source: State and Federal

Strategic Plan Goal(s) Addressed: 1.A.1

Measurable Output(s): 50,600 ac-ft reservoir, pump station and 6,300-acre STA (C-44 measurable outputs are part of the overall project total.)

Project Synopsis: A 3,400–acre, above-ground reservoir approximately 15 feet deep (50,600 acre-feet) to capture local C-44 basin runoff with 6,300 acres of Stormwater Treatment Areas. This USACE-led project is a component of the Indian River Lagoon South (IRL-S) Project Implementation Report (PIR) and is located in southern Martin County, adjacent to and north of the C-44 Canal, between Lake Okeechobee and the east coast.

Current Status: Plans and specifications for the C-44 Reservoir and STA were part of the early-start work by the SFWMD and were completed in 2007 and updated in 2008. The design for the C-23/C-24 STA component was suspended in mid-2009 so that the agencies could concentrate on converting the C-44 design documents to the appropriate format for USACE procurement. Beginning in May 2010, the SFWMD initiated construction for two project-related items that are considered to be relocation efforts. These included the C-132 and northern C-133 canal modifications and Troup Indiantown Water Control District temporary modifications. These construction efforts are complete. The USACE Contract 1, which includes the Intake Canal, Project Access Road, C-133 Canal and Citrus Boulevard improvement was awarded by USACE in September 2011 with a Notice To Proceed issued in October 2011. SFWMD completed the construction to address agrochemical impacted soils within the USACE Contract 1 boundary in May 2011. Execution of the IRL-S Project Partnership Agreement to establish the legal partnership on construction of the project was completed in August 2010.

Total Estimated Project Cost: $450,000,000 (without land)

Actual Construction Start Date: May 2010 (SFWMD contract)
Scheduled Construction Start Date: October 2011 (USACE contract)
Scheduled Project Completion Date: September 2020

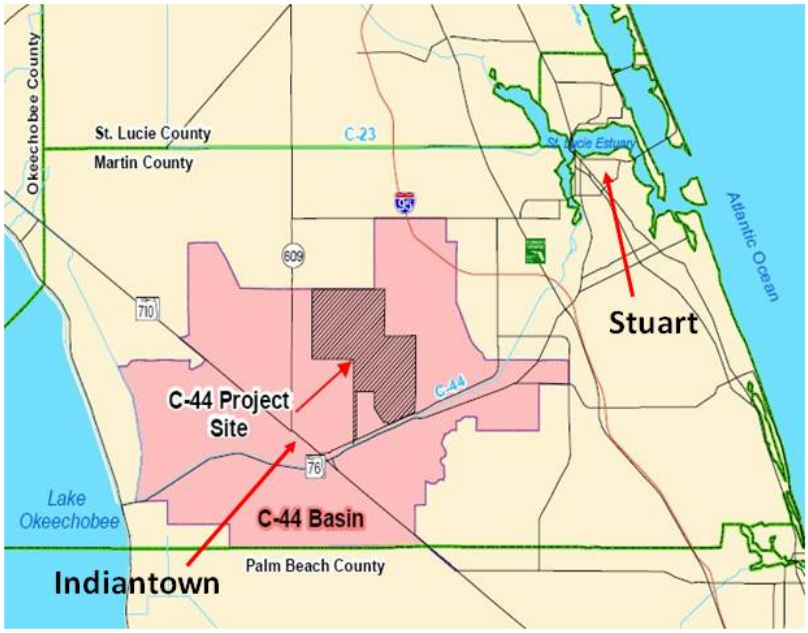
Actual Expenditures to date by SFWMD:

	Thru 2008	2009	2010	2011	2012	Total
SFWMD	$31,355,063	$108,156	$1,785,915	$6,698,912	$1,300,000	$41,248,046

Hyperlink:

http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/2011_sfer/v3/chapters/v3_ch2.pdf

Contact: Sue Ray sray@sfwmd.gov



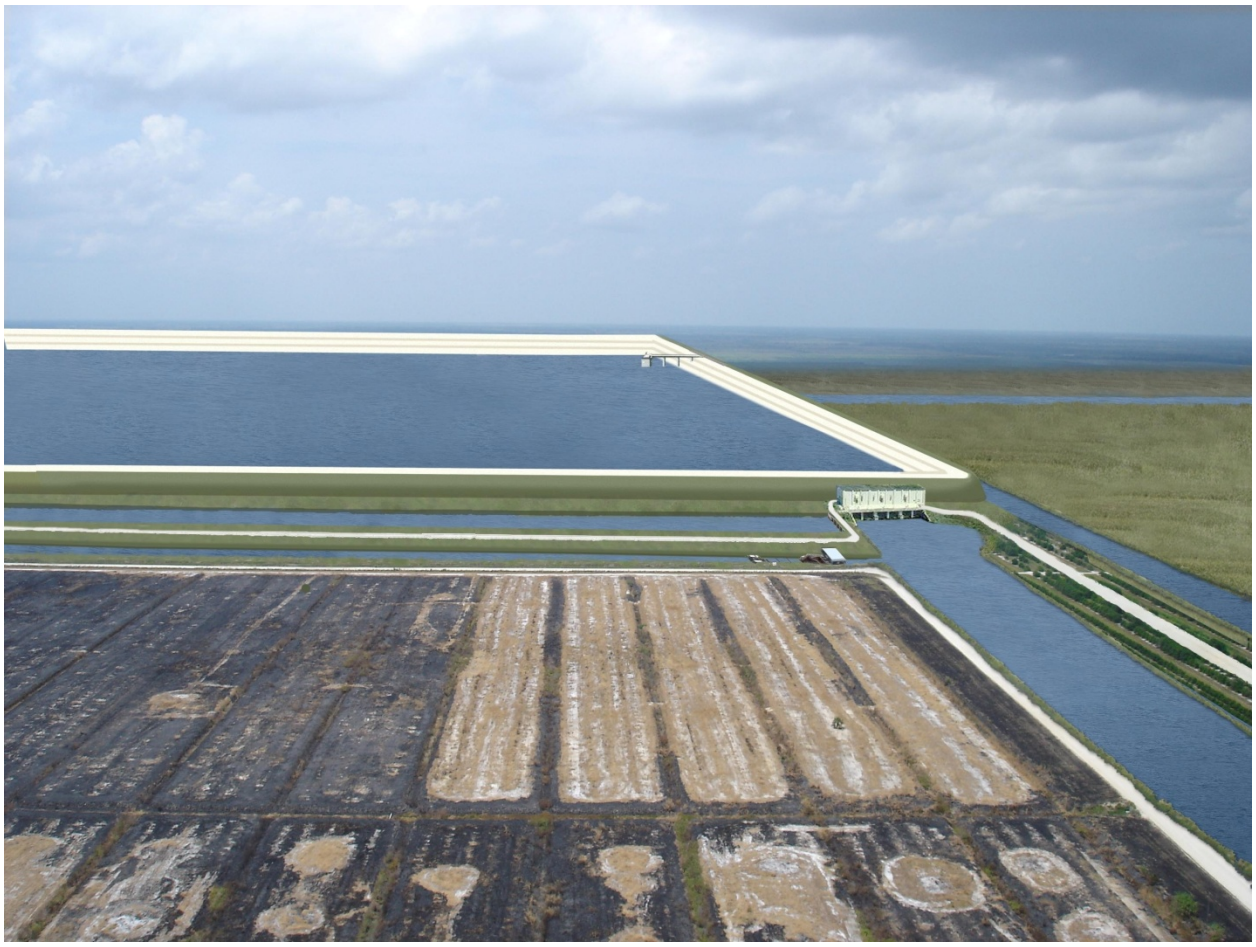
C-44 Project site location maps shown above.

This is the Troup Indiantown Water Control District Temporary Configuration Site 5 Temporary pumping facilities

Photos of the Troup Indiantown Water Control District Temporary Configuration Site 1 Temporary pumping facilities.

Photo of the Northern C-132/133 Canals Project's C-133 Canal looking north.

Photo of the Intake Canal/Road Preliminary Work Project's construction of the roadbed.



Artist's rendering of the C-44 Reservoir/STA Project looking from the southeast corner of the reservoir at the inflow pump station, with STAs to the east.

Project Name: **C&SF: CERP Central Everglades Planning Project (CEPP)**
Project ID: 1102
Lead Agency: USACE / SFWMD
Authority: WRDA 2000
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 **Secondary:** 1-A.3

Measurable Output(s): Improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries; the central Everglades including Water Conservation Area 3 and Everglades National Park, in order to restore the hydrology, habitat and functions of the natural system.

April 1999 (Restudy) Project Synopsis:
The CEPP project is part of the National Pilot Program for Feasibility Studies which will provide an opportunity to test principles that have been outlined in the USACE *Recommendations for Transforming the Current Pre-Authorization Study Process* (January 2011).

The study area for the CEPP encompasses the Northern Estuaries (St. Lucie River and Indian River Lagoon and the Caloosahatchee River and Estuary), Lake Okeechobee, a portion of the Everglades Agricultural Area, the Water Conservation Areas; Everglades National Park, the Southern Estuaries (Florida Bay and Biscayne Bay), and the Lower East Coast. Utilizing the Incremental Adaptive Restoration approach recommended by the National Research Council and new information gained to date, the project will be composed of increments of project components that were identified in the CERP Comprehensive Review Study (Yellow Book), reducing the risks and uncertainties associated with project planning and implementation.

The scope of the CEPP will include increments of the following components that were part of the Yellow Book Plan:

- Everglades Agricultural Storage Reservoirs (G)
- Flow to Northwest and Central Water Conservation Area 3A (II and RR)
- Water Conservation Area 3 Decompartmentalization and Sheet flow Enhancement (AA, QQ and SS)
- Dade-Broward Levee/Pennsuco Wetlands (BB)
- Bird Drive Recharge Area (U)
- L-31N Improvements for Seepage Management and S-356 Structures (V and FF)
- Everglades Rain-Driven Operations (H)

Current Project Synopsis: This new pilot process diverts from the standard USACE planning process and requires greater, more interactive and concurrent involvement from the vertical team including the USACE South Atlantic Division, Headquarters, and Assistant Secretary of the Army's office; at multiple points throughout the study to provide input and decision making. The pilot study is divided into four phases, each with a key Decision Point and associated In-Progress Reviews (Table-1) in order to achieve a Project Implementation Report (PIR).

Table 1: Pilot Study Phases

PILOT STUDY PHASE	DECISION POINT (DP)	DURATION
Project Scoping Phase	DP 1 – Federal Interest Determination	Month 1-3
Analysis Phase	DP 2 – Alternative Array and Plan Selection	Month 4-15
Review Phase	DP 3 – Confirmation Brief	Month 16-18
Confirmation Phase	DP 4 – Chief's Report	Month 19-21

CEPP Decision Point 1 (DP-1) was completed in January 2011; where the project received concurrence on the Determination of Federal Interest and approval to move forward with the study as outline in the January 2011 CEPP Scoping Plan. The scoping plan identified the formulation strategy to analyze the project study area and prepare the PIR. The work completed to date includes identifying the project problems & opportunities, identifying objectives & constraints, establishment of management measures, identification of planning modeling tools, and hydrologic models.

The CEPP pilot study is currently in the Analysis Phase of the study. Current work underway includes the hydrologic modeling, development of screening criteria, development of parametric cost tools for screening, screening of management measures, development of project components, development of the an array of project alternative, evaluation of benefits, comparison of project alternatives and the selection of the Tentatively Selected Plan (TSP).

Initiation of the National Environmental Policy Act (NEPA) and cultural resources is underway. Two public scoping meetings were held in December 2011.

The goal of the CEPP is to improve the quantity, quality, timing and distribution of water in the Northern Estuaries, Water Conservation Area 3, and Everglades National Park in order to restore the hydrology, habitat and functions of the natural system.

Selection of the TSP by the agency technical teams and Project Delivery team will occur in the first quarter of FY13. USACE approval of the TSP is expected by January 2013, at DP-2, and the Final PIR is scheduled to be completed by May 2013.

Current Status: Plan formulation is underway to complete a PIR.

Est. Cost of PIR: $ 10,700,000

Project Schedule:
07 Jan 2013 DP 2 – Approval of TSP
11 Jan 2013 SAJ Completes Draft PIR/EIS
14 Jan 2013 IPR 6 – Approval to Release Draft PIR
17 Jan 2013 Publish Draft PIR in Federal Register
29 Jan 2013 Begin Concurrent SAD/HQ, Independent External Peer Review (IEPR), and Public Review
12 Mar 2013 Complete Concurrent Reviews
13 Mar 2013 SAJ Responds to Comments & Prepares Final PIR/EIS
23 Apr 2013 Complete Final PIR
24 Apr 2013 Agency Technical Review (ATR) on Final PIR
01 May 2013 Final PIR/EIS to SAD/HQ
08 May 2012 IPR 7 – Approval of Final PIR and DE Transmittal
13 May 2013 Civil Works Review Board
23 Sept 2013 Chief of Engineers Report

Detailed Project Budget Information (rounded):

USACE	$0
SFWMD	$0
Total	**$0**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_51_cepp.aspx

http://www.sfwmd.gov/portal/page/portal/xweb%20protecting%20and%20restoring/americas%20everglades

http://www.sfrestore.org/cepp/cepp.html

Contact: Kim Vitek, Project Manager, Ecosystem Branch, Programs and Project Management Division, USACE
kimberly.a.vitek@usace.army.mil

Matt Morrison, Lead Project Manager, SFWMD
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).*

Additional Information: *(see Figure 1, Map of Project Area next page)*

Project Name: **C&SF: CERP Lake Okeechobee Watershed (A) (W)** (OPEs: LOWQTF, LOTSD, LIRS)
[North of LOW Storage Reservoir (A), Taylor Creek/Nubbin Slough Storage and Treatment Area (W), OPEs: LOW Water Quality Treatment Area (LOWQTF), LOW Tributary Sediment Dredging (LOTSD), Lake Istokpoga Regulation Schedule Modification (LIRS)
Project ID: 1104 (CERP Project WBS # 01 and WBS #02)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Initially Authorized Project – "W");* WRDA 2000 *(Programmatic Authority < $25 M) - OPEs: LIRS, LOTSD;* other components not authorized.
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 **Secondary:** 1-B.1, 2-A.3

Measurable Output(s):

- 272,823 acre-feet storage capacity in the Lake Okeechobee Watershed (202,500 LOW; 55,000 Taylor Creek Nubbin Slough, 4,375 OPEs; 1,984 Taylor Creek Reservoir)
- 12,000 acre stormwater treatment area
- 3,730 acres of habitat restoration (primarily wetlands)
- 74 metric tons/year average reduction of phosphorus going into Lake Okeechobee

April 1999 (***Restudy***) **Project Synopsis:** The Restudy initially included each of the following separate elements:

North of Lake Okeechobee Storage Reservoir (A) **–** Initial design was an above-ground reservoir with total storage capacity of approximately 201,250 acre-feet in a 17,500-acre reservoir (water levels fluctuating up to 11.5 feet above grade) and a 2,500-acre stormwater treatment area to be located in the Kissimmee River Region, north of Lake Okeechobee. The location was anticipated to be in Glades, Highlands, or Okeechobee Counties. The final size, depth and configuration to be determined through more detailed planning, land suitability analyses, and design determined by an evaluation of degraded water bodies within the watersheds of the storage/treatment facility for appropriate pollution load reduction targets, and other water quality restoration targets for the watershed.

Taylor Creek/Nubbin Slough Storage and Treatment Area (W) - One of the ten Initially Authorized Projects identified in the Water Resources Development Act (WRDA) 2000, the initial design includes a 5,000-acre above-ground reservoir (water levels fluctuating up to 10 feet above grade) with a storage capacity of approximately 50,000 acre-feet and a 5,000-acre stormwater treatment area with 20,000 acre-feet capacity in the Taylor Creek/Nubbin Slough Basin to attenuate flows and reduce the amount of nutrients flowing to the lake.

Lake Okeechobee Watershed Water Quality Treatment Facilities (LOWQTF) **–** Includes two reservoir-assisted stormwater treatment areas and the plugging of select local drainage ditches. The initial design of these reservoir-assisted stormwater treatment areas assumes a 1,775-acre facility in the S-154 Basin in Okeechobee County and a 2,600-acre facility in the S-65D sub-basin of the Kissimmee River Basin in Highlands and Okeechobee Counties. The plugged drainage ditches will result in restoration of approximately 3,500 acres of wetlands throughout the Lake Okeechobee watershed basin. The other portion of this feature includes the purchase of conservation easements within four key basins of Lake Okeechobee to restore the hydrology of isolated wetlands by plugging the connection to drainage ditches and the diversion of canal flows to adjacent wetlands. Sites range from an individual wetland to an entire sub-basin and are located within the lower Kissimmee River Basins (S-65D, S-65E, and S-154) and Taylor Creek/Nubbin Slough Basin (S-191).

Lake Okeechobee Tributary Sediment Dredging (LOTSD) (OPE) - The purpose is to remove phosphorous from canals located in areas with the most intense agriculture in the watershed that contribute to excessive phosphorus loading to Lake Okeechobee by dredging sediments from 10 miles of primary canals within an 8-basin area in the northern watershed of Lake Okeechobee. The initial design assumes the dredged material will contain approximately 150 tons of phosphorus. A partnership with local landowners will be pursued for disposal of the material on uplands.

Lake Istokpoga Regulation Schedule (LIRS) (OPE) - Develops a plan to address water resource problems in the Lake Istokpoga Basin, a natural lake located in Highlands County, and a tributary of both Lake Okeechobee and the Kissimmee River. The focus is to create a balance between environmental needs, water supply and flood control in the basin.

Current Project Synopsis: The LOW project area covers approximately 1,800 square miles and consists of four major planning areas based on the four major tributary systems that naturally drain the lower portion of the watershed into Lake Okeechobee. The purpose is to increase aquatic and wildlife habitat, regulate extreme highs and lows in lake staging, reduce phosphorus loading and reduce damaging releases to the surrounding estuaries. In addition, this project will focus on rehydrating wetlands in and around the areas north of the lake and improve the ecological health of Lake Istokpoga.

As part of the Corps planning process the LOW Project Tentatively Selected Plan (TSP) consists of six structural water storage and treatment features and a recommended Lake Istokpoga Regulation Schedule (LIRS – combining WBS #2, formerly a separate project):

1) **A reservoir in the Taylor Creek/Nubbin Slough basin** – A 1,984-acre reservoir, located in the S-191 sub-basin, will provide a maximum capacity of 32,000 acre-feet at an average depth of 18 feet situated on the Grassy Island Ranch. The reservoir will receive inflows from and discharge back to Taylor Creek. *(One of the ten initial projects authorized in WRDA 2000).*

2) **A stormwater treatment area (STA) in the Taylor Creek/Nubbin Slough basin** A 3,975 acre treatment area will be located in the S-135 sub-basin and have an average operating depth of 1.5 feet. This feature will receive inflow from the L-64 canal and discharge back to the L-47 canal and is projected to provide 15.8 metric tons of average annual phosphorus load reduction. *(One of the ten initially authorized projects in WRDA 2000 - a/k/a Lakeside Ranch STA).*

The Taylor Creek portion of the Lake Okeechobee Water Retention Phosphorus Removal project (Project) has been transferred to the sponsor (SFWMD) who accepted the project and assumed O&M Authority by letter dated 2 May 2011.

The Nubbin Slough portion of the Project is undergoing additional construction by the sponsor sediment transport issues. The project will be completed and transferred to the sponsor for operation and maintenance at the end of FY 2012.

A reservoir in the Kissimmee River basin – A 10,281 acre above ground reservoir will provide a maximum storage capacity of 161,263 acre-feet (at 16 feet average depth. Located in the C-41A sub-basin within the Kissimmee River drainage basin. It will receive flow from and discharge back to the C-38 canal (Kissimmee River).

3) **A reservoir in the Lake Istokpoga basin –** A 5,416-acre reservoir is proposed for the C-40A and C-41A sub-basins and to provide a maximum storage capacity of 79,560 acre-feet (at an average depth of 16 feet). It will receive inflow from and discharge back to the C-41A canal.
4) **A stormwater treatment area in the Lake Istokpoga basin** - An 8,044-acre treatment area will be located in the L-49 sub-basin (at an average operating depth of 1.5 feet). It will receive flow from the C-41 canal and discharge treated water to Lake Okeechobee and is expected to provide approximately 29.1 metric tons of average annual phosphorus load reduction.
5) **Restoring a wetland in Paradise Run** - A 3,730-acre wetland restoration site is planned for the ecologically significant confluence (under pre-development conditions) of Paradise Run, oxbows of the Kissimmee River, and Lake Okeechobee. Restored, it would re-establish a rain-driven hydrology, unless future efforts to further enhance watershed conditions could link the site to the surface flows from the C-38 (Kissimmee River) or C-41A (Istokpoga) Canals.

NOTE: *The Lake Okeechobee Tributary Sediment Dredging project (LOTSD) included in the WRDA 2000 programmatic authorization for implementation of projects with a total project cost under $25 million; was later removed from this project due to non-cost effectiveness.*

Current Status: This project is "on hold" at the request of the sponsor. The date to revise and complete the PIR has been tentatively delayed until October of 2015.

SFWMD is pursuing a 4,000-acre Taylor Creek Reservoir as part of the Northern Everglades Project (Task Force ID #1112). But it was on hold pending the Northern Everglades Feasibility Study of the Taylor Creek/Nubbin Slough basin.

Est. Cost: $ 2,089,000,000

Project Schedule:

TBD	Construction start estimated.
TBD	Construction completed.

Detailed Project Budget Information (rounded):

Lake Okeechobee Watershed	Expenditures Thru 2011
USACE	$16,136,000
SFWMD	$26,174,000
Total	$42,310,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_01_lake_o_watershed.cfm

Contact: Alan Bruns, Project Manager, Everglades Division, USACE
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Armando Ramirez, Lead Project Manager, SFWMD
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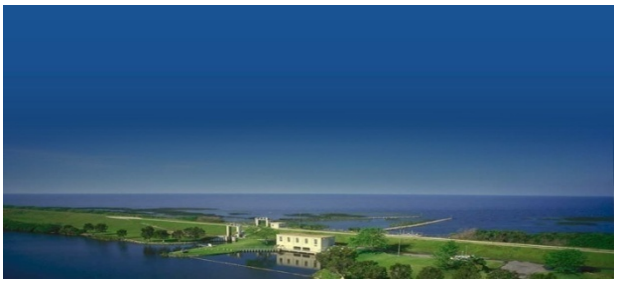
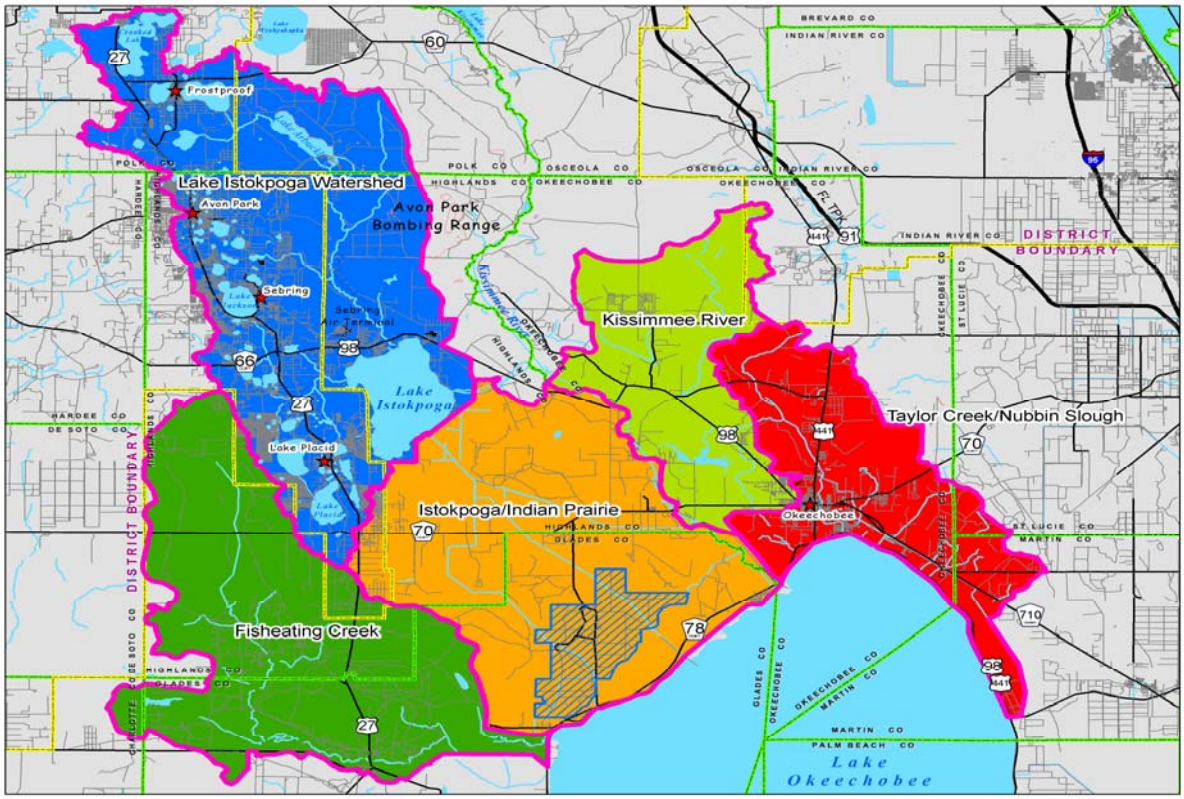
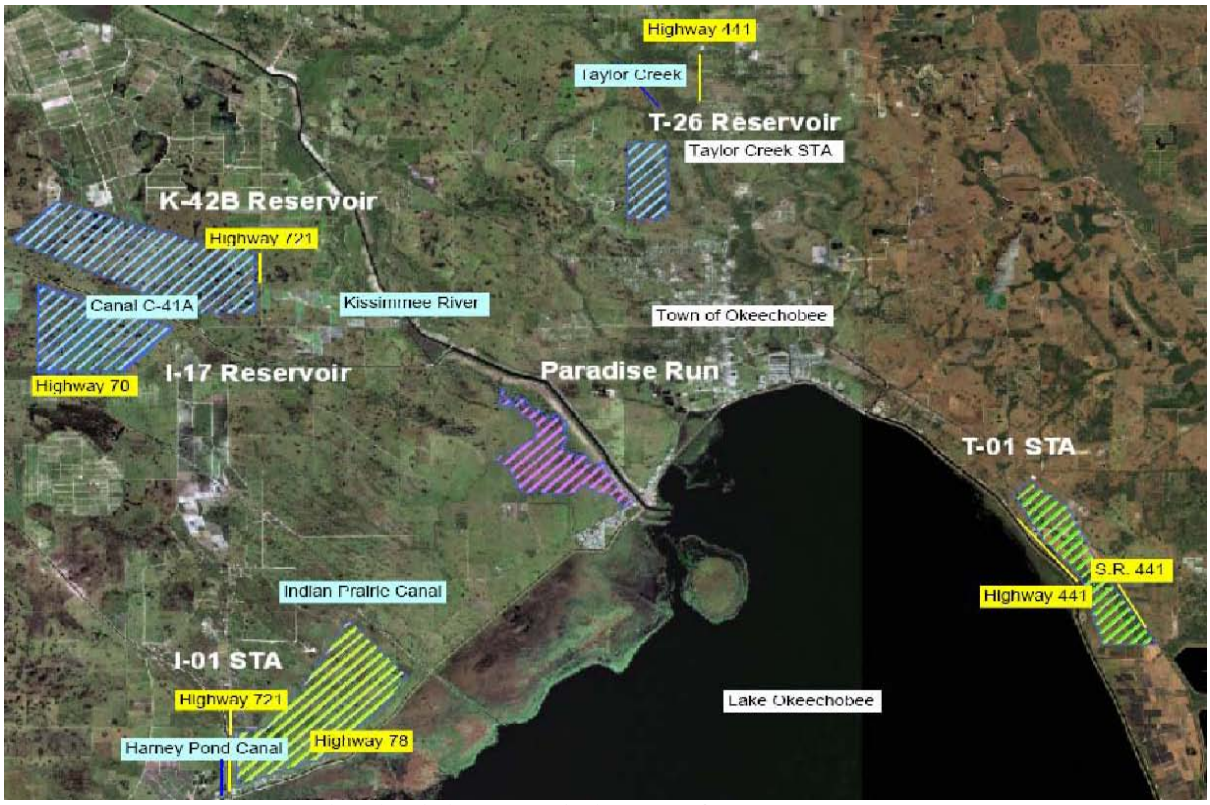
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept. 2011) and sponsor verified and approved in kind credit through 4th quarter FY11.




Lake Istokpoga Watershed
Avon Park Bombing Range
Kissimmee River
Taylor Creek/Nubbin Slough
Istokpoga/Indian Prairie
Fisheating Creek
DISTRICT BOUNDARY
Lake Istokpoga
Lake Okeechobee
Frostproof
Avon Park
Sebring
Lake Placid
Okeechobee


Highway 441
Taylor Creek
T-26 Reservoir
Taylor Creek STA
K-42B Reservoir
Highway 721
Canal C-41A
Kissimmee River
Town of Okeechobee
Highway 70
I-17 Reservoir
Paradise Run
T-01 STA
S.R. 441
Highway 441
Indian Prairie Canal
I-01 STA
Highway 721
Lake Okeechobee
Harney Pond Canal
Highway 78

Project Name: **C&SF: CERP North Lake Belt Storage Area (XX P2)**
Project ID: 1105 (CERP Project WBS # 25)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Measurable Output(s): 90,000 acre-feet reservoir

April 1999 (Restudy) Project Synopsis: Includes canals, pumps, water control structures, and an in-ground storage reservoir with a total capacity of approximately 90,000 acre-feet located in Miami-Dade County within an area proposed for rock mining. The initial design of the reservoir assumed 4,500 acres (water level fluctuating from ground level to 20-feet below grade). A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods, to prevent seepage losses, and to prevent water quality impact due to the high transmissivity of the Biscayne Aquifer in the area.

Current Project Synopsis: The purpose of this project is to capture and store a portion of the stormwater runoff from the C-6, western C-11 and C-9 Basins. The stored water will be used to maintain stages during the dry season in the C-9, C-6, C-7, C-4 and C-2 canals and to provide fresh water deliveries to Biscayne Bay to aid in meeting salinity targets. Runoff is pumped and gravity fed into the in-ground reservoir from the C-6 (west of Florida's Turnpike), western C-11, and C-9 basins. Outflows from the facility will be directed into the C-9 Stormwater Treatment Area/Impoundment for treatment prior to delivery to the C-9, C-7, C-6, C-4 and C-2 canals.

This project adheres to the original concept outlined in the Restudy. However, a pilot test of this component will be conducted prior to final design to determine construction technologies, storage efficiencies, impacts upon local hydrology, and water quality effects. If necessary, additional stormwater treatment areas will be constructed adjacent to the in-ground reservoir.

Current Status: This project has not yet begun.

Est. Cost: $ 357,436,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

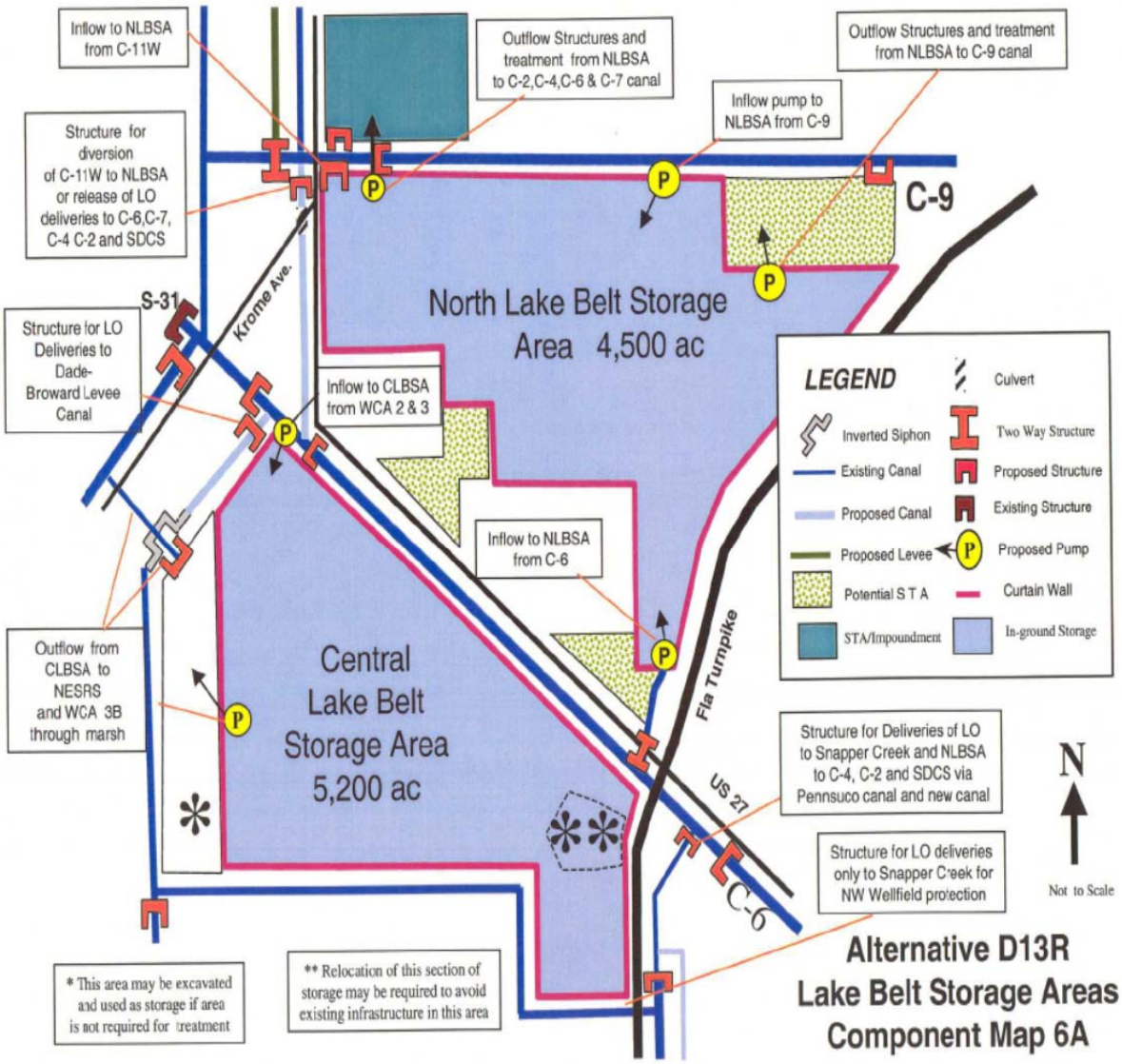
North Lake Belt	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_25_north_lake_belt.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Additional Information:



Project Name: **C&SF: CERP PBC Agriculture Reserve Reservoir (VV P1)**
Project ID: 1106 (CERP Project WBS # 20)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 20,000 acre-feet reservoir

April 1999 (Restudy) Project Synopsis: Includes an above-ground reservoir with a total storage capacity of approximately 20,000 acre-feet located in the western portion of the Palm Beach County (PBC) Agriculture Reserve. The initial design assumes a 1,660-acre reservoir (with water levels fluctuating up to 12-feet above grade). Facilities will be filled during the wet season with excess water from the western portions of the Lake Worth Drainage District and possibly from Acme Basin B. Water will be returned to the Lake Worth Drainage District Canals to help maintain canal stages during the dry-season. If water is not available in the reservoir or the associated ASR wells (Part 2), existing rules for water delivery to this region will be applied.

Current Project Synopsis: The purpose of this feature is to supplement water supplies for central and southern Palm Beach County by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and Loxahatchee National Wildlife Area. It is assumed that this facility could also be designed to achieve water quality improvements in downstream receiving waters, depending upon pollutant loading conditions in the watershed.

The reservoir portion (part 1) is planned to work with the ASR (part 2 WBS #21 discussed on the next page).

Current Status: This project has not yet begun.

Est. Cost.: $ 124,765,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

PBC Agriculture Reserve Reservoir	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$1,377
Total	**$1,377**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_20_pbc_asr_1.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Site 1 Impoundment (M P1)**
Site 1 Impoundment (Fran Reich Preserve)
Project ID: 1107 (CERP Project WBS # 40)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Initially Authorized Project);* WRDA 2007
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 **Secondary:** 2-A.3

Measurable Output(s):

- 13,280 acre-feet reservoir storage
- 114 acres of restored wetland and upland habitat

April 1999 Project Synopsis: The purpose of this project is to supplement water deliveries to the Hillsboro Canal by capturing and storing excess water currently discharged to the Intra-coastal Waterway. These supplemental deliveries will reduce demands on Lake Okeechobee and Loxahatchee National Wildlife Refuge. The impoundment pool will also provide groundwater recharge, reduce seepage from adjacent natural areas, and prevent saltwater intrusion by releasing impounded water back to the Hillsboro Canal when conditions dictate. Some measure of flood protection may also be provided along with water quality improvement.

The project contained in the Restudy was titled *Site 1 Impoundment and Aquifer Storage and Recovery (M)* and included an above-ground reservoir and a series of aquifer storage and recovery wells. The reservoir was estimated with a total storage capacity of approximately 15,000 acre-feet located in the Hillsboro Canal Basin in southern Palm Beach County. The initial design of the reservoir assumed 2,460 acres (water levels fluctuating up to 6 feet above grade). Water from the Hillsboro Canal will be pumped into the reservoir during the wet season or periods when excess water is available and released back to help maintain canal stages during the dry-season.

Associated aquifer storage and recovery wells (separate project) include a total capacity of approximately 150 million gallons per day and associated pre- and post- water quality treatment. An initial design of the aquifer storage and recovery facility assumed 30 well clusters, each with a capacity of five million gallons per day with chlorination for pre-treatment and aeration for post-treatment; sourcing water from the surficial ground water adjacent to the reservoir.

Current Project Synopsis: The original Restudy project has since been divided into two parts. The first part is known as *Site 1 Impoundment* (M P1) (a/k/a *Fran Reich Preserve*) (CERP Project WBS #40), this project, relates to the reservoir portion. The second part, known as the *Hillsboro ASR* (M P2) (CERP Project WBS #22) relates to the aquifer storage and recovery wells portion, and is reported separately.

The reservoir, located adjacent to the Arthur R. Marshall Loxahatchee National Wildlife Refuge in southwestern Palm Beach County will provide water storage considered essential to restoring Everglades historic health and viability. A Tentatively Selected Plan (TSP) for this project (the reservoir) was identified and the Alternative Formulation Briefing (AFB) held in August 2004. The TSP includes a 1,800-acre project footprint with a 1,600-acre 8 foot deep, above-ground impoundment (13,280 acre-feet capacity) and includes an inflow pump station, discharge gated culvert, emergency overflow spillway, and seepage control canal with associated structures.

A revised final PIR received a signed Chief of Engineer's Report in December 2006. The reservoir project was authorized for construction in WRDA 2007 for $80,840,000, subject to appropriations. The project has been sub-divided further into two phases:

1) Phase 1 - D-525N (L-40 modifications) and miscellaneous features; and
2) Phase 2 - the impoundment features.

Current Status: The Water Reservation and allocation were verified by the USACE in January 2010. The USACE released a Supplemental Environmental Assessment (SEA) and Draft Finding of No Significant Impact (FONSI) for phased implementation of the Site 1 Impoundment project in Palm Beach County May 20, 2010 for comment until June 18, 2010. The USACE will construct the reservoir through two separate construction contracts. The Corps awarded the contract for Phase 1 in August 2010 for the amount of $44.1M using funding from the American Recovery and Reinvestment Act. The Corps issued a notice to proceed on October 20, 2010 and the construction is scheduled to complete February 2013.

Design is complete on Phase 2 features. Construction for the Phase 2 features is currently on hold.

Est. Cost: $104,524,000

Project Schedule:

2010	Construction began on Phase 1
2013	Construction physically complete on Phase 1
TBD	Construction began on Phase 2
TBD	Construction physically complete on Phase 2.

Detailed Project Budget Information (rounded):

Site 1 Impoundment	Expenditures Thru FY 2011
USACE	$29,054,405
SFWMD	$7,780,843
Total	**$36,835,248**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_40_site_1_impoundment.cfm https://my.sfwmd.gov/portal/page?_pageid=1855,2831038,1855_2831245&_dad=portal&_schema=PORTAL&navpage=prjwpa.

Contact: Stephen A. Baisden, PE, PMP, Project Manager, Everglades Division, USACE
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Jeff Needle, Project Manager, Everglades Restoration, SFWMD
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Greg Coffelt, Project Liaison, Design PM, Everglades Restoration, SFWMD
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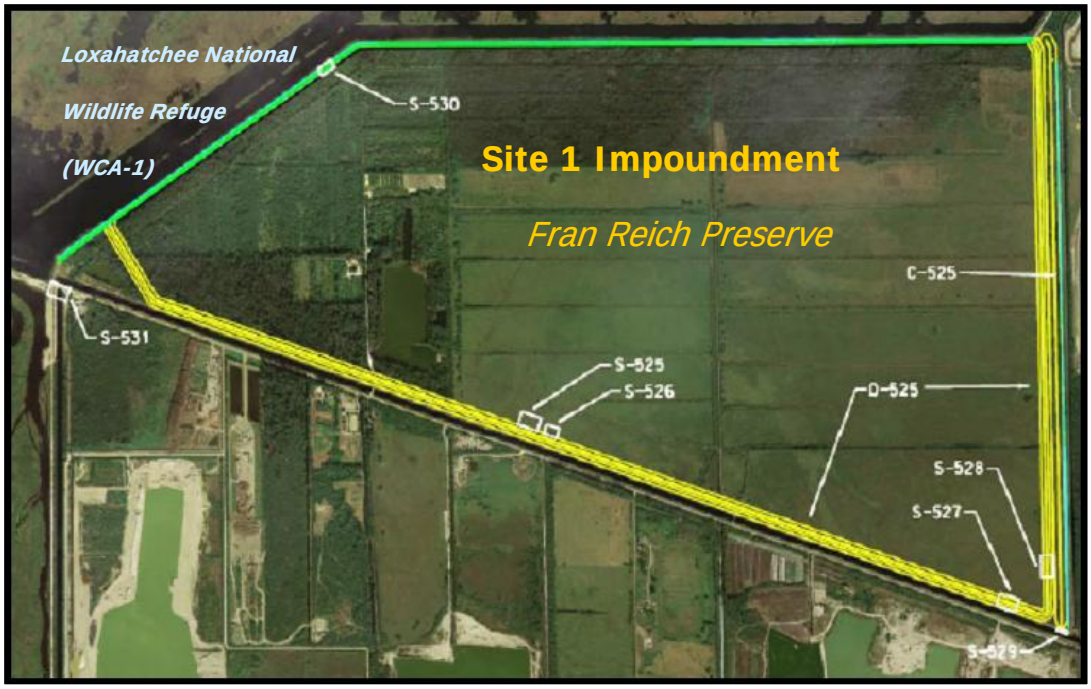
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and recorded in kind credit through 4th quarter FY11. Current project status includes information summarized from Final PIR/EA (rev. 2006) and authorization in WRDA 2007.

Additional Information:



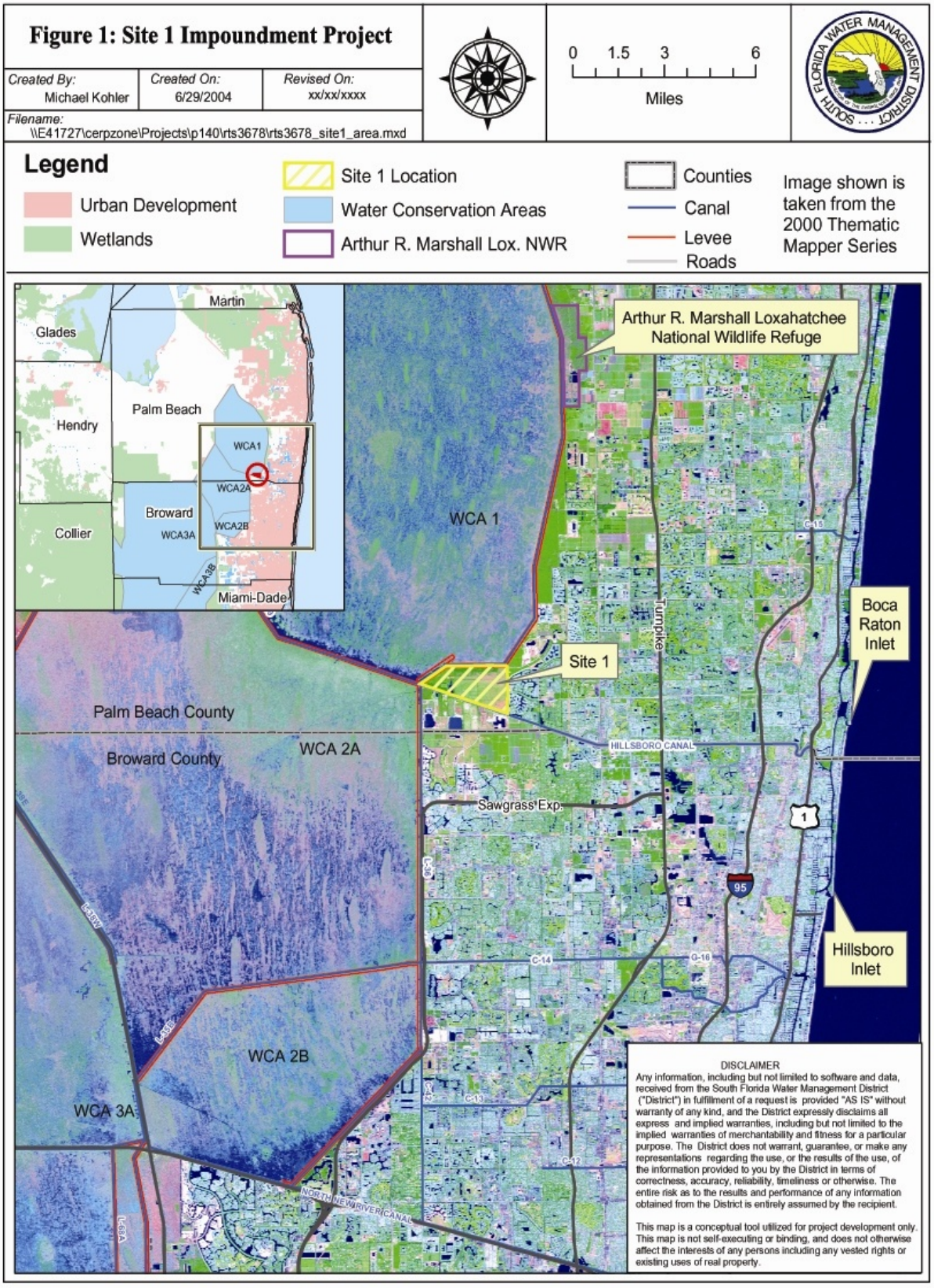


Figure 1: Site 1 Impoundment Project
Created By: Michael Kohler
Created On: 6/29/2004
Revised On: xx/xx/xxxx
Filename: \\E41727\cerpzone\Projects\p140\rts3678\rts3678_site1_area.mxd
0 1.5 3 6
Miles
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Legend
Urban Development
Wetlands
Site 1 Location
Water Conservation Areas
Arthur R. Marshall Lox. NWR
Counties
Canal
Levee
Roads
Image shown is taken from the 2000 Thematic Mapper Series
Martin
Glades
Palm Beach
Hendry
WCA1
WCA2A
Broward
WCA3A
WCA2B
Collier
WCA3B
Miami-Dade
Arthur R. Marshall Loxahatchee National Wildlife Refuge
WCA 1
Boca Raton Inlet
Turnpike
Site 1
Palm Beach County
Broward County
WCA 2A
HILLSBORO CANAL
Sawgrass Exp.
Hillsboro Inlet
WCA 2B
WCA 3A
NORTH NEW RIVER CANAL
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This map is a conceptual tool utilized for project development only. This map is not self-executing or binding, and does not otherwise affect the interests of any persons including any vested rights or existing uses of real property.

Project Name: **C&SF: CERP Caloosahatchee River (C-43) West Basin Storage Reservoir and Caloosahatchee Watershed (D P1)**
[F/k/a *C-43 Basin Storage Reservoir – Part 1;* currently 2 PIRs: *Caloosahatchee River (C-43) West Basin Storage Reservoir (PIR #1) and Caloosahatchee Watershed (PIR #2)]*
Project ID: 1109 (CERP Project WBS # 04)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 170,000 acre-feet storage

April 1999 (Restudy) Project Synopsis: Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the initially proposed above-ground reservoir(s) with a total storage capacity of approximately 160,000 acre-feet. The initial design of the reservoir(s) assumed 20,000 acres (water levels fluctuating up to 8 feet above grade). Water from the reservoir will be injected into aquifer storage and recovery well field with a capacity of approximately 220 million gallons per day and associated pre- and post- water quality treatment located in the C-43 Basin in Hendry, Glades, or Lee Counties for long-term storage. Estuarine demands not met by basin runoff and the aquifer storage and recovery wells will be met by Lake Okeechobee as long as the lake stage is above a pre-determined level.

Current Project Synopsis: As part of the Corps planning process, alternative plans were reviewed. The Caloosahatchee (C-43) Basin Storage Reservoir and Aquifer Storage and Recovery (ASR) project (originally component D in the Yellow Book) have been divided into two projects: The latter portion is now a separate project designated D P2 (part 2), previously USACE WBS #5. In 2007, D P1 (part 1), represented here, was further subdivided into two distinct Project Implementation Reports (PIRs):

(1) **Caloosahatchee River (C-43) West Basin Storage Reservoir (WBSR)** will capture excess C-43 Basin runoff and regulatory releases from Lake Okeechobee and release water to the Caloosahatchee Estuary when needed helping to restore the Caloosahatchee estuarine and riverine ecosystems by improving hydrologic conditions with improved water delivery and by reducing water quality by reducing salinity and nutrient impacts of runoff. To achieve this goal, the team identified two key objectives: (1) provide additional water to the estuary to augment low or no flows over Structure S-79 during the dry season/dry periods, and (2) reduce damaging peak flows to the estuary by capturing and storing excess basin run-off and Lake Okeechobee releases during high flow conditions.

(2) **Caloosahatchee Watershed** will address further water storage needs for the Caloosahatchee Estuary as well as water quality, water management, and ecological restoration challenges; while also ensuring that agricultural water supply requirements and flood attenuation are not negatively impacted. The project will build on the state's Caloosahatchee River Watershed Protection River Plan (January 2009). Goals include: (1) Identify, evaluate and implement methods and/or means of further decreasing dependency upon water releases from Lake Okeechobee, without disrupting water supply needs in the basin; (2) Identify, evaluate and implement methods and/or means to restore the Estuary by storing and releasing water flows in a more natural manner; and (3) Identify, evaluate and implement methods and/or means to enhance basin water quality.

Current Status:

(1) ***Caloosahatchee River (C-43) West Basin Storage Reservoir (WBSR) 2007 PIR*** addresses formulation, evaluation, and justification of a separable reservoir project in the lower basin. Following the ***Memorandum for Record Land Valuation and Crediting Policy – CE***RP Projects (July 2009), the PIR was updated with an addendum based on the latest policy decision and a re-assessment of alternative cost estimates, including the real estate re-evaluation and was finalized by HQ. A Chief's Report was completed in March 2010. The Record of Decision (ROD) and submission to Congress occurred in April 2011. The construction date is dependent upon Congressional authorization (generally in a WRDA) and appropriation funding.

As a state expedited project, the SFWMD designed a reservoir at the Berry Groves site, and final plans and specifications were completed in 2008. The plan includes a 170,000 acre-foot storage reservoir with a 1500 cfs pump capacity. State funding has been on hold pending outcome of the proposed state River of Grass land acquisition of sugarcane farmlands near Lake Okeechobee begun mid-2008. Conversion of Plans and Specs for USACE implementation could take 12 to 18 months.

(2) ***Caloosahatchee Watershed*** draft Project Management Plan (PMP) was sent to the SFWMD in November 2008 for comment. However, cost estimates and a schedule associated with the modeling were in flux with policy questions remaining from the overall C-43 WBSR PIR split. PMP adjustments include narrowing scope to river and estuary restoration, addressing the savings clause, the modeling plan and identification of the base conditions. Internal review, local sponsor review and full interagency PDT involvement is ongoing. A final PMP was completed in September 2010. Initiation of the PIR has been delayed.

Est. Cost:
Caloosahatchee River (C-43) West Basin Storage Reservoir: $ 584,618,000

Caloosahatchee Watershed: $ 262,000

Project Schedule:

Caloosahatchee River (C-43) West Basin Storage Reservoir:

TBD	Start construction.
TBD	Storage reservoir construction completed.

Caloosahatchee Watershed:
TBD

Detailed Project Budget Information (rounded):

Caloosahatchee River (C-43) West Basin Storage Reservoir (DP1)	**Expenditures Thru FY 2011**
USACE	$8,124,555
SFWMD	$30,677,072
Total	**$38,801,627**

Caloosahatchee Watershed	Expenditures Thru FY 2011
USACE	$286,590
SFWMD	$0
Total	**$286,590**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_04_c43_basin_1.aspx

https://my.sfwmd.gov/portal/page?_pageid=1855,2831854,1855_2831665&_dad=portal&_schema=PORTAL&navpage=prjc44

Contact: Steve Baisden, Project Manager, Everglades Division, USACE
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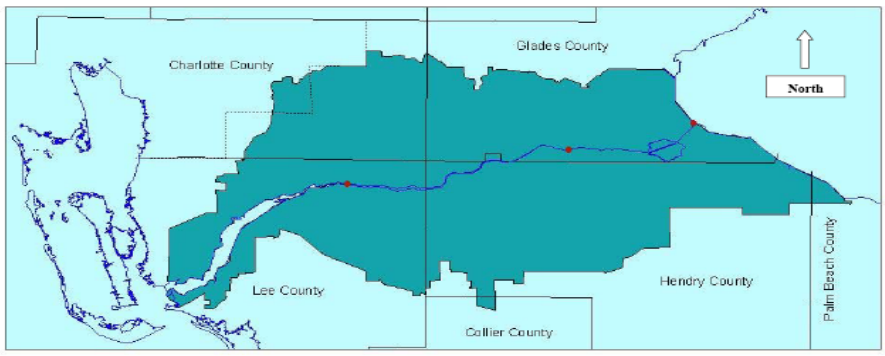
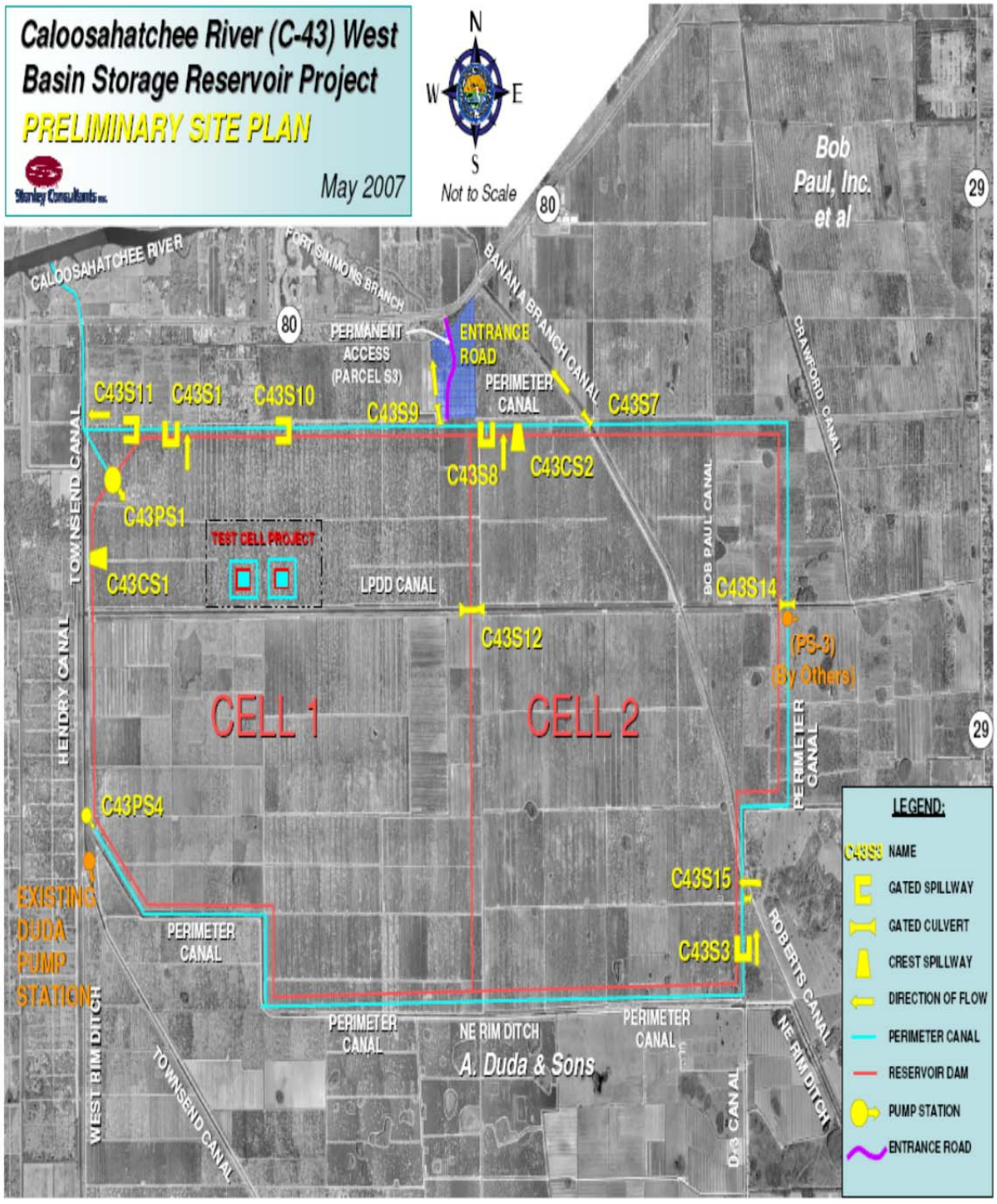
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and approved in kind credit through 4th quarter FY11. Schedule is updated based on the approved *Integrated Delivery Schedule Through 2020* (February 10, 2010).

Additional Information:

Figure B-2 Map Showing the Caloosahatchee River Drainage Basin




Caloosahatchee River (C-43) West Basin Storage Reservoir Project
PRELIMINARY SITE PLAN
May 2007
Stanley Consultants Inc.
N
W
E
S
Not to Scale
Bob Paul, Inc. et al
CALOOSAHATCHEE RIVER
FORT SIMMONS BRANCH
BANANA BRANCH CANAL
CRAWFORD CANAL
80
29
PERMANENT ACCESS (PARCEL S3)
ENTRANCE ROAD
PERIMETER CANAL
C43S11
C43S1
C43S10
C43S9
C43S7
C43S8
C43CS2
C43PS1
TEST CELL PROJECT
C43CS1
LPDD CANAL
BOB PAUL CANAL
C43S14
C43S12
(PS-3) (By Others)
TOWNSEND CANAL
HENDRY CANAL
CELL 1
CELL 2
C43PS4
EXISTING DUDA PUMP STATION
C43S15
C43S3
ROBERTS CANAL
WEST RIM DITCH
NE RIM DITCH
A. Duda & Sons
L-3 CANAL
LEGEND:
C43S3 NAME
GATED SPILLWAY
GATED CULVERT
CREST SPILLWAY
DIRECTION OF FLOW
PERIMETER CANAL
RESERVOIR DAM
PUMP STATION
ENTRANCE ROAD

Program Name: Infrastructure
Project Name: **C&SF: CERP - C-43 Basin Storage Reservoir and ASR (D)**
Project ID: 1109A (CERP Project WBS #04 and 05)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: Primary: 1.A.1 **Secondary:** 1.A.2

Measurable Output(s): 170,000 ac-ft reservoir; runoff storage from Caloosahatchee River (C-43) basin and Lake Okeechobee; releases to the downstream Caloosahatchee Estuary to restore ecological function and productivity; secondary purposes are limited flood attenuation and water supply, once the estuary needs have been met.

Project Synopsis: There is no longer an expedited portion of the project. All activities are now being conducted under the CERP and the approved Project Implementation Report. The Caloosahatchee River West Basin Storage Reservoir is Part I of the project. The Caloosahatchee Basin ASR is Part II. This project will comprise a significant portion of the total water storage requirement for the C-43 basin. The project consists of an above-ground reservoir located south of the Caloosahatchee River and west of the Ortona lock (S-78). Storage capacity is approximately 170,000 acre-feet. Water depth will vary from 15-25 feet. The reservoir will be constructed on an approximate 10,500-acre parcel in Hendry County, west of LaBelle.

Current Status: Tree clearing efforts to remove approximately 6,000 acres of citrus were completed in October 2010. The Record of Decision for the Caloosahatchee River (C-43) West Basin Storage Reservoir was signed in April 2011, and the approved Project Implementation Report and Environmental Impact Statement were submitted to Congress requesting authorization. Water reservation rule development to support the CERP Caloosahatchee River West Basin Storage Reservoir Project was initiated and is expected to be adopted in late 2012.

Total Estimated Project Cost: $579,599,000 (October 2010 price levels)

Scheduled Construction Start Date: Project on hold
Scheduled Project Completion Date: Project on hold

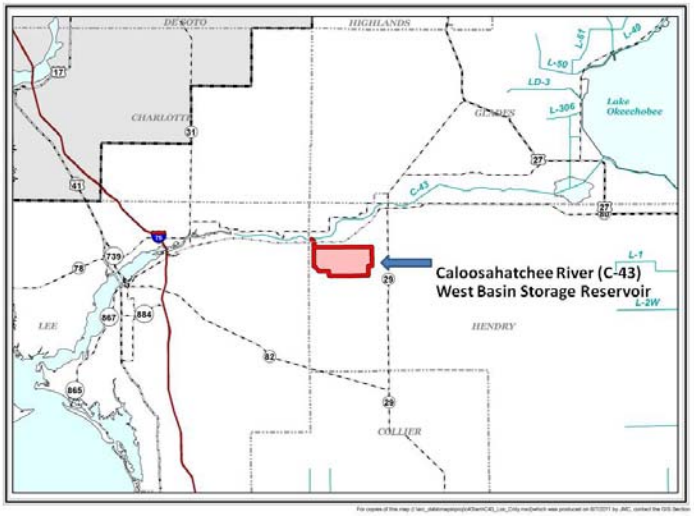
Actual Expenditures to date by SFWMD*:

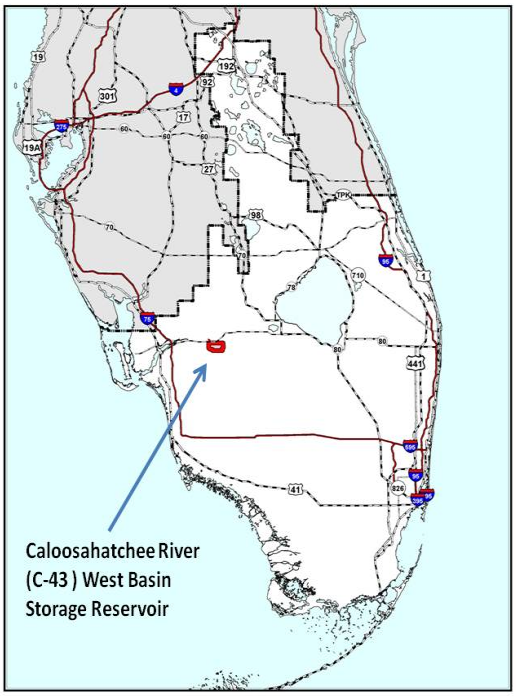
	Thru 2007	2008	2009	20010	2011	2012	Total
SFWMD	$17,912,204	$1,497,244	$79,528	$1,292,385	$927,823	$240,546	$21,949,730

*Credit for expedited work subject to inclusion in authorized Federal project. Amount estimated subject to credit once project is authorized and authorization has been given to credit work accomplished prior to signing of a PCA.

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/spl_caloos_c43_reservoir.pdf

Contact: Janet Starnes, SFWMD, jstarne@sfwmd.gov





The SFWMD acquired the project land and completed the construction and testing of reservoir test cells to evaluate seepage barriers and levee construction design. This information was applied to the detailed design of the reservoir that SFWMD completed in January 2008.

Project Name: **C&SF: CERP Central Lake Belt Storage Area (S P1 & S P2) (EEE)**
Project ID: 1110 (CERP Project WBS # 26)**:** *Central Lake Belt Storage Area (S); Flows to Eastern Water Conservation Ares (EEE - previously WBS #23)*
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 **Secondary:** 1-B.1

Measurable Output(s):

- 190,000 acre-feet storage
- 640 acres stormwater treatment area

April 1999 (Restudy) Project Synopsis:
S and *EEE:* Includes pumps, water control structures, a stormwater treatment area of 640 acres (water level fluctuating up to 4-feet above grade), and a combination above-ground and in-ground storage reservoir of 5,200 acres (water level fluctuating from 16-feet above to 20-feet below grade) with a total storage capacity of approximately 190,000 acre-feet located in Miami-Dade County. A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods and to prevent seepage losses. A pilot will address potential impacts to the county's Northwest Wellfield during construction and/or operation.

Excess water from Water Conservation Areas 2 and 3 will be diverted into the L-37, L-33, and L-30 Borrow Canals, running along the eastern boundaries of the Water Conservation Areas, and pumped into the Central Lake Belt Storage Area. Water supply deliveries will be pumped through an STA prior to discharge to the Everglades via the L-30 Borrow Canal and a reconfigured L-31N Borrow Canal. A structure will be provided on the Snapper Creek Canal to provide regional system deliveries when water from the Central Lake Belt Storage Area is not available to: (1) Northeast Shark River Slough, (2) Water Conservation Area 3B, and (3) to Biscayne Bay through Snapper Creek Canal at Florida's Turnpike, improving hydropatterns in that order, if available.

Current Project Synopsis: The purpose of the feature is to store excess water from Water Conservation Areas 2 and 3 and to provide environmental water supply deliveries to: (1) Northeast Shark River Slough, (2) Water Conservation Area 3B, and (3) to Biscayne Bay, in that order, if available. It is assumed that water diverted from WCAs 2 and 3 is of adequate quality to return to the Everglades Protection Area and Biscayne Bay. Final configurations and treatment requirements were to come from a Water Preserve Areas Feasibility Study.

Though drafted, the study scope became too large, so projects are being revisited separately.

Current Status: A pilot test of this technology will be conducted prior to final design of this component. Since this facility is to be located within a protection area, the pilot test will be designed to identify and address potential impacts to the Miami-Dade County's Northwest Wellfield, which may occur during construction and/or operation. Project is planned in the future.

Est. Cost: $ 700,568,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Central Lake Storage Reservoir (S)	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$0
Total	**$0**

Flows to Eastern Water (EEE)	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_26_central_lake_belt.cfm
http://www.evergladesplan.org/pm/projects/proj_23_flow_eastern.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **E&SF: Critical Projects - Ten Mile Creek Water Preservation Area**
Project ID: 1111
Lead Agency: USACE / SFWMD
Authority: WRDA 1996 (Section 528); WRDA 2007 *(amended cumulative cap)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 **Secondary:** 2-A.3

Measurable Output(s):

- 6,000 acre feet of storage provided on 526 acres of land
- 2,740 acres of habitat improved by project

Project History: WRDA 1996 authorizes the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the south Florida ecosystem. The SFER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study of and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval (WRDA 1996). However, Federal funding caps under WRDA 1996 and later revised under WRDA 2007 provide a $95M spending limit.

Current Project Synopsis: Ten Mile Creek is the largest sub-basin delivering water to the North Fork of the St. Lucie River Estuary (SLE), which has been established as an *Outstanding Florida Water* (OFW). The SLE discharges into the Indian River Lagoon, also an OFW, and the most biologically diverse estuary in North America. The entire lagoon is endangered by increased watershed runoff. Excess stormwater, due to drainage improvements, is causing radical fluctuations of the salinity concentration in the estuary. Adverse salinity concentrations eliminate viable habitat suitable for oysters, sea grasses, and marine fish spawning.

The project site is located just south of Ten Mile Creek in St. Lucie County and consists of the acquisition of 1,559 acres of land in the eastern portion of the Ten Mile Creek Basin and construction of an above-ground impoundment for stormwater detention purposes. It includes construction of a pump station and several control structures for circulation and discharge within the project. A constructed wetland or flow-through marsh has been added for additional water quality improvement purposes. This feature includes construction of a water preserve area and polishing cell to attenuate flows and improve water quality.
Detailed monitoring will provide practical information about how well the reservoir can capture nutrients on its own, prior to treatment in the STA; fish and wildlife use of the reservoir; and whether species can persist under a greatly fluctuating hydrologic regime.

The 1998 Tentatively Selected Plan (TSP) provides seasonal or temporary storage of stormwater from the Ten Mile Creek basin. Land certification, plans and spec completion and the construction award occurred in 2003; and construction was physically completed on the Ten Mile Creek Water Preserve Area by June 2006. Since that time, interim operations, testing and monitoring have been under way by the South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (USACE) in accordance with the Water Quality Permit and Project Cooperation Agreement.

During the process for preparation to transfer the project to the sponsor (SFWMD) for full operations, concerns were raised about some aspects of the project. In September 2007, the USACE and the SFWMD immediately began identifying all issues and planning a course of action toward remediation and delivering a quality project. This effort identified additional project needs and their associated costs, which were significant.

Current Status: On June 1, 2009 the SFWMD ceased Operations and Maintenance. As current holder of the FDEP permit, the USACE is responsible for the facility. That same month, the SFWMD transferred responsibility for the Ten Mile Creek project to the USACE and discontinued active project participation. The Corps has placed the facility in a passive operating state in order to limit project expenditures, which are within $33K of the $25M Federal spending cap set for Critical Projects (WRDA 1996 and WRDA 2007.)

The 2009 Water and Energy Appropriations Act increased the spending authorization by $3.5M. The $3.5M would be used to complete a post authorization change report and to fund facility maintenance thru FY2014. A Feasibility Cost Share Agreement (FCSA) was underway from September 2010 through April 2011 between USACE and SFWMD, which would increase project spending cap, with the non-Federal sponsor, to begin the post authorization change report. However the agreement was put on hold by the SFWMD in April 2011, pending the outcome of the litigation efforts.

A test fill of the reservoir was completed by the Department of Justice for litigation data collection purposes. The test fill began Dec 2011 and was completed Mar 2012. At the conclusion of the test fill, the facility was placed back into a passive operating state pending the outcome of the litigation efforts.

Est. Cost: $ 50,000,000

Project Schedule:

1997	Start
2006	Finish Construction
2007	Interim Operations and Monitoring – SFWMD
2009	Passive Operations and Monitoring begun - USACE
2014	Post Authorization Change Report (Pending Finalization of FCSA)

Detailed Project Budget Information (rounded):

Ten Mile Creek	Expenditures Thru FY 2011
USACE	$24,966,000
SFWMD	$24,703,000
Total	$49,669,000

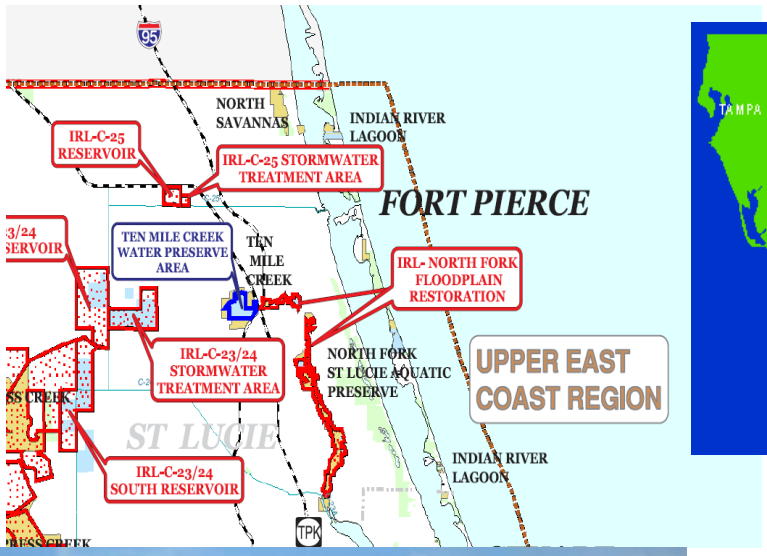
Hyperlink: http://www.saj.usace.army.mil/Missions/Environmental/EcosystemRestoration.aspx

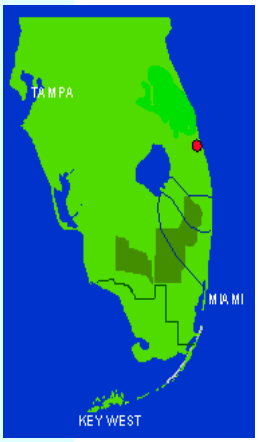
Contact: Kim Vitek, Project Manager, Programs & Project Management Division, USACE
Kimberly.A.Vitek@usace.army.mil

Alan Shirkey, Lead Engineer, SFWMD
ashirkey@sfwmd.gov

Source: Project description was summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current status information was provided by the project manager.

Additional Information:





Project Name: **C&SF: CERP WPA Conveyance (XX Part 1)**
A/k/a Water Preserve Area Conveyance
Project ID: 1113 (CERP Project WBS # 49)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 90,000 acre-feet reservoir

April 1999 (Restudy) Project Synopsis: Includes water control structures and modifications to the Dade-Broward Levee and associated conveyance system located in Miami-Dade County.

Current Project Synopsis: The purpose of this water preservation area is to reduce seepage losses to the east from the Pennsuco Wetlands and southern Water Conservation Area 3B, enhance hydroperiods in the Pennsuco Wetlands, and provide recharge to Miami-Dade County's Northwest Well field. This project adheres to the original concept outlined in the Restudy.

Current Status: This project has not yet begun.

Est. Cost: $ 357,714,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

WPA Conveyance	**Expenditures Thru FY 2009**
USACE	$227,451
SFWMD	$0
Total	**$227,451**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_49_wpa.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP ENP Seepage Management (V) (FF) (U) (BB)**
Project ID: 1114 (CERP Project WBS # 27 and # 43)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(only 'BB' Programmatic Authority < $25 M)*; others not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 11,500 acre-feet storage

April 1999 (Restudy) Project Synopsis: Includes three components: (1) L-31N Improvements for Seepage Management (Component FF), (2) S-356 Structures (Component V), and (3) the Bird Drive Recharge Area. These three components will improve water deliveries to Northeast Shark River Slough (NESRS) and restore wetland hydroperiods and hydropatterns in ENP via seepage management. Groundwater flows during the wet season are captured by ground water wells adjacent to L-31N and pumped to ENP. The CERP L-31N improvements for seepage management and S-356 structures components included relocating and enhancing L-31N, groundwater wells and sheetflow delivery system adjacent to ENP in Miami-Dade County. Detailed planning, design, and pilot studies were to be conducted to determine the appropriate technology to control seepage from ENP. Also included was a feature to relocate the Modified Water Deliveries structure S-357 to provide more effective water deliveries to ENP.

The original project description includes pumps, water control structures, canals, and an aboveground recharge area with a total storage capacity of approximately 11,500 acre-feet. The initial design of the recharge feature assumed 2,877 acres (water level fluctuating up to 4-feet above grade). Final design will enhance and maintain the continued viability of wetlands within the basin. Inflows from the western C-4 Canal Basin and from the proposed West Miami-Dade Wastewater Treatment Plant will be pumped into the Recharge Area. Recharge area outflows will be prioritized to meet: (1) groundwater recharge demands, (2) South Dade Conveyance System demands, and (3) Northeast Shark River Slough demands, when supply is available. Regional system deliveries will be routed through the seepage collection canal system of the Bird Drive Recharge Area to the South Dade Conveyance system.

Current Project Synopsis: The purpose of this feature is to improve water deliveries to Northeast Shark River Slough (NESRS) and restore wetland hydropatterns in ENP by reducing levee and groundwater seepage and increasing sheetflow. During the Corps planning process, evaluation of existing and future without project conditions was necessary as the Yellow Book description was limited. Detailed planning, design, and pilot studies [CERP L-31N (L-30) Seepage Management Pilot] will be conducted to determine the appropriate technology to control seepage from ENP and an appropriate amount of wet season groundwater flow control to minimize potential impacts to Miami-Dade County's west well field and freshwater flows to Biscayne Bay.

The Bird Drive Recharge Area feature was added in 2004 to recharge groundwater and reduce seepage from ENP buffer areas by increasing water table elevations east of Krome Avenue. The facility should provide C-4 flood peak attenuation and water supply deliveries to South Dade Conveyance System and NESRS. As of 2008, the project evaluates four of the 68 components in the Restudy: L-31N Improvements (V), S-356 Structure Relocation (FF), Drive Recharge Area (U) and Dade-Broward Levee/Pennsuco Wetlands (BB) (added from North Lake Belt Storage Area - WPA Conveyance Area project).

Current Status: ENPSM is on hold pending the results of the L-31N Seepage Management Pilot project. ENPSM is expected to resume plan formulation efforts in 2013.

ENPSM will need a flexible plan due to the highly variable rates of seepage during dry and wet years along with inconsistent aquifer hydro-geomorphology making a regional "k-value" (conductivity) determination difficult. Preliminary modeling indicated flooding potential within and east of the project site as a result of constructing and operating the ModWaters and DECOMP features – but, was not noted in the coarser SFWMM 2X2 model. The RECOVER review was completed in 2009.

Est. Cost: $ 485,662,000

Project Schedule:

2014	Construction begins.
2016	Construction physically completed.

Detailed Project Budget Information (rounded):

ENP Seepage Mgt.	Expenditures Thru FY 2009
USACE	$2,648,513
SFWMD	$220,117
Total	**$2,868,630**

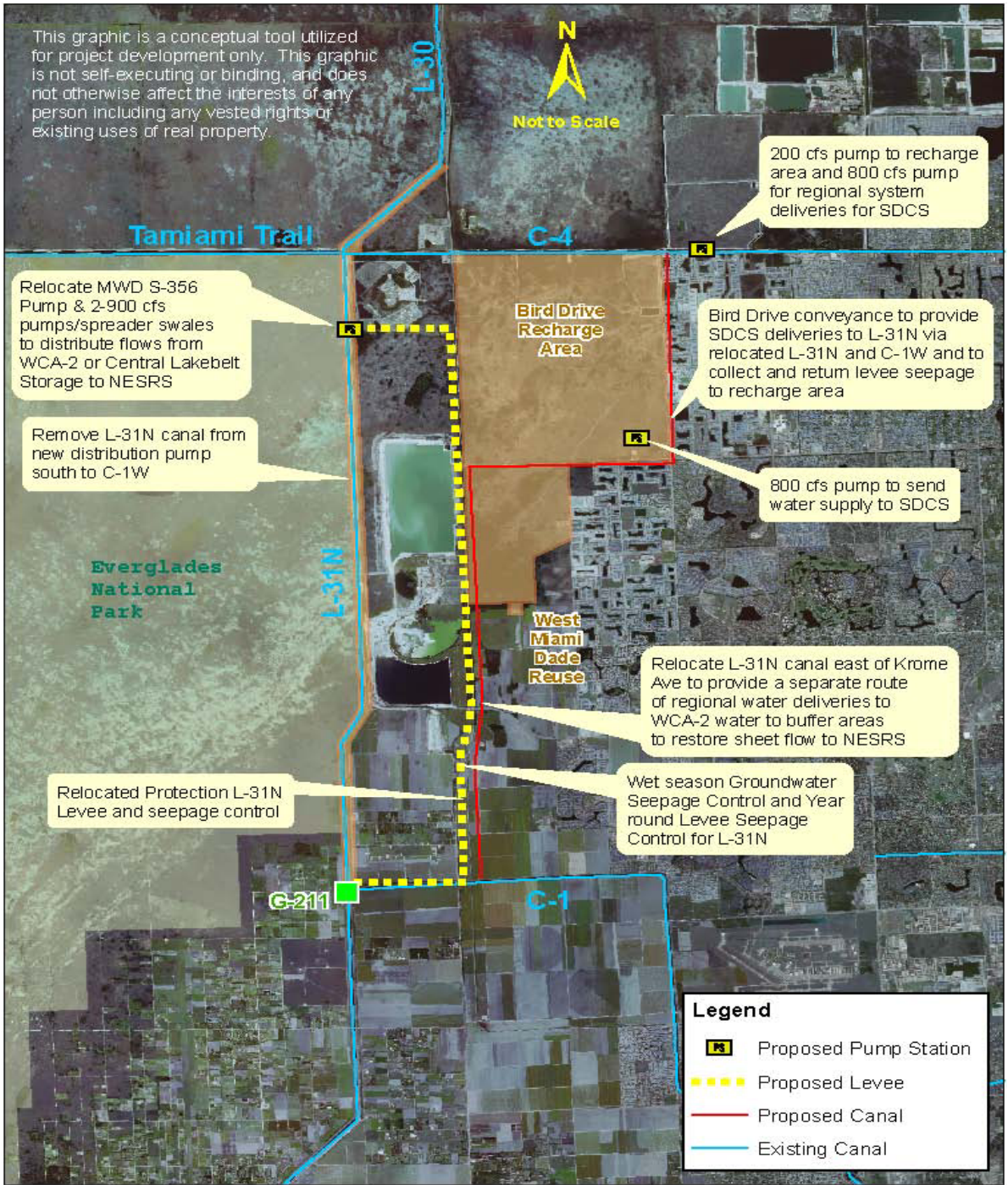
Hyperlink: http://www.evergladesplan.org/pm/projects/proj_27_enp_seepage.cfm

Contact: Tiphanie Jinks, Project Manager, Everglades Division, USACE
Tiphanie.C.Jinks@usace.army.mil

Maura Merkal, Project Manager, SFWMD
mmerkal@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07. Schedule is updated based on the approved *Integrated Delivery Schedule Through 2020* (February 10, 2010).

Additional Information: *(see next page)*


This graphic is a conceptual tool utilized for project development only. This graphic is not self-executing or binding, and does not otherwise affect the interests of any person including any vested rights or existing uses of real property.
N
Not to Scale
L-30
Tamiami Trail
C-4
200 cfs pump to recharge area and 800 cfs pump for regional system deliveries for SDCS
Relocate MWD S-356 Pump & 2-900 cfs pumps/spreader swales to distribute flows from WCA-2 or Central Lakebelt Storage to NESRS
Bird Drive Recharge Area
Bird Drive conveyance to provide SDCS deliveries to L-31N via relocated L-31N and C-1W and to collect and return levee seepage to recharge area
Remove L-31N canal from new distribution pump south to C-1W
800 cfs pump to send water supply to SDCS
Everglades National Park
L-31N
West Miami Dade Reuse
Relocate L-31N canal east of Krome Ave to provide a separate route of regional water deliveries to WCA-2 water to buffer areas to restore sheet flow to NESRS
Relocated Protection L-31N Levee and seepage control
Wet season Groundwater Seepage Control and Year round Levee Seepage Control for L-31N
G-211
C-1
Legend
Proposed Pump Station
Proposed Levee
Proposed Canal
Existing Canal

Project Name: **C&SF: CERP Loxahatchee River Watershed Restoration -- Part 1 (X) (Y) (GGG) (K P1) (OPE)**
Project ID: 1115 (CERP Project WBS # 17)
Lead Agency: USACE / SFWMD
Authority: Not specifically authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.1 *(Reservoir)*
Measurable Output(s):

- 46,000 acre-feet reservoir

April 1999 (Restudy) Project Synopsis: Projects elements were listed separately in the original concept as outlined in the Restudy (below):

1. *and* **2. Water Preserve Areas / L-8 Basin (K** and **GGG):** A combination above-ground and in-ground reservoir with a total storage capacity of approximately 48,000 acre-feet located immediately west of the L-8 Borrow Canal, north of the C-51 Canal in Palm Beach County. Other construction features include aquifer storage and recovery wells with a capacity of 50 million gallons per day and associated pre- and post- water quality treatment to be constructed in the City of West Palm Beach (Lake Mangonia), a series of pumps, water control structures, and canal capacity improvements in the M Canal. The initial design assumed a 1,800-acre reservoir with 1,200 usable acres (water level fluctuating from 10-feet above grade to 30-feet below grade).

3. C-17 Back-pumping and Treatment: Back-pumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,200 acre-feet located in northeastern Palm Beach County. The initial design for the stormwater treatment area assumed 550 acres (water level fluctuating up to 4-feet above grade).

4. C-51 Back-pumping and Treatment: Back-pumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,400 acre-feet located in Palm Beach County. The initial design for the stormwater treatment area assumed 600 acres in size (water level fluctuating up to 4-feet above grade).

5. Lake Worth Lagoon Restoration (OPE): Sediment removal and trapping within the C-51 Canal, as well as sediment removal or trapping within a 2.5-mile area downstream of the confluence of the C-51 Canal and the Lake Worth Lagoon, located in Palm Beach County. A prototype project will be conducted to determine if the Lagoon sediments will either be removed or trapped.

6. Pal-Mar and J.W. Corbett Wildlife Management Area Hydro-pattern Restoration (OPE): Water control structures, canal modifications and the acquisition of 3,000 acres located between Pal-Mar and the J.W. Corbett Wildlife Management Area in Palm Beach County.

Current Project Synopsis: During the plan formulation process, the six CERP elements listed above and identified in the Yellow Book (1999) were combined into a single project. WRDA 2000 authorized the preparation of a PIR for the project.

The overall project area of 730 square miles is located in northeastern portions of Palm Beach County and Southern Martin County. The project purpose is to capture and store excess water that is currently discharged to the Lake Worth Lagoon and the Loxahatchee Estuary. L-8 Basin drainage will be captured in the L-8 Canal and routed to the L-8 reservoir during the wet season to reduce inland drainage and

damaging pulses of freshwater to the coast. During the dry season the stored water will be routed around Grassy Waters Preserve to the Loxahatchee Slough and then on to the Loxahatchee River to restore a hydrologic regime more natural to the region. Stored water will also be routed to the City of West Palm Beach for water supply which will reduce the reliance on Grassy Waters Preserve.

As a result of the FSM completed in 2004, two of the six separable features were removed from the project scope: C-51 and C-17 Pumping and Treatment. This decision was made due to lack of stakeholder support and insufficient available real estate in the area. Since the FSM, SFWMD has been modeling project components to develop an array of alternatives. Selection of the Tentatively Selected Plan is anticipated in early FY13 with an AFB briefing in late 2013.

Following extensive PDT discussion of the remaining components, the following objectives were established:

- **L-8 and Associated Basins (C-18 and C-51))** - Capture and store excess surface water that would be lost to tide to Lake Worth Lagoon through S-155, or to the Loxahatchee River Estuary through S-46. Optimize quantity, quality, timing and distribution of surface water to/from areas including Corbett Wildlife Management Area, Grassy Waters Preserve, Loxahatchee Slough, and Loxahatchee River to achieve ecological and water supply enhancement purposes. Minimize damaging intermittent stormwater releases to downstream estuaries and maintain the current level of flood protection in the L-8 Basin.

- **Pal Mar/Cypress Creek and Associated Basins Surrounding the Loxahatchee River (Pal Mar/Loxahatchee)** - Capture and store excess surface waters, and use them to increase discharge to and base flow in the Northwest Fork of the Loxahatchee River during periods of insufficient flow and lowered groundwater levels. Reduce peak discharges to the Loxahatchee Estuary through the Southwest Fork of the Loxahatchee River through the S-46 water control structure. Restore freshwater forested wetlands in the Loxahatchee River closer to 1940's conditions (consistent with FDEP vision for river restoration). Establish and preserve a continuous greenway system that to improves wildlife corridor and habitat values and links up with the regional greenway system. Provide or improve hydrologic connections within the contiguous greenway and the regional water management system to increase water management options for maintaining or enhancing the existing natural areas (i.e., pine flatwoods, wetlands and other natural habitats).

- **Lake Worth Lagoon Near the S-155 Discharge** - Protect and improve Lake Worth Lagoon water quality, and improve aquatic conditions to enhance benthic and sea grass communities. Reduce stormwater discharges to the Lake Worth Lagoon through the S-155 water control structure. Reduce adverse impacts of accumulated undesired sediments in the Lagoon. Reduce sediment loading to the Lagoon through S-155. Establish a more stable salinity regime within the Lake Worth Lagoon restoration area, as the area is defined in the Restudy.

Early constructed elements of Flowway 1 (G-160, G-161, M-canal widening) will also be evaluated. In addition, the planning process will examine a suite of alternatives associated with various other flowways and components with respect to providing beneficial flows to the Loxahatchee River, achieving hydro-pattern restoration and reducing flows to the Lake Worth Lagoon.

Current Status: In June 2010, the PDT selected a tentatively selected plan (TSP). In July 2010, the USACE Planning Division management was briefed on the TSP and determined that the TSP would be approved pending receipt and review of the Alternative Formulation Briefing (AFB) document. In August 2010, the AFB was completed and submitted by South Florida Water Management District (SFWMD) for USACE review.

During the review of the package certain areas of the plan formulation process were identified as requiring additional development/analysis. The SFWMD was briefed on the areas of the AFB requiring additional development/analysis. In December 2010, a meeting was held with SFWMD and USACE to establish a path forward for resolution of the plan formulation areas requiring additional development/analysis. In January 2011, the project name was changed to "Loxahatchee River Watershed Restoration Project Part I" to emphasize the primary mission of the project as ecosystem restoration. The CERP Guidance Memorandum has been revised to reflect the project name change. Since December 2010, the USACE team has been working with SFWMD to improve the AFB to address the areas requiring additional development/analysis. The package will undergo USACE review and revision and then be forwarded for USACE Agency Technical Review (ATR)/SFWMD Technical Review Board (TRB) review in FY12, the SFWMD put the plan formulation on hold due to resource constraints in their organization. One additional modeling run is needed to optimize the L8 reservoir and confirm the TSP previously selected by the PDT. Efforts to restart the planning project are not expected until FY13. The ATR/TRB and The Alternative Formulation Briefing (AFB) is tentatively scheduled for late FY13, pending restart of the efforts by the SFWMD.

The C-51 and L-8 Basin Reservoir Phase 1 (Palm Beach Aggregates) portion of the project is being designed and constructed through a state expedited initiative. The construction of up to 46,000 acre-feet of storage and associated temporary inflow and pumping infrastructure was installed and became operational in the summer of 2008. A Pre-Partnership Crediting Agreement (PPCA) is under negotiation to consider the potential for USACE cost-share on items already constructed such as the L-8 Reservoir. Items included in the PPCA will be determined after TSP selection.

The full capacity of the reservoir will become available with construction of the final pump station and inflow structure.

Est. Cost: $ 842,728,174

Project Schedule:

2008	C-51 & L-8 Phase 1 (PBA) construction completed.
TBD	LWL, Pal-Mar/Corbett (X), (Y), (K P1)
TBD	C-51 and L-8 (GGG)

Detailed Project Budget Information (rounded):

Loxahatchee Watershed Restoration	**Expenditures Thru FY 2011**
USACE	$5,461,786
SFWMD	$11,154,395
Total	**$16,616,181**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_17_lox_river.aspx

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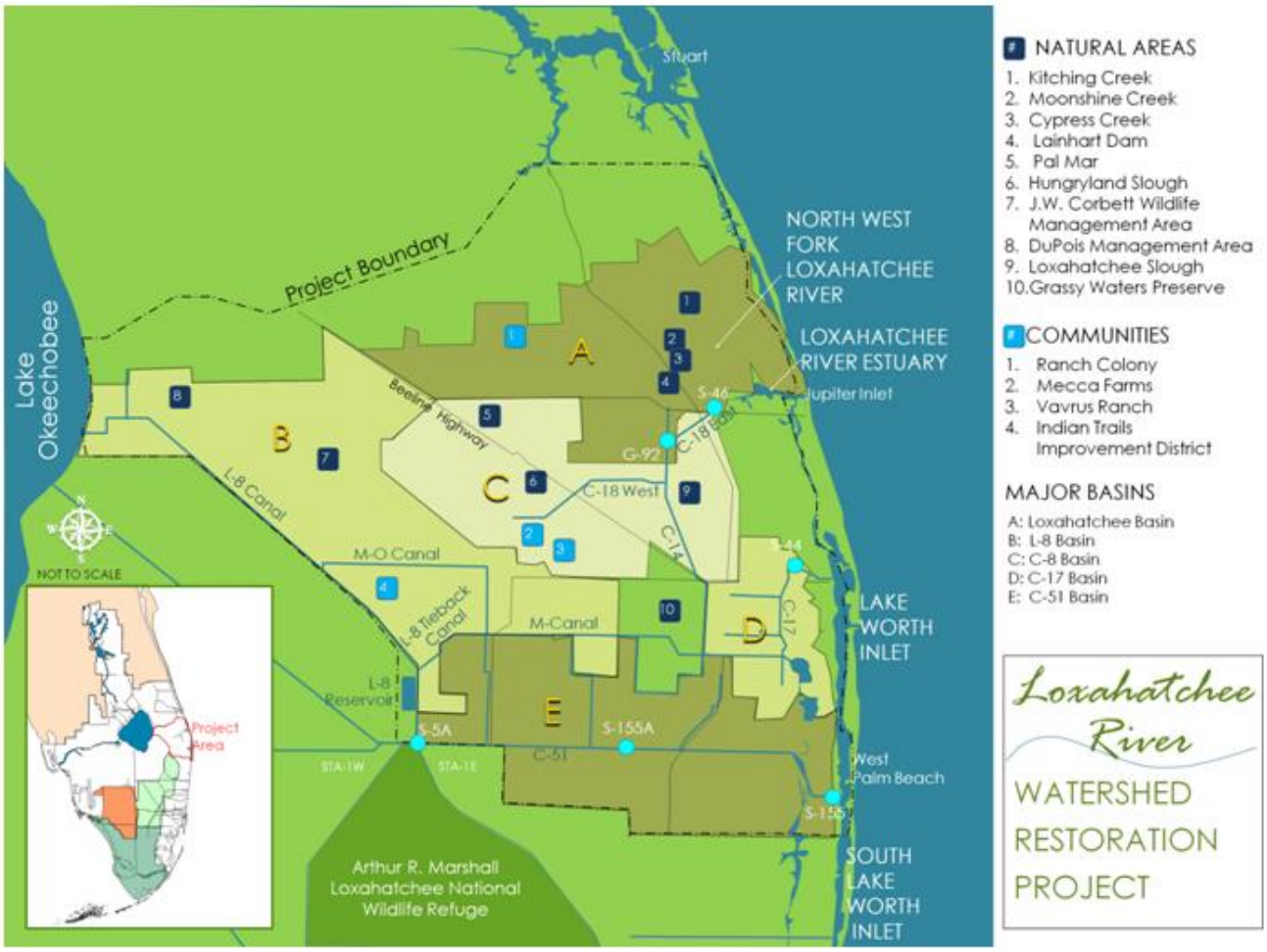
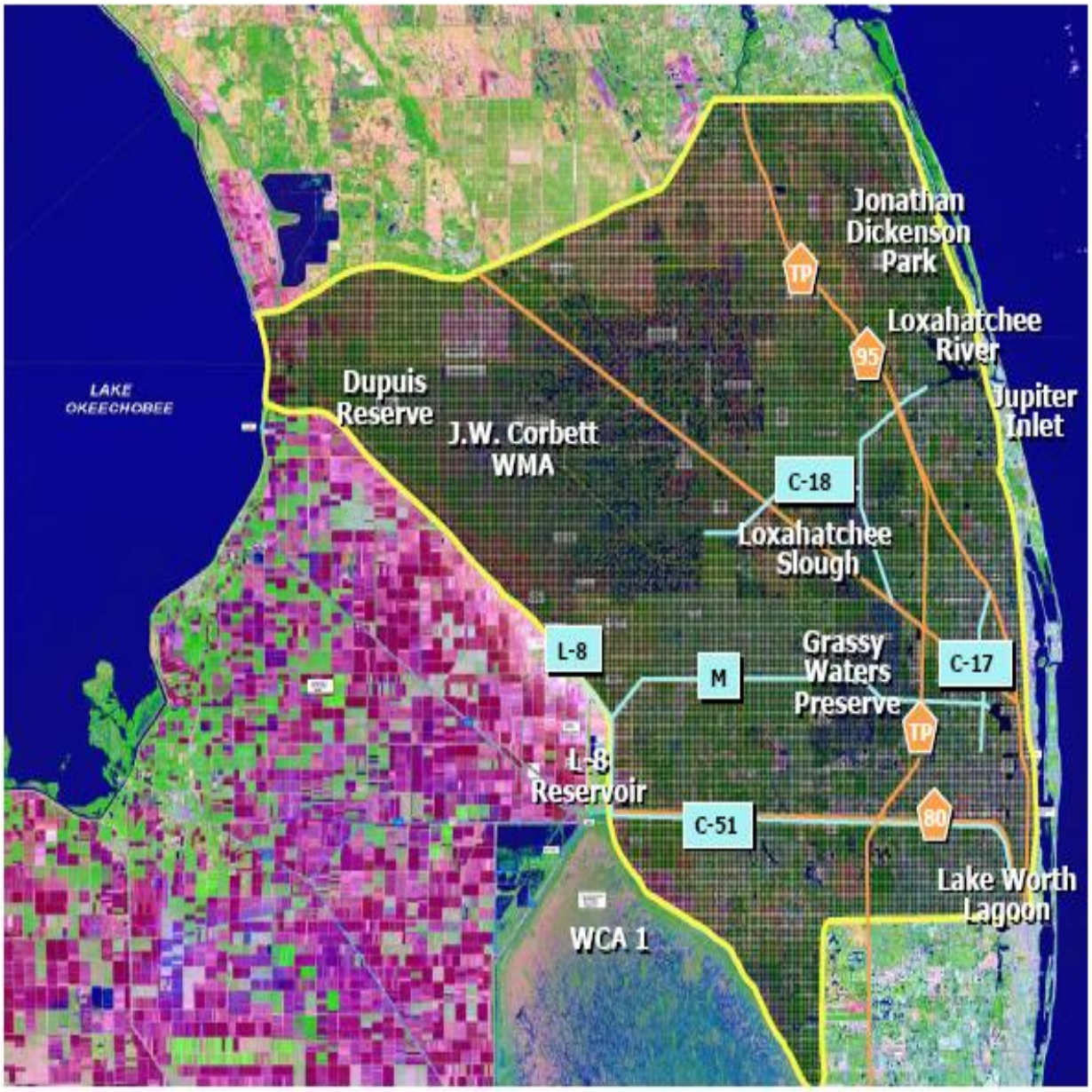
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is based on planning level TSP cost estimate and is updated to reflect current price levels in October 2012 dollars. Actual expenditures include all federal expenditures through FY11 (Sep, 2011) and sponsor requested in kind credit through 4th quarter FY11 for the Project Implementation Reports efforts.

Additional Information:




Jonathan Dickenson Park
TP
Loxahatchee River
95
LAKE OKEECHOBEE
Dupuis Reserve
J.W. Corbett WMA
Jupiter Inlet
C-18
Loxahatchee Slough
L-8
M
Grassy Waters Preserve
C-17
TP
L-8 Reservoir
C-51
80
Lake Worth Lagoon
WCA 1

Project Name: **C&SF: CERP Broward County Water Preserve Areas (R) (Q) (O)**
[A/k/a Broward County WPAs [Broward County WPA - C-9 Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)]
Project ID: 1116 (CERP Project WBS # 45)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Initially Authorized Projects -3);* pending PIR approval and submission to Congress
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary**: 1-A.1 **Secondary**: 2-A.3

Measurable Output(s):

- 11,648 acre-feet total storage (2,808 acres of impoundment)
- 4,633 acres of natural area

April 1999 (Restudy) Project Synopsis: The original concept includes canals, levees, water control structures, and a stormwater treatment area/impoundment with a total storage capacity of 6,400 acre-feet located in western Broward County. The initial design of a stormwater treatment area/impoundment assumed 1,600 acres (water level fluctuating up to 4 feet above grade). Detailed design of this feature will address appropriate pollution load reduction targets necessary to protect receiving waters.

Purposes of the features (O) and (Q) are to divert and treat runoff from the western C-11 Basin presently discharged into Water Conservation Area 3A, control seepage from Water Conservation Areas 3A and 3B by improving groundwater elevations, and providing flood protection for the western C-11 Basin. Runoff in the western C-11 Canal Basin that was previously back-pumped into Water Conservation Area 3A through the S-9 pump station will be diverted into the C-11 Impoundment and then into either the North Lake Belt Storage Area, the C-9 Stormwater Treatment Area/Impoundment, or Water Conservation Area 3A after treatment, as applicable.

The initial design of the C-9 stormwater treatment area/impoundment (R) assumed 2,500 acres (water level fluctuating up to 4 feet above grade). Purposes of the C-9 feature are to provide treatment of runoff stored in the North Lake Belt Storage Area, enhance the groundwater recharge within the basin, provide seepage control for Water Conservation Area 3 and buffer areas to the west, and to provide flood protection for western C-9 Basin.

Current Project Synopsis: As part of the Corps planning process, several alternative plans were reviewed. The Tentatively Selected Plan was identified in January 2005. This project contains three (3) of the ten Initially Authorized Projects identified in the Water Resources Development Act (WRDA) of 2000: WCA 3A/3B Levee Seepage Management (Q), C-11 Impoundment (O), and C-9 Impoundment (R). The impoundment areas will 1) aid in reducing seepage; 2) provide groundwater recharge; 3) provide adequate water supply to urban areas; and 4) prevent saltwater intrusion. The final size, depth and configuration of these facilities were determined through more detailed planning and design completed as a part of the *Draft Water Preserve Areas Feasibility Study* and as part of the final PIR.

The project has been refined in the Final Project Implementation Report (PIR) signed by the District Engineer in June 2007. During the planning process, the stormwater treatment area (STA) component of the project was dropped.

- **WCA 3A/3B Levee Seepage Management system** will focus on seepage reduction by allowing higher water levels in the L-33 and L-37 borrows.

- **C-11 Impoundment** will direct runoff from the western C-11 drainage basin into an impoundment in lieu of pumping untreated runoff via the S-9 pump station into the WCA 3A. When water is not available in the impoundment to perform these functions, S-381 will be opened to allow seepage water to recharge the basin and prevent excessive dry outs. In addition, seepage will be collected and returned to the impoundment area. The western C-11 Diversion Impoundment and Canal together with the Water Conservation Areas 3A and 3B Levee Seepage Management feature include 4,633 acres of natural area, canals, levees, water control structures, and an impoundment with a total storage capacity of 4,592 acre-feet located in western Broward County (with an initial design that assumes 1,068 acres and water levels fluctuating up to 4 feet above grade).

- **C-9 Impoundment** will include canals, levees, water control structures and an impoundment having a total capacity of 7,056 acre-feet located in the western C-9 Basin in Broward County (initial design assumes 1,641 acres and water level fluctuating up to 4.3 feet above grade) to pump runoff from the western C-9 drainage basin and diverted water from the western C-11 basin into the impoundment and assist in reducing seepage from the WCA 3A/3B Levee Seepage Management.

Current Status:
The PIR has been recently updated for changes to the interiors of the reservoirs related to removing the wave steps. The final PIR was submitted to HQ USACE that the Chief of Engineers report was signed in May 2012 and transmittal to OMB is expected by the end of 2012.

Est. Cost: $ 866,707,000

Project Schedule:

2016	Construction begins C-11 Impoundment
2018	Construction completed C-11 Impoundment
2018	Construction begins SMA WCA 3A & 3B/S-356
2021	Construction begins C-9 Impoundment
2023	Construction completed C-9 Impoundment

Detailed Project Budget Information: (Rounded)

Broward County WPA	Expenditures Thru FY 2011
USACE	$12,138,000
SFWMD	$14,114,000
Total	**$26,252,000**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_45_broward_wpa.cfm

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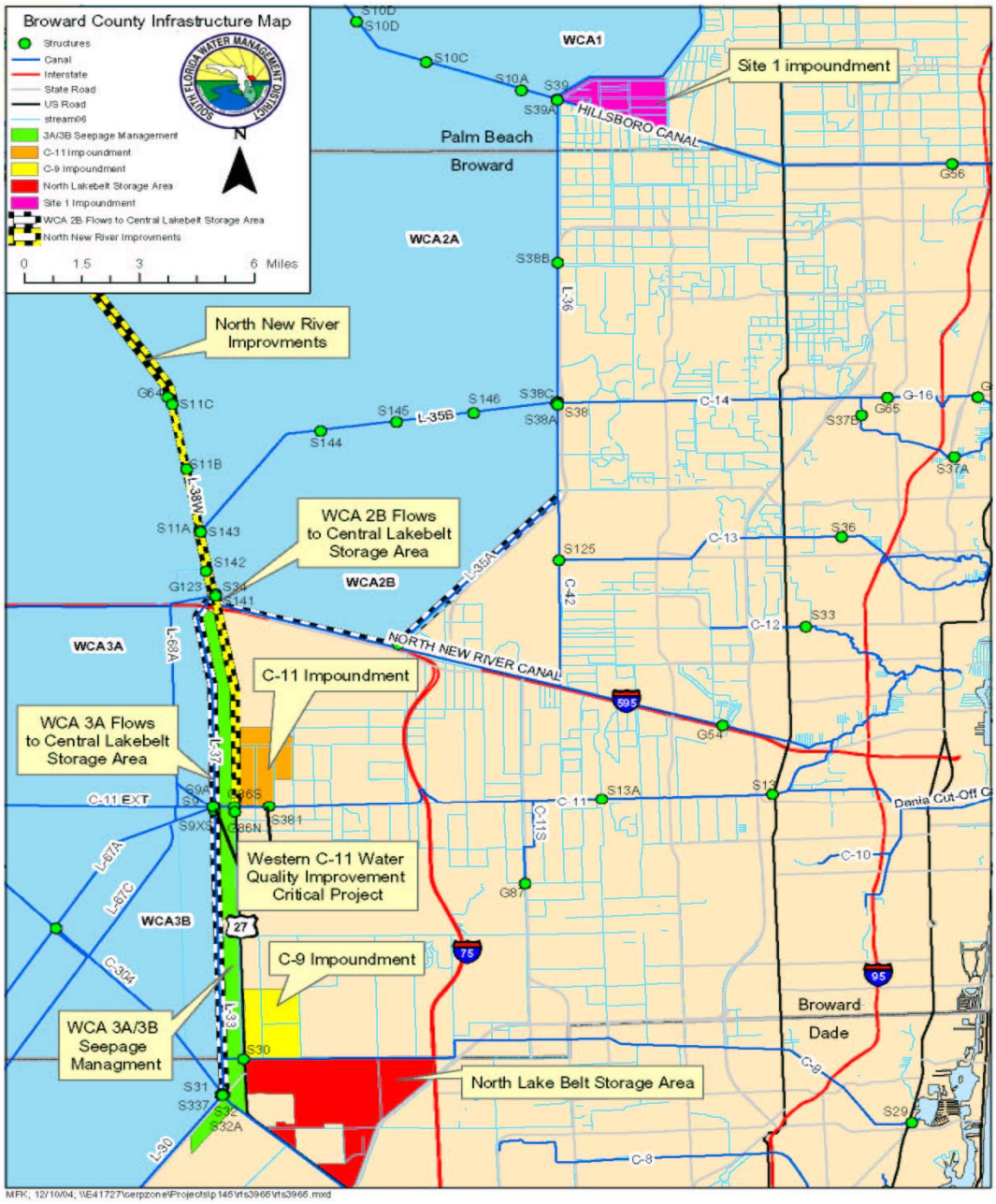
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2012 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and recorded in kind credit through 4th quarter FY11. Current synopsis is summarized from information contained in the *Final Project Implementation Report and Environmental Impact Statement* (2012).

Additional Information:


Broward County Infrastructure Map
Structures
Canal
Interstate
State Road
US Road
stream06
3A/3B Seepage Management
C-11 Impoundment
C-9 Impoundment
North Lakebelt Storage Area
Site 1 Impoundment
WCA 2B Flows to Central Lakebelt Storage Area
North New River Improvments
0 1.5 3 6 Miles
N
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Site 1 impoundment
HILLSBORO CANAL
Palm Beach
Broward
WCA1
WCA2A
WCA2B
WCA3A
WCA3B
North New River Improvments
WCA 2B Flows to Central Lakebelt Storage Area
C-11 Impoundment
WCA 3A Flows to Central Lakebelt Storage Area
Western C-11 Water Quality Improvement Critical Project
C-9 Impoundment
WCA 3A/3B Seepage Managment
North Lake Belt Storage Area
NORTH NEW RIVER CANAL
C-11 EXT
Dania Cut-Off C
Broward
Dade
S10D
S10C
S10A
S39
S39A
G56
S38B
L-36
G64
S11C
S145
L-35B
S146
S38C
S38
S38A
C-14
G-16
G65
S37B
S37A
S144
S11B
L-38W
S11A
S143
S142
G123
S36
S125
C-13
C-42
L-35A
S33
C-12
L-68A
595
G54
S9A
S9
S9X2
S96S
S381
S86N
S13A
C-11
C-11S
C-10
G87
L-67A
L-67C
27
75
95
C-3A
L-31N
S30
S31
S337
S32
S32A
L-30
C-9
S29
C-8

Project Name: **C&SF: CERP North Palm Beach County – Part 2 (LL) (K P2)**
Project ID: 1200 (CERP Project WBS # 18)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 220 million gallons per day of ASR wells *(.220 billion gallons per day)*

April 1999 (Restudy) Project Synopsis: Included **t**wo separable elements: (1) the C-51 Regional Groundwater ASR system and (2) the L-8 Basin Aquifer Storage and Recovery (ASR) system to provide additional long-term storage within the North Palm Beach County region.

Current Project Synopsis: The purpose of this feature is to capture and store excess flows from the C-51 Canal, currently discharged to the Lake Worth Lagoon, for later use during dry periods.

- **C-51 Regional Groundwater Aquifer Storage and Recovery** (LL) includes a series of aquifer storage and recovery wells with a capacity of 170 million gallons per day as well associated pre- and post-water quality treatment to be constructed along the C-51 Canal in Palm Beach County. The initial design of the wells assumed 34-well clusters, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The ASR facilities will be used to inject and store surficial aquifer ground water adjacent to the C-51 Canal into the upper Floridan Aquifer instead of discharging the canal water out to tide. Water will be returned to the C-51 Canal to help maintain canal stages during the dry-season. If water is not available in the ASR system, existing rules for water delivery to this region will be applied.

- **L-8 Basin Aquifer Storage and Recovery** (K Part 2) includes ASR wells with a capacity of 50 million gallons per day and associated pre- and post- water quality treatment to be constructed within the L-8 Basin or along the City of West Palm Beach water supply conveyance and storage system or a combination of both. The initial design of the wells assumed 10 wells, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. During periods when the West Palm Beach Catchment Area is above desirable stages, 50 million gallons per day will be diverted to Lake Mangonia for storage in the ASR wells.

Current Status: This project has not yet begun.

Est. Cost: $ 233,009,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

North Palm Beach County - Part 2	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_18_npbc_2.cfm

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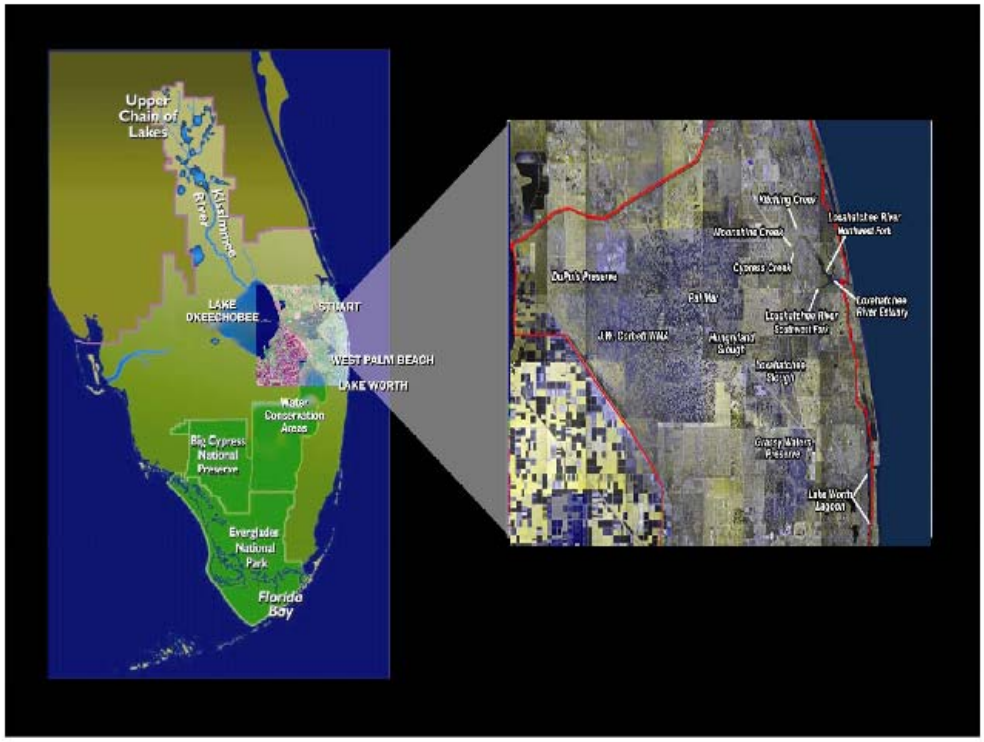
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Additional Information:



Project Name: **C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery (GG)**
(GG Pt. 1, GG Pt. 2, GG Pt. 3)
Project ID: 1201 (CERP Project WBS # 03)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 1 billion gallons/per day of ASR wells

April 1999 (Restudy) **Project Synopsis:** Includes a series of aquifer storage and recovery wells adjacent to Lake Okeechobee with a capacity of one billion gallons per day and associated pre- and post- water quality treatment in Glades and Okeechobee Counties. The initial design assumes 200 wells, each with the capacity of 5 million gallons per day with 8- ultra-filtration water quality pre-treatment facilities and aeration for post-treatment. Based on information from existing aquifer storage and recovery facilities, it is assumed that recovery of aquifer-stored water would have no adverse effects on water quality conditions in Lake Okeechobee. In fact, some level of nutrient load reduction may occur as a result of aquifer storage, which would be a long-term benefit to in-lake water quality conditions.

Current Project Synopsis: The purpose of this project is to:

1) Provide additional regional storage while reducing both evaporation losses and the amount of land removed from current land use (e.g. agriculture) normally associated with construction and operation of above-ground storage reservoirs; Increase the lake's water storage capability to better meet regional water supply demands for agriculture, Lower East Coast urban areas, and the Everglades;
2) Manage a portion of regulatory releases from the Lake primarily to improve Everglades hydropatterns and to meet supplemental water supply demands of the Lower East Coast;
3) Reduce harmful regulatory discharges to the St. Lucie and Caloosahatchee Estuaries; and
4) Maintain and enhance the existing level of flood protection.

Operation assumes that after treatment, water from Lake Okeechobee will be injected into the upper Floridan Aquifer when the climate-based inflow model forecasts lake levels significantly above those desirable for the littoral zone (shoreline ecosystem). Water in the aquifer may be returned to the lake, post-aeration treatment, when the level falls during a dry season.

Current Status: Adheres to the original concept outlined in the Restudy and is dependent on the findings from the LOW ASR pilot (WBS #32) in progress. This project is expected to have three (3) phases, but has not yet begun and is planned for the future.

Est. Cost: $ 1,432,270,000

Project Schedule:

TBD	Construction begins.
TBD	Construction completed.

Detailed Project Budget Information (rounded):

LOW ASR	Expenditures Thru FY 2009
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_03_lake_o_asr.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Hillsboro Aquifer Storage and Recovery (M P2)**
Project ID: 1202 (CERP Project WBS # 22)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 150 million gallons per day *(.150 billion gallons per day)*

April 1999 (Restudy) Project Synopsis: *Site 1 Impoundment and Aquifer Storage and Recovery* (M) included both an above-ground reservoir and a series of aquifer storage and recovery (ASR) wells. The initial design of the ASR facility assumes 30 well clusters, each with a capacity of 5-million gallons per day with chlorination for pre-injection treatment and aeration for post- injection water quality treatment.

Current Project Synopsis: For purposes of project execution, the Restudy components were divided into two pieces. This is the latter piece, *Hillsboro ASR Phase 2* (M P2) (CERP project WBS #22, relates to the companion aquifer storage and recovery (ASR).

The purpose of the ASR project is to supplement water deliveries to the Hillsboro Canal during dry periods, thereby reducing demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Water coming from the WCA 1 (Loxahatchee) in the Hillsboro Canal basin, located in southern Palm Beach County, will be injected into ASR wells adjacent to the Site 1 reservoir location. The location, extent of treatment and number of ASR wells may be modified based on findings obtained from the Hillsboro ASR Pilot (WBS #34). Water will be released back to the Hillsboro Canal to help maintain canal stages during the dry-season with pre-injection and post-withdrawal injection water quality treatment And then water from the Hillsboro Canal may be pumped into the Site 1 reservoir should excess water be available.

Current Status: Planning and design of this Phase 2 is planned for the future; after the completion of Phase 1 [see *Site 1 Impoundment* (M P1) (a/k/a *Fran Reich Preserve*) (CERP Project WBS #40)] and is dependent upon the results from other ASR feasibility and pilot studies that are ongoing.

Est. Cost: $ 119,091,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Hillsboro ASR	Expenditures Thru FY 2009
USACE	$0
SFWMD	$540
Total	**$540**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_22_hillsboro_asr_2.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP Aquifer Storage and Recovery Regional Study**
A/k/a *ASR Regional Study*
Project ID: 1203 (CERP Project WBS # 44)
Lead Agency: USACE / SFWMD
Authority: *Programmatic Authority*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): Data

April 1999 (Restudy) Project Synopsis: Not described.

Current Project Synopsis: While the CERP Restudy did not directly call for an ASR Regional Study, the USACE and the SFWMD agreed that a coordinated central data collection and regional modeling effort was required to address the large-scale ASR implementation issues under the CERP. The ASR Regional Study described in the PMP will take roughly nine years to complete.

The study will investigate regional and technical issues governing the feasibility of full-scale ASR implementation; and its potential effect on water levels and water quality within the aquifer systems, and on existing water users, surface-water bodies, and the flora and fauna that inhabit them. This study will conduct critical ASR-related research and develop scientific data required to help determine the scientific and engineering feasibility of large-scale ASR implementation as proposed in the CERP.

State and Federal scientist, engineers, and stakeholders proposed a list of significant uncertainties related to hydro-geologic processes, geotechnical evaluations, ecosystem effects and ASR operation and performance. The ASR pilot facilities are the platforms used to conduct scientific and engineering studies addressing the uncertainties identified with using the technology at the scale envisioned under the CERP. Objectives of the ASR Regional Study are to acquire a comprehensive understanding of the characteristics of the Floridian Aquifer system, its ability to support ASR as envisioned in the CERP, and to identify any limitations to applying full scale ASR. With this information, optimum implementation of regional ASR water storage and recovery can be determined. Goals of the ASR Regional Study include:

- Addressing outstanding issues of a regional nature that cannot be adequately addressed by the authorized ASR Pilot Projects.
- Reducing uncertainties related to full-scale CERP ASR implementation by conducting scientific studies based on existing and newly acquired data, evaluate the potential effects on water levels and water quality within the aquifer systems, as well as existing users, surface-water bodies, and the flora and fauna that inhabit them.
- Developing a regional groundwater model of the Floridian Aquifer System (FAS) and conduct predictive simulations to evaluate the technical feasibility of the proposed 333-well CERP ASR system, or if determined to be unfeasible, identify an appropriate magnitude of ASR capacity with minimal impact to the environment and existing users of the FAS.

If ASR is successful, the facilities to be constructed may store as much as 1.6 billion gallons of freshwater per day to ensure water for the Everglades, improve conditions in Lake Okeechobee and agriculture and to protect urban wells located near the coast from saltwater intrusion.

An interim report (June 2008) summarized efforts, including the pilots and other testing between 2003 and 2007.

Current Status: An in-progress review was conducted with SAD and HQUSACE and model calibration is complete. Modeling of the envisioned CERP ASR wells (333) operations strategy began and will be completed in FY12. Geotechnical analyses are completed. Groundwater and surface-water sampling continue at the pilot facility; along with regional eco-toxicological studies. Water quality risk analyses have also begun. All cycle tests end in July 2012; and a Technical Data Report encompassing Lake Okeechobee and Hillsboro ASRs will be finalized in FY2013.

Est. Cost: $ 90,364,000

NOTE: In addition to the ASR projects, the CERP April 1999 Restudy cost estimate included a total of approximately $128,000,000 for ASR-related Planning, Engineering and Design studies for the six (6) proposed ASR components. Funding was provided from a redistribution of the established CERP ASR design estimates from these related projects.

Project Schedule:

2003	Start - Technical Design Report
2015	Study completed.

Detailed Project Budget Information (rounded):

ASR Regional Study	Expenditures Thru FY 2011
USACE	$10,945,879
SFWMD	$11,099,483
Total	**$22,045,362**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_44_asr_regional.aspx

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011).

CERP Restudy		
Estimated ASR Project's Wells		
Lake Okeechobee	200	
Caloosahatchee		44
L-8 Basin		10
C-51 Basin		34
Central PBC		15
Hillsboro		30
Total	**333**	

Project Name: **C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery (VV P2)**
Project ID: 1204 **(**CERP Project WBS # 21)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 75 million gallons per day ASR wells *(0.075 billion gallons per day)*

April 1999 (Restudy) Project Synopsis: Includes the companion aquifer storage and recovery (ASR) wells, with a capacity of 75-million gallons per day and associated pre- and post- water quality treatment located adjacent to the associated reservoir (Part 1). The initial design of the wells assumes 15 well clusters, each with a capacity of 5- million gallons per day as well as chlorination for pre-treatment and aeration for post-treatment. The source of water to be injected is expected to be surficial ground water, adjacent to the reservoir.

Current Project Synopsis: The purpose of this project is to supplement water supplies for central and southern Palm Beach County by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and Loxahatchee National Wildlife Area. It is assumed that this facility could also be designed to achieve water quality improvements in downstream receiving waters, depending upon pollutant loading conditions in the watershed. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Area.

The wells will pump water into the aquifer during the wet season and will pump water from the aquifer to the Lake Worth Drainage District canals to help maintain canal stages during the dry season. If water is not available in the associated reservoir (Part 1) or the aquifer storage and recovery wells, existing rules for water delivery to this region will be applied.

Current Status: Adheres to the original concept outlined in the Restudy. This ASR project was planned as the next portion (Part 2) of the project on the previous page (WBS #20 "Part 1"). It is scheduled in the future.

Est. Cost: $ 56,542,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

PBC Agriculture ASR	Expenditures thru FY 2011
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_21_pbc_asr_2.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP C-43 Basin Aquifer Storage and Recovery (D P2)**
Caloosahatchee River Aquifer Storage and Recharge Project (C-43ASR)
Project ID: 1205 (CERP Project WBS # 05)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.2

Measurable Output(s): 220 million gallons a day of ASR wells *(0.220 billion gallons per day)*

April 1999 (Restudy) Project Synopsis: Initially described with an above-ground reservoir(s) with a total storage capacity of approximately 160,000 acre-feet and aquifer storage and recovery wells with a capacity of approximately 220 million gallons per day and associated pre- and post- water quality treatment was to be located in the C-43 Basin in Hendry, Glades, or Lee Counties. The original design of the reservoir(s) assumed 20,000 acres (water levels fluctuating up to 8 feet above grade). Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the proposed reservoir. Water from the reservoir will be injected into the aquifer storage and recovery well field for long-term storage. Any estuarine demands, not met by basin runoff and the aquifer storage and recovery wells, will be met by Lake Okeechobee as long as the lake stage is above a pre-determined level.

Current Project Synopsis: The original Caloosahatchee (C-43) Basin Storage Reservoir and Aquifer Storage and Recovery (ASR) project (component D in CERP) has since been divided into two separate projects. This latter ASR portion is now a distinct project (D P2); and is described apart from its prior association with Caloosahatchee River (C-43) West Basin Storage Reservoir (USACE WBS #4 and Task Force #1109). The purpose of the ASR feature is to capture C-43 Basin runoff and releases from Lake Okeechobee. Facilities will be designed for water supply benefits, some flood attenuation, to provide environmental water supply deliveries to the Caloosahatchee Estuary, and water quality benefits to reduce salinity and nutrient impacts of runoff to the estuary. It is assumed that, depending upon the location of the facility and pollutant loading conditions within the watershed, the facility could be designed to achieve significant water quality improvements, consistent with appropriate pollution load reduction targets.

Current Status: This project represents the ASR portion (D P2). This project has not yet begun and is planned in the future.

Est. Cost: $ 304,185,000

Project Schedule: TBD (ASR construction complete)

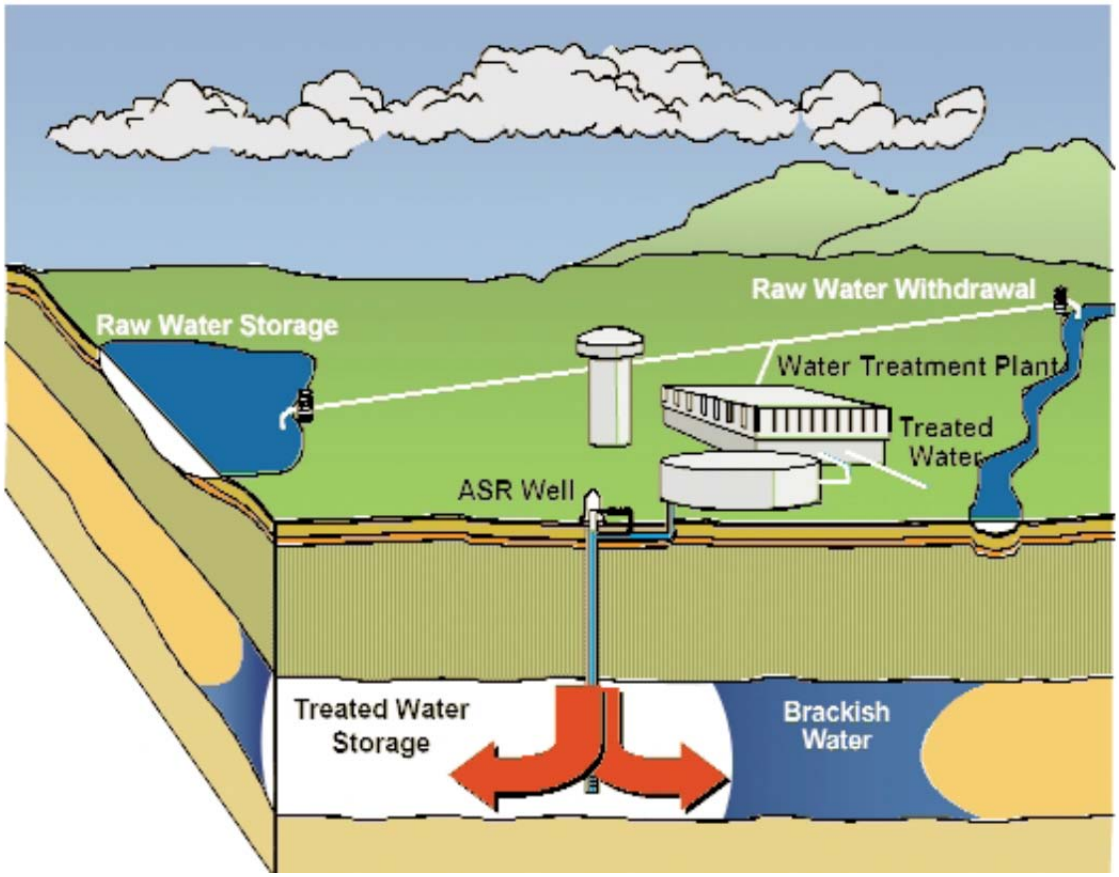
Detailed Project Budget Information (rounded):

C-43 Basin ASR	Expenditures Thru FY 2011
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_05_c43_asr_2.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars.



Program Name: Lake Okeechobee and Estuary Recovery (LOER)
Project Name: **Seminole Tribe Brighton Reservation Aquifer Storage and Recovery (ASR) Pilot Project**
Project ID: 1206
Lead Agency: SFWMD, Seminole Tribe of Florida

Strategic Plan Goal(s) Addressed: 1-A.2, Get the hydrology right

Measurable Output(s): A 1-well ASR pilot facility that is permitted, designed, constructed and tested.

Project Synopsis: The Seminole Tribe of Florida and the SFWMD are partnering on construction of a pilot Aquifer Storage and Recover Pilot (ASR) system at the Brighton Reservation, north of Lake Okeechobee. The objective of the project is to assure the Tribe of an alternative water supply during times when low lake levels make delivery to that part of the system difficult. The project involves permitting, design, construction and testing of the ASR system, the costs of which will be shared by the Tribe and the SFWMD.

Current Status:

Based on cost benefit analysis and due to lack of infrastructure, the Tribe does not plan to move forward with construction of this project at this time.

The following activities have been completed during the past five years:
- Constructed an exploratory/test well
- Evaluated location and project site
- Completed preliminary design and geotechnical evaluations
- Completed draft USEPA permit applications

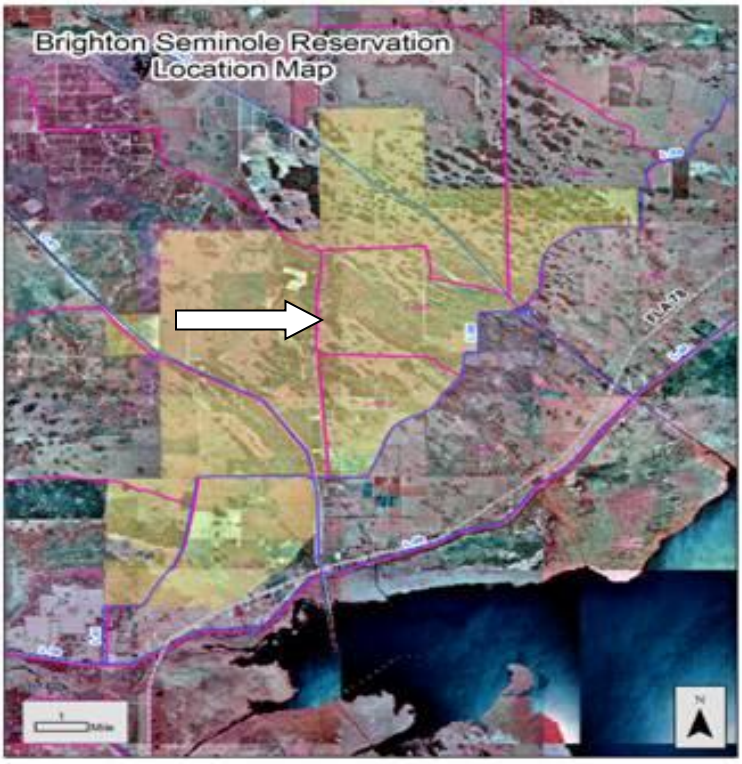
Total Estimated Project Cost: $2,500,000 (to be split 50-50 with the Seminole Tribe)

Project Schedule:
Start Date: January 2007
Finish Date: January 2013

Actual Expenditures to Date by SFWMD:

	2008	2009	2010	Total to Date
SFWMD	$100,000	$100,000	$250,000	$450,000

Contact: Bob Verrastro, SFWMD



Seminole Tribe Brighton Reservation ASR Location Maps

Program Name: Lake Okeechobee and Estuary Recovery (LOER)
Project Name: **Taylor Creek Aquifer Storage and Recovery (ASR) Project**
Project ID: 1207
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 1-A.2, Get the hydrology right

Measurable Output(s): A 1-well ASR pilot facility that is permitted, designed, constructed and tested.

Project Synopsis: This project consists of reactivating an existing ASR system that was constructed and operated 20 years ago by the SFWMD. Since that time, the system has been inactive. Project tasks will include mechanical evaluations of the existing system, permitting, design studies, construction of new appurtenances and eventual operation and maintenance of the system.

Current Status: This project has been inactive for the past year and is going to remain inactive during the upcoming year as a result of limited budget.

The following activities have been completed:
- Tested mechanical integrity of the well system
- Completed pilot water treatment design studies
- Completed permit applications for construction of an ASR system
- Constructed a new Floridan aquifer monitoring well, in compliance with new regulatory criteria
- Finalized design for the reactivation components
- Petitioned for an Aquifer Exemption to test the system without disinfection (currently pending)

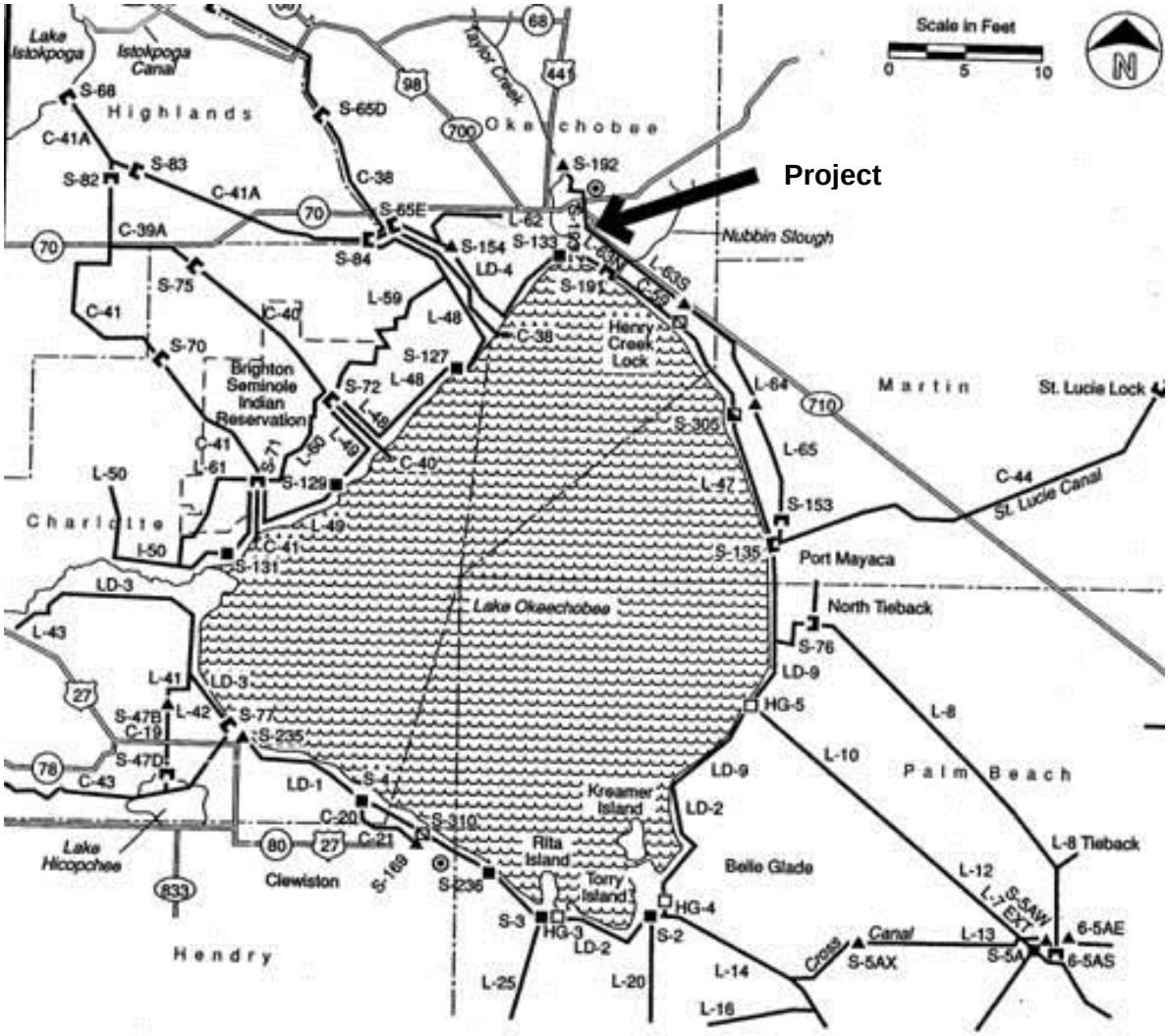
Total Estimated Project Cost: $2,000,000

Project Schedule:
Start Date: June 2006
Finish Date: June 2015

Actual Expenditures to Date by SFWMD:

	2008	2009	2010	Total to Date
SFWMD	$350,000	$300,000	$200,000	$850,000

Hyperlink: http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/asr-sfwmd-cerpbeyond.pdf
Contact: Bob Verrastro, SFWMD



Taylor Creek ASR Project Location Map

Program Name: Northern Everglades and Estuaries Protection Program
Project Name: **Fisheating Creek Feasibility Study**
Project ID: 1208
Lead Agency: SFWMD, State of Florida
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1-A.2, Get the hydrology right

Measurable Output(s): Complete a feasibility study to improve hydrology and water quality through storage and treatment features in Fisheating Creek (FEC) sub-watershed.

Project Synopsis: The Coordinating Agencies (SFWMD, FDEP and FDACS) initiated the feasibility study in Fisheating Creek (FEC) sub-watershed, which is one of the major sources of phosphorus loading to Lake Okeechobee, under the Northern Everglades and Estuaries Protection Program. The purpose of the feasibility study is to identify the best mix of storage and water quality features to improve the hydrology and water quality within the sub-watershed. Investigation of available information and the work plan development are completed. Currently, coordinating agencies are working on the plan formulation and evaluation and next steps on how to proceed with the study in the light of other activities in the sub-watershed.

Current Status:
Completed Phase I investigation of available information and the work plan for development.
Phase II Plan formulation and evaluation are underway. Through extensive involvement with stakeholder groups and interagency coordination, planning targets for achieving storage and water quality improvements (phosphorus-load reduction) have been established by the planning team. These targets were based on an analysis of output from the Watershed Assessment Model simulations of pre-drainage and existing conditions in the Fisheating Creek sub-watershed. There are also other activities being conducted in the FEC sub-watershed such as the Wetland Reserve Program Implementation by the NRCS. Identification of the conceptual project features that aim to address feasibility study objectives are currently being discussed in light of other activities in the sub-watershed that will improve storage and water quality. Once completed, the Final Fisheating Creek Feasibility Report will document the planning process, describe the preferred plan components, identify benefits likely to result from implementation of the preferred plan, and include conceptual costs.

Total Estimated Project Cost: $ 1,036,230 (Phase I and II)

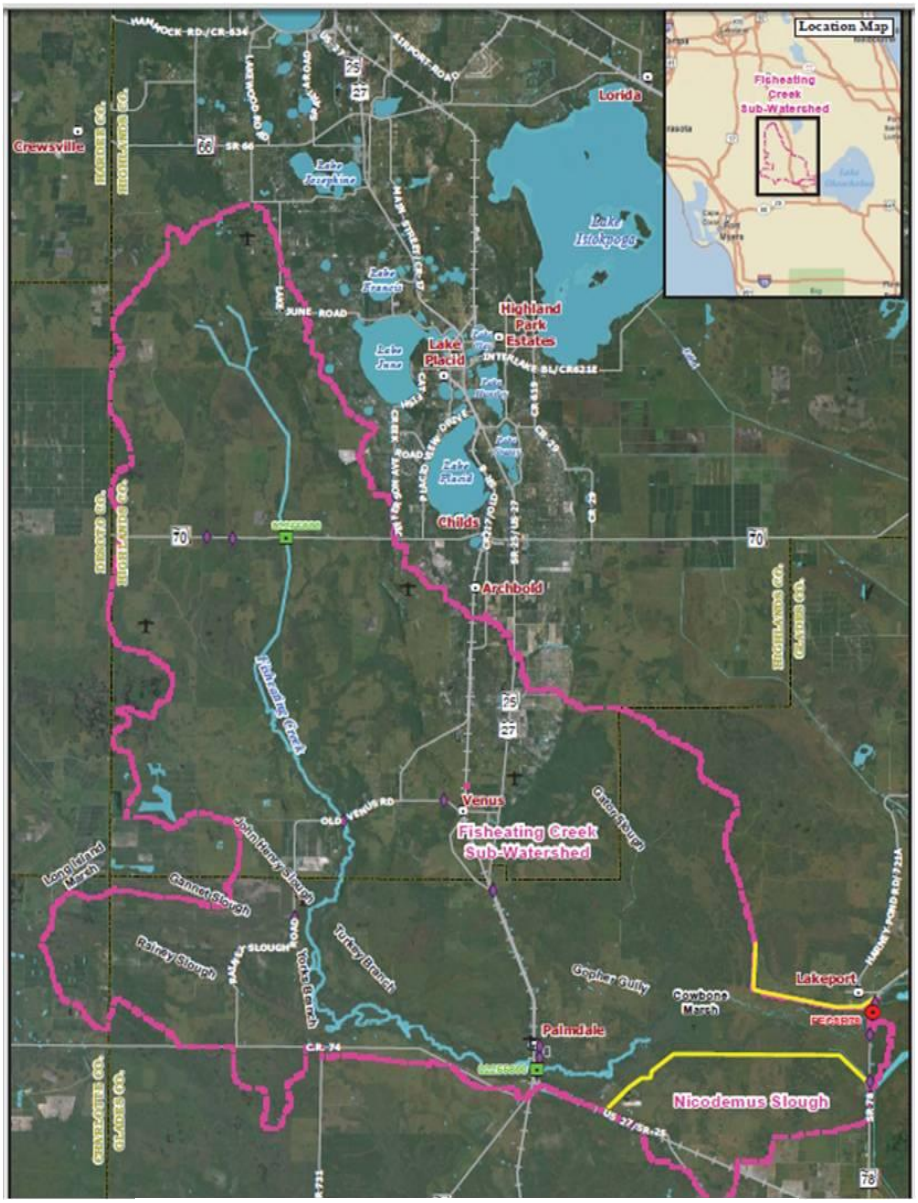
Project Schedule:

Start Date:	Phase I	August 30, 2008
	Phase II	May 1, 2009
Finish Date:	Phase I	February 27, 2009
	Phase II	Scheduled to be completed by October 2015

Actual Expenditures to Date by SFWMD:

	2008	2009	2010	2011	2012	Total to Date
Phase I	$120,005	$144,913				$264,918
Phase II		$214,073	$135,645	$136,249	$4,457	$490,424
						$755,342

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/ne_fec_mtg2.pdf
Contact: **Eric Gonzalez, SFWMD**



Fisheating Creek Location Map

The purpose of the Fisheating Creek Feasibility Study is to identify the best mix of storage and water quality features to improve the hydrology and water quality within the sub-watershed.

Project Name: **C&SF: C-111 (South Dade)**
Project ID: 1300
Lead Agency: USACE / SFWMD
Authority: Flood Control Act of 1948 (modified Flood Control Act 1962, modified WRDA 1996) and the ENP Expansion Act 1989
Funding Source: Federal/State
Strategic Plan Goal(s) Addressed:
Primary: 1-A.3
Secondary: 3-B.1
Measurable Output(s): 4.75 miles total length impediments removed

Project History*:* Originally authorized as an addition to the C&SF Project (1948) with the Flood Control Act of 1962, the C-111 Project has been further modified by authorization of the ENP-South Dade Conveyance System (1968) and the Everglades National Park Expansion Act of 1989.

The 1996 Water Resources Development Act (WRDA 1996) required the Federal government and the Non-Federal sponsor to amend the project's cost share agreement for the C-111 project as approved and described in the Canal 111 (C-111), South Dade County, Florida, Final Integrated General Reevaluation Report and Environmental Impact Statement completed May of 1994 (1994 GRR). A supplement to the 1994 GRR was completed in 2002 and in 2004 an addendum, updating the supplement, was produced to satisfy USACE HQ concerns regarding real estate and water quality. Neither the 2002 supplemental nor the 2004 addendum have been approved. Coordination with HQ USACE resulted in guidance directing the District to amend the cost share agreement prior to completion of a Post Authorization Change (PAC) Report, and to execute a second amendment after the PAC report is complete. The purpose of the first amendment is to change the cost share agreement with the Non-Federal Sponsor as efficiently as possible. The second amendment will address design refinements and cost increases.

Current Project Synopsis: This basin includes 100 square miles of agricultural lands in the Homestead/Florida City area and the entire Taylor Slough basin within Everglades National Park (ENP). The C-111 (canal) discharges into Florida Bay at its downstream terminus thru S-197. Because of extreme porosity in this area of the Biscayne Aquifer, canal water levels directly impact water levels in adjacent areas.

Modifications to the existing water management system are to restore historic freshwater flows in the Taylor Slough and are expected to help reverse the deterioration of Florida Bay. The 1994 GRR recommended creating operational capability with flexibility to provide restoration of the ecological integrity of Taylor Slough and the eastern panhandle areas of the Everglades and maintaining flood mitigation for the agricultural interests adjacent to C-111.

The project includes structural modifications: canals, levees, pump stations and replacement of a bridge; non-structural modifications to increase natural flow and hydropatterns; and the removal of approximately 4.75 miles total length impediments. Features address the objectives of restoring historic hydrologic conditions, protection of natural values associated with the Everglades National Park, elimination of damaging freshwater flows to Manatee Bay/Barnes Sound, and to maintain current levels of flood risk reduction for the C-111 basin east of L-31N and C-111. A hydraulic ridge will be created via a collection of features/activities limiting the amount of seepage leaving Everglades National Park (ENP) lands. A series of pump structures will provide control for this ridge by pumping directly into a retention/detention zone adjacent to ENP lands which can also be utilized for temporary storage of excess flood water.

The 1994 GRR recommended five pump stations ((S-332A, S-332B, S-332C, S-332D, and S-332E), located adjacent to the L-31N levee and C-111 canals, each pump station having a pumping capacity of 300-cfs.

The pump stations would pump water into the retention/detention zone; addressing the objective of maintaining flood control capacity while creating the hydraulic ridge between ENP and the canal which would help restore the ecosystem within Taylor Slough. In addition, approximately 5 miles of the L-31W Canal would be backfilled to prevent the canal from draining water out of the park, Canal 109 and Canal 110 were to be backfilled, the Taylor Slough Bridge replaced, the C-111 Spoil Mound removed, and a Spreader Canal created. Since that time, S-332A has been taken out of the project.

Construction began in 1996. A land exchange of 1,000 acres between ENP and SFWMD was approved by Congress and executed 2005. A completed PMP for the C-111 (South Dade) project was revised in October 2007 and updated in September 2011.

Current Status: To date the following have occurred: pump stations S-332B, S-332C, and S-332D have been constructed, the retention/detention zone has been constructed, the Taylor Slough Bridge has been replaced, Canal 109 has been backfilled, and parts of the C-111 Spoil Mound have been removed. A command and control center was also constructed for the purpose of reducing long term operations and maintenance costs.

The remaining features to be constructed include: a detention area north of the retention/detention zone, which will tie the C-111 South Dade Project into the Modified Water Delivery Project and the backfill (or plugging) of the L-31W Canal. The pump station 332E, the spreader canal, and the C-110 backfill have been deferred to the Comprehensive Everglades Restoration Program and are now components of the CERP: C-111 Spreader Canal - Western PIR project.

A PCA amendment package is under negotiation between USACE and SFWMD. A Post Authorization Change and an Engineering Documentation Report for C-111 (South Dade) is under development and is scheduled to be transmitted in FY13 to HQ.

Est. Cost: $ 331,300,000

Project Schedule:

1994	Start
2017	Finish

Detailed Project Budget Information (rounded)**:**

C-111 (South Dade)	**Expenditures Thru FY 2011**
USACE	$111,511,000
SFWMD	$6,009,000
Total	$117,520,000

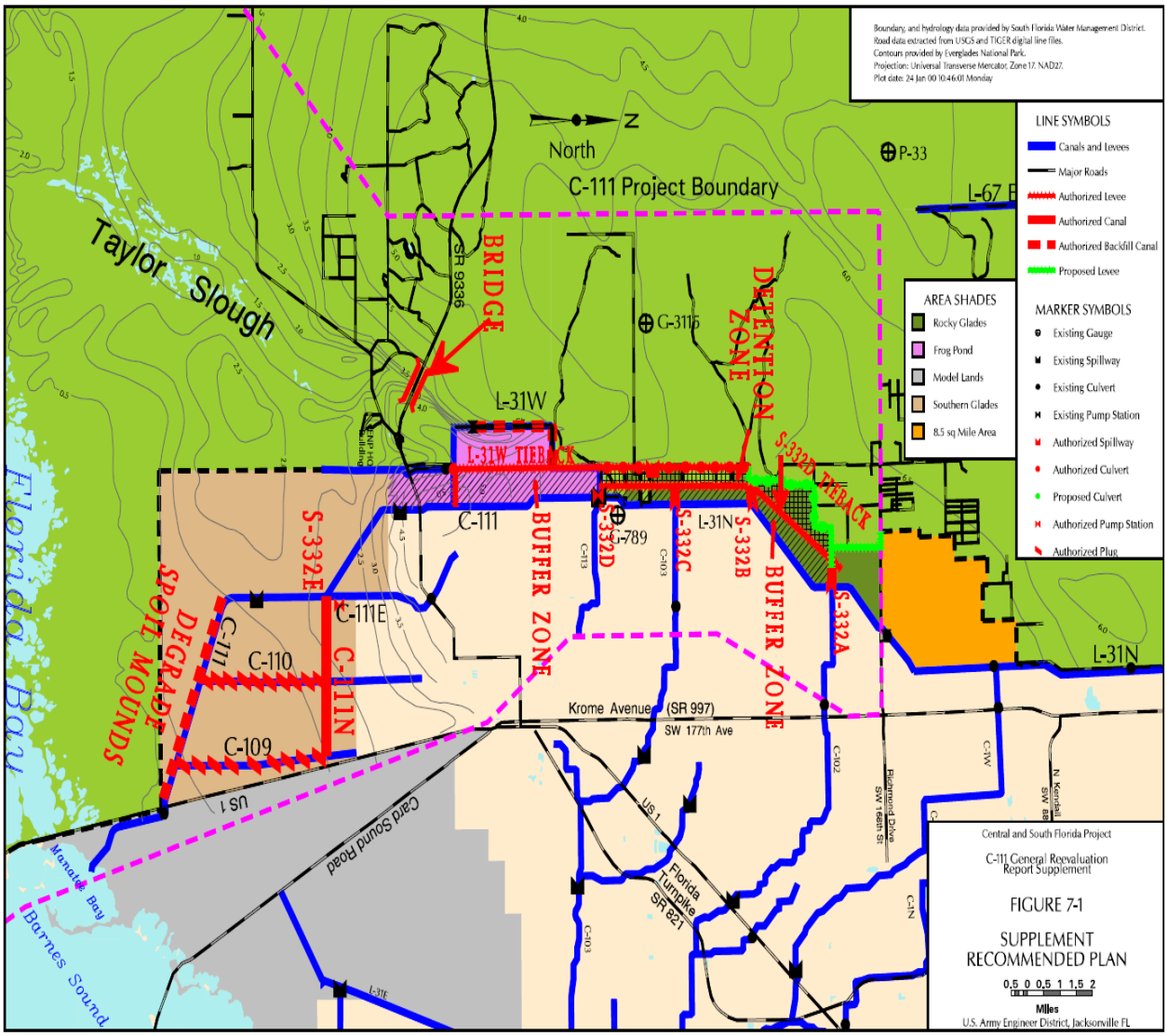
Hyperlink: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

Contact: Stephen A. Baisden, PE, PMP, Project Manager, Programs & Project Management Division, USACE
Stephen.A.Baisden@usace.army.mil

James Orth, Project Manager, SFWMD
jorth@sfwmd.gov

Source: Project history and synopsis are summarized from the *Central and Southern Florida Project Final Integrated General Reevaluation Report and Environmental Impact Statement Canal 111 (C-111) South Dade County, Florida.* Current status summarized and the updated PMP (2011) and information provided from the project manager. Cost estimate information is updated to reflect current price levels in October 2011 dollars.

Additional Information:



Project Name: **C&SF: CERP WCA 3 Decompartmentalization and Sheetflow Enhancement (AA) (QQ P1 & QQ P2) (SS) (ZZ)**
WCA 3 Decompartmentalization and Sheetflow Enhancement Part 1 and Part 2 (DECOMP) [raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within Water Conservation Area 3 (QQ), North New River Improvements (SS); *Restoring Eastern Everglades Flow Path and Restoring Western Everglades Flow Path]*; and *Water Conservation Area 3A/3B Flows to Central Lake Belt Storage (ZZ)]*

Project ID: 1301 (CERP Project WBS # 12, WBS # 13, and WBS #47)

Lead Agency: USACE / SFWMD

Authority: WRDA 2000 (*only 'QQ P1' and 'SS' – were Initially Authorized Projects);*
Other components not authorized

Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 240 miles of impediments removed

April 1999 (Restudy) Project Synopsis: The Water Conservation Area (WCA) 3 Decompartmentalization and Sheetflow Enhancement project includes the following components:

AA: Construction of additional S-345 conveyance structures (through L-67A and L-67C levees and borrow canals), to improve flow of water from WCA3A to 3B.

QQ Phase 1: Raise and bridge *(using ten 100-foot box culvert bridges)* the eastern portion of Tamiami Trail and to completely backfill the Miami Canal within WCA-3.

SS: North New River Improvements, as needed to improve the discharge capability of an expanded/improved North New River Canal and to compensate for any water conveyance capacity lost via removal of the Miami Canal.

QQ Phase 2: Remove the remaining sheetflow obstructions, i.e., L-67A borrow canal (by filling in the southern 7.5 miles), L-68A, L-67C, L-29, L-288 tieback levees and borrow canals (formerly WBS #13).

ZZ*:* Pumps, water control structures, canals around conveyance improvements adjacent to WCA 2 and 3 in Broward County. As stages in WCA 2 B, 3A or 3B exceed target depths, excess water will also be transported to the Central Lake Belt Storage Area.

Current Project Synopsis: The natural flow of water volume, direction, speed and depth create the unique characteristics of the Everglades ecosystem. Decompartmentalization entails removing constructed canals, levees and other barriers that impede the natural sheetflow of water into and through the historic Everglades and restoring a more natural water flow. The primary impediment to the natural flow of water through WCA-3A is the Miami Canal, separating WCA-3A north from WCA-3A south.

Because of scientific and ecological uncertainties, and dependence upon the Modified Water Deliveries Project (per WRDA 2000), the DECOMP Project Delivery Team is utilizing a multiple PIR phased approach for implementation that uses adaptive management, construction of a first phase, monitoring of component performance, and additional construction to achieve the desired results. In 2006, WCA 3 Decompartmentalization and Sheetflow Enhancement – "Part 2" (Restudy - QQ P2/WBS #13) was combined with "Part 1" (Restudy - AA, SS, and QQ P1 - WBS #12) for reporting.

PIR 1 (Miami Canal portion of QQ P1 and SS) includes WCA-3 and extends as far north as the southern end of Lake Okeechobee and as far south as the Tamiami Trail within Broward and Miami-Dade counties. Potential modifications to the Miami Canal and the North New River Canal will be analyzed.

Additional project implementation reports will address barriers to sheet flow in other parts of the ecosystem. This PIR focuses on options to backfill the Miami Canal, and on any North New River improvements needed to offset conveyance lost in the Miami Canal. Alternatives being examined include complete backfill, partial backfill, plugging of the canal and removal of existing canal spoil mounds. A hydration feature, more specifically a hydropattern restoration feature (HRF) has been added to PIR 1 to maximize sheetflow in WCA-3A. HRF was originally part of SFWMD's long term plan but got postponed due to funding.

Concurrent with PIR #1, a temporary field-scale test will be implemented to investigate the effective design of features for restoring sheet flow and for removing barriers to habitat connectivity in Water Conservation Area 3. The field test - also known as a ***Physical Model*** - is important because there are critical questions regarding design and effectiveness of decompartmentalization features that cannot be answered with current computer simulation models. The physical model will gather data to better understand the hydrological and ecological effects associated with different types of canal and levee modifications to maintain the landscape characteristics of the Everglades.

The field test will take place along the L-67A and L-67C levees and canals in Water Conservation Area 3 (A&B) in northern Miami-Dade County, approximately 10 miles north of S-333. Flow will be manipulated by allowing water to pass from the L-67A canal (WCA-3A) into a region known as "the pocket" through proposed Structure 152 (S-152), consisting of ten gated 60-inch diameter culverts at the levee. The culverts will be installed side-by-side and will discharge directly into sloughs within the flow-way. To establish sheet flow and evaluate canal backfilling options, a 3,000-foot gap will be opened in the L-67C levee downstream of S-152. Levee material will be deposited in the L-67C canal to create a 1,000-foot long *completely* backfilled segment and a 1,000-foot long *partially* backfilled segment. The remaining 1,000-foot segment of the L-67C canal will not be altered. These features will provide a controllable hydrologic connection between WCA-3A and WCA-3B delivering pulsed flows at velocities of at least 3 cm/sec over a period of days. DPM data and assessment of the effects of pulsed flows on hydrology, transport, vegetation and wildlife will guide planning, design and operational guidance for alternatives for both PIRs #2 and #3 of the DECOMP project.

The entire DECOMP Physical Model (DPM) project includes planning and evaluation of test alternatives in an Environmental Assessment, baseline monitoring, installing test features, operation, post-installation monitoring and removal of all field test features. A Project Operating Manual will be developed. The Corps has designed the project to be completely reversible -- so following testing, the area will be returned to its pre-test condition.

Water levels in WCA-3A are currently managed according to the WCA-3A Interim Regulation Schedule and the Interim Operation Plan (IOP) for protection of the Cape Sable Seaside Sparrow (2006). IOP includes the WCA-3A Regulation Schedule and South Dade Conveyance System operations. The current WCA-3A regulation schedule and IOP 2006 will continue to be used during the field test. Total surface water deliveries to Northeast Shark River Slough and Everglades National Park during the field test are anticipated to remain about the same as they would under current IOP operations. Water managers may consider additional deliveries, if allowable, given consideration of system-wide conditions.

PIR 2 (Tamiami Trail portion QQ - P1 and AA) focuses on modifying eastern sections of Tamiami Trail to improve water flows.

PIR 3 (QQ - P2) includes backfilling the southern 7.5 miles of L-67A borrow canal, removal of the L-68A, L-67C; degradation of western portions of L-29 below WCA 3A, L-28, and L-28 Tieback Levees and Borrow Canals; and elevating the western portion of Tamiami Trail south of WCA 3A.

An adaptive management strategy will be developed for the overall project, including formation of an interagency adaptive management team. Sequencing with the Modified Water Deliveries, C-111 South Dade, and CERP projects (e.g., L-31N Seepage Management Pilot, ENP Seepage Management, Broward County Water Preserve Areas, and Everglades Agricultural Area) is critical because of inter-relationships.

Current Status:

PIR 1

At a June 2008 Feasibility Scoping Meeting, the PDT recommended an Incremental Adaptive Restoration (IAR) strategy. An initial plan formulation summary was drafted and RECOVER has completed its performance measure consistency review. Conceptual alternatives were modeled using the South Florida Water Management Model to determine which segment(s) of the Miami Canal yielded the most benefits when backfilled. The RMA-2 (developed by Resource Management Associates for the USACE 1973) model was used to determine optimal plug length and spacing given variable fill quantities. These model results, along with additional considerations, were used to formulate a preliminary array of alternatives. The PDT used a structured screening process to reduce the preliminary alternatives to a final array of ten to be further analyzed using the Regional Simulation Model (RSM).

Inclusion and evaluation of hydration feature(s) or hyrdropattern restoration feature (HRF) along the northern boundary of WCA 3 was added in 2010. The team developed a final array of alternatives that include hydration features and various Miami Canal backfill configurations. Initiation of the Central Everglades Planning Project (CEPP) that includes Water Conservation Area 3 has incorporated ALL the study that has occurred to date into its planning process. Therefore, all efforts on PIR1 have been compiled into the Decomp Project Documentation Report and no additional work will be conducted solely on PIR1.

Physical Model:

Water quality certification is complete and the contract will be awarded in May 2012. A science and engineering report underwent review in 2009. The draft NEPA document, Environmental Assessment (EA) and Design Test Documentation Report was released November 6, 2009 and the Corps accepted written comments on the EA and Operations Plan through December 6, 2009. In February 2010, a public meeting on the Draft Operational Guidance was held. A FONSI was signed in April 2010. The five-year anticipated duration includes: two years of baseline monitoring, one year for installation, and two years of post-installation monitoring and evaluation. This temporary project will be dismantled at the close of the monitoring period.

The first operational window is expected in November-December 2012, early in the dry season when sufficient water is likely still available; the risk of hurricane rain and winds are considerably less; and, the generally lower rainfall is expected to result in stages in L-29 Canal (less than 7.5 feet, National Geodetic Vertical Datum (NGVD)) and Northeast Shark River Slough (less than 6.8 feet, NGVD at G-3273), which facilitate discharges and moderate stages for WCA-3B.

Est. Cost: $ 372,388,000

Project Schedule:

2012	Install and Operate DECOMP Physical Model
2014	Decommission Physical Model
TBD	Construction of Features included in CEPP

Detailed Project Budget Information (rounded):

DECOMP	Expenditures Thru FY 2011
USACE	$14,035,350
SFWMD	$6,588,115
Total	**$20,623,465**

Hyperlinks:
http://www.evergladesplan.org/pm/projects/proj_12_wca3_1.cfm
http://www.evergladesplan.org/pm/projects/proj_13_wca3_2.aspx
http://www.evergladesplan.org/pm/projects/docs_12_wca3_model.aspx
http://www.evergladesplan.org/pm/projects/proj_47_wca_3a_3b.cfm

Contact:
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Matt Morrison Project Manager, SFWMD
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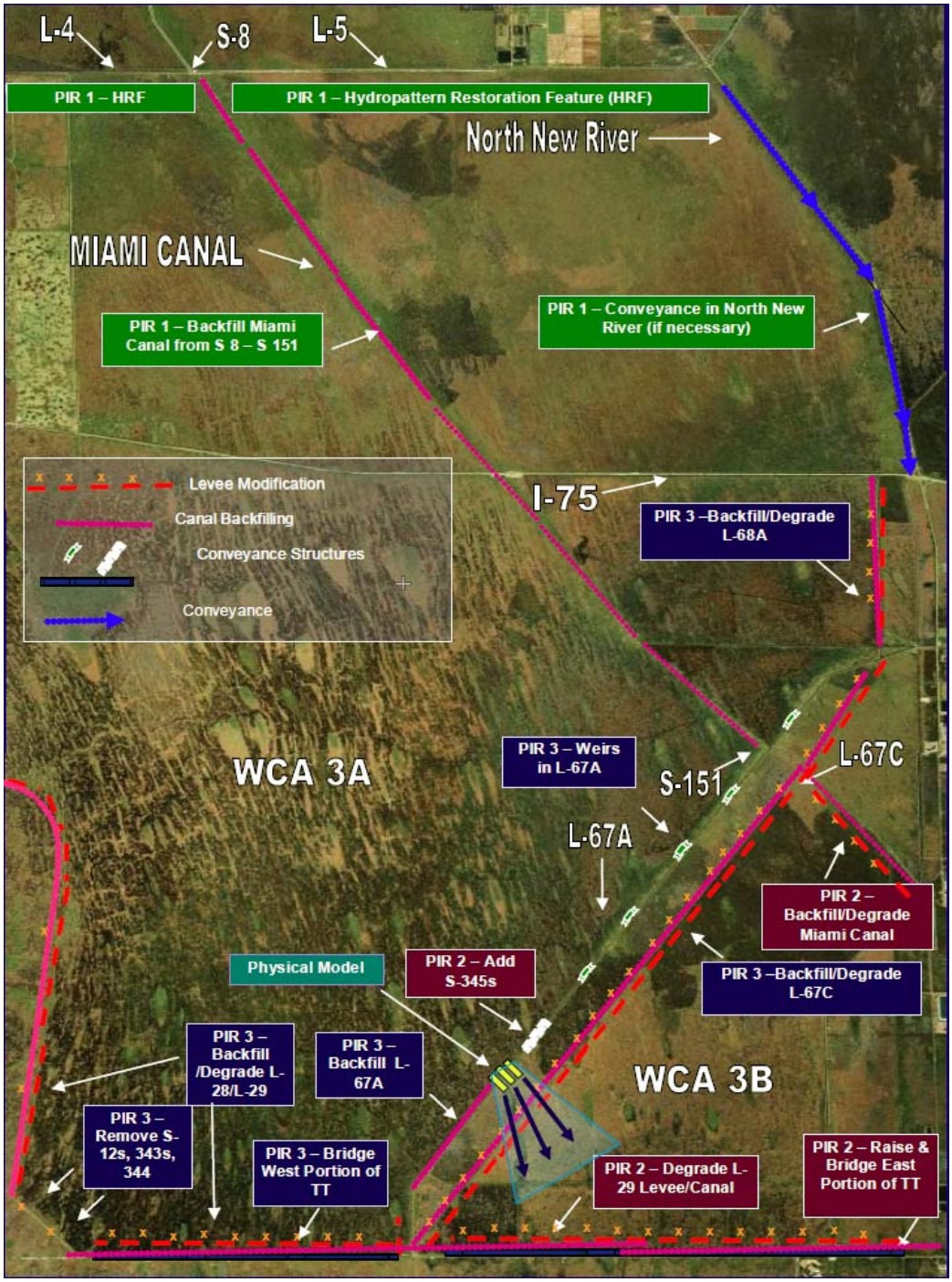
Source:
Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and approved in kind credit through 4th quarter FY11.

Additional Information:
For wetlands in the footprint of the DECOMP Project, and downstream into the southern estuaries, the objective restoration: Given the nature of irreversible constraints in modern south Florida, true restoration is an ecosystem that, as closely as possible, is a self-regulating system that has recovered the ecological functions, relationships and physical and biological components that defined the pre-drainage ecosystem. Defining characteristics include the extent of naturally connected and inter-related wetland landscapes, uninterrupted marsh and slough "sheet flow", low levels of nutrients in freshwater wetlands, numerous and healthy tree islands and solution "holes", resilience of plant community mosaics, an abundance of large aquatic vertebrates exemplified by otters, storks, ibis and alligators, and high levels of downstream, estuarine productivity.

Although a "new" Everglades will be smaller than the pre-drainage system -- the DECOMP project will have been successful when the new system no longer acts like a set of managed, disconnected wetlands—but, rather responds to the recovery of these defining characteristics by functionally and organizationally behaving, both in space and time, as the wild Everglades system.


L-4
S-8
L-5
PIR 1 – HRF
PIR 1 – Hydropattern Restoration Feature (HRF)
North New River
MIAMI CANAL
PIR 1 – Backfill Miami Canal from S 8 – S 151
PIR 1 – Conveyance in North New River (if necessary)
Levee Modification
Canal Backfilling
Conveyance Structures
Conveyance
I-75
PIR 3 –Backfill/Degrade L-68A
WCA 3A
PIR 3 – Weirs in L-67A
S-151
L-67C
L-67A
PIR 2 – Backfill/Degrade Miami Canal
Physical Model
PIR 2 – Add S-345s
PIR 3 –Backfill/Degrade L-67C
PIR 3 – Backfill /Degrade L-28/L-29
PIR 3 – Backfill L-67A
WCA 3B
PIR 3 – Remove S-12s, 343s, 344
PIR 3 – Bridge West Portion of TT
PIR 2 – Degrade L-29 Levee/Canal
PIR 2 – Raise & Bridge East Portion of TT

Project Name: **C&SF: CERP Florida Keys Tidal Restoration (OPE)**
Project ID: 1302 (CERP Project WBS # 31)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 0.6 miles of impediments removed

April 1999 (Restudy) Project Synopsis: The purpose of this feature is to restore the tidal connection that was eliminated in the early 1900s during the construction of Flagler's railroad. Restoring the circulation to areas of surface water that have been impeded and stagnant for decades will significantly improve water quality, benthic floral and faunal communities, larval distribution of both recreational and commercial species (i.e. spiny lobster), and the overall hydrology of Florida Bay.

The project includes the use of bridges or culverts to restore the tidal connection between Florida Bay and the Atlantic Ocean in Monroe County. The four locations are as follows: (1) Tarpon Creek, just south of Mile Marker 54 on Fat Deer Key (width 150 feet); (2) Unnamed Creek between Fat Deer Key and Long Point Key, south of Mile Marker 56 (width 450 feet); (3) tidal connection adjacent to Little Crawl Key (width 300 feet); and (4) tidal connection between Florida Bay and Atlantic Ocean at Mile Marker 57 (width 2,400 feet).

Current Project Synopsis: Since issuance of the Restudy, various studies and other projects have refined this project's scope.

This project provides for the removal of approximately 0.6 miles of impediments and will restore an historic flow way between the Atlantic Ocean and the Gulf of Mexico that were blocked during the early construction of US Highway 1. An existing tidal creek restoration project near the proposed restoration project was fully successful.

A tidal creek near Marathon, Florida was selected for restoration. Culverts to maximize flow will be located, sized, and placed under U.S. 1 between Fat Deer Key and Long Point Key (MM56) to allow tidal exchange and flushing. Monitoring of water quality, benthic community composition, and sediment particle size will be performed before construction, at six months, and one year after construction completion. Additional tidal flow way restoration projects will be subsequently identified based upon the results.

Current Status: Suspended.

Est. Cost: $ 1,427,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Florida Keys Tidal Restoration	Expenditures Thru FY 2011
USACE	$846,818
SFWMD	$548,930
Total	$1,395,748

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_31_fl_keys_tidal.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Additional Information:

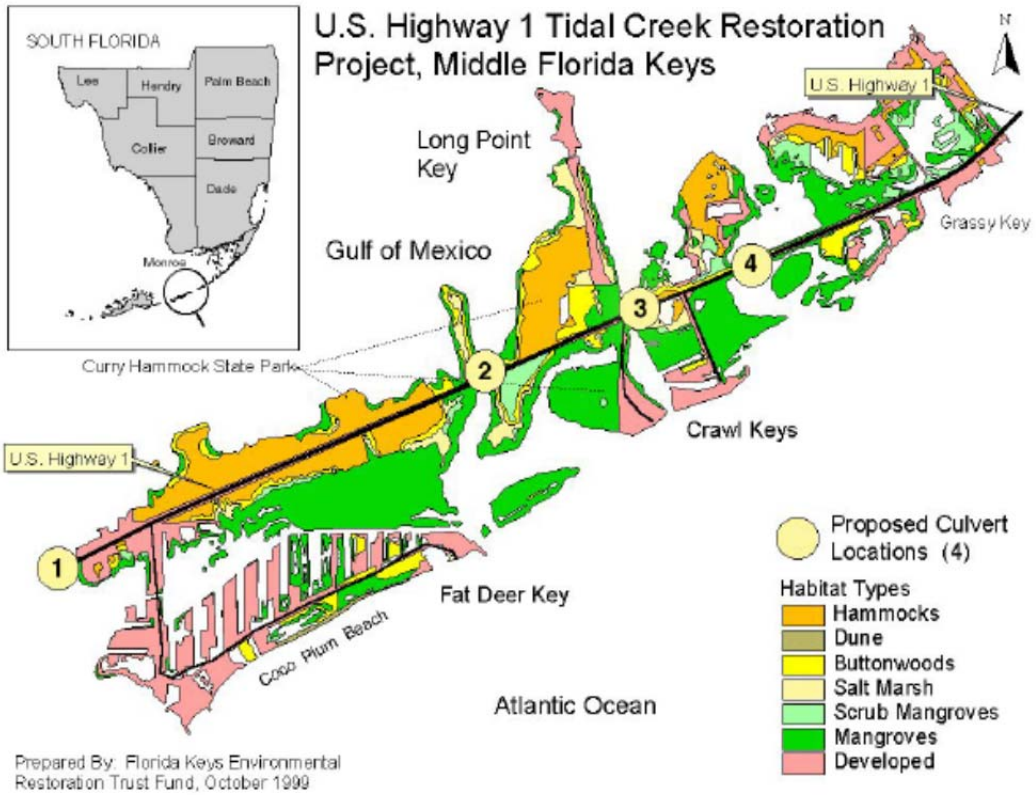

Figure 1
Florida Keys Tidal Restoration Project Area

Project Name: **E&SF: Critical Projects Southern CREW Project Addition/ Imperial River Flowway** *Southern CREW* (also included as a CERP OPE)
Project ID: 1303
Lead Agency: USACE / SFWMD
Authority: WRDA 1996 (Critical Project), WRDA 2000 *(in CERP Plan; limitation of watershed addition outside of the CERP),* WRDA 2007 *(modified Critical Project cap)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary** 1-A.3 **Secondary:** 2-A.3

Measurable Output(s): 4,090 acres of restored wetlands *(proposed footprint)*

Project History: As noted in the Restudy, WRDA 1996 authorizes the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the south Florida ecosystem. The SFEER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval (WRDA 1996). However, funding caps under WRDA 1996 and later revised under WRDA 2007 limit spending per project and for the group.

April 1999 (Restudy) Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included an (OPE) under Programmatic Authority for the acquisition and restoration of 4,670 acres of land, replacement of the Imperial Bonita Estates Bridge on the Imperial River, and replacement of the Kehl Canal Weir in southern Lee County, adjacent to Corkscrew Sanctuary; clearing and snagging on Imperial River, Estero River and Halfway Creek, reconnection of Spring Creek and Halfway Creek under U.S. I-75, and replacement of the Imperial Bonita Estates bridge.

WRDA 2000 approved this project as part of the Plan (CERP), but with the limitation that the Southern Corkscrew regional ecosystem "watershed addition should be accomplished outside of the scope of the Plan".

Current Project Synopsis: This project will re-establish historical sheetflow, hydroperiods and wetland storage on project lands and the Corkscrew Regional Ecosystem Watershed (CREW) and Corkscrew Sanctuary wetlands to the east; reduce excessive freshwater discharges to Estero Bay during the rainy season; improve habitat for other wildlife; reduce nutrient loads and pollutants to the Imperial River and Estero Bay, and mitigate flooding of homes and private lands west of the project area. The effort includes the removal of agricultural canals and road berms, house foundational pads and the filling of ditches. It also includes acquisition of 4,670 acres and restoration of the land to a natural state.

Because of escalating land costs in the region, particularly near Bonita Beach Road, and the difficulty in restoring hydrology in areas south of Kehl Canal, a change to the proposed footprint was approved at the March 2009 SFWMD Governing Board meeting. Changes exclude the southern half of Sections 32 and 33 that are south of the Kehl Canal and some areas along the western boundary of the project site that may be impacted by the proposed alignment of County Road 951. Approximately 45 acres in the NW corner of Section 32 and 15 acres in the SW corner of Section 34 were also removed from the project. T

Even with a smaller footprint, the SFWMD will be able to maintain a flowway and corridor along the Kehl Canal and Imperial River connecting and restoring lands within Southern CREW and CREW Trust lands.

However, cost estimates for this project, in combination with the other eight Critical Projects, exceeded the USACE appropriation cap of $95 million (WRDA 2000).

Current Status: Land acquisition has been accomplished with state and federal cost sharing. Exotic species removal has taken place on over 2,560 acres, primarily treatment of Melaleuca trees. In addition, a number of canals have been plugged, berms breached and dirt roads removed enabling sheet flow in areas of the project footprint, restoring hydropatterns on approximately 640 acres of wetlands.

The SFWMD continues to acquire land and design, permit and construct the project.

Est. Cost: $ 33,321,000

Project Schedule:

1999	Start design work
2015	Finish construction.

Detailed Project Budget Information (rounded)**:**

Southern CREW	**Expenditures Thru FY 2009**
USACE	$282,215
SFWMD	$1,242,705
Total	**$1,524,920**

Hyperlink: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

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Source: Original project description (OPE) summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).*

Project Name: **Kissimmee River Restoration** (KRR)
Project ID: 1306
Lead Agency: USACE / SFWMD
Authority: WRDA 1986 Section 1135 (PL 99-662); WRDA 1988 Section 46 (PL 100-676); WRDA 1990 (Section 116 (h) (PL 101-640); **WRDA 1992** Section 101 (8) (PL 102-580)
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 2-A.3

Measurable Output(s):

- 27,000 acres of floodplain wetlands improved
- 43 miles of meandering river channel restored
- 22 miles of backfilling of Canal 38
- 9 miles of new river channel

Project History: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) noted that the WRDA 1992 (section 101) authorized remaining portions of the Kissimmee River Restoration (lower basin ecosystem) and construction of the Kissimmee River Headwaters Revitalization project (upper basin creating a more natural physical environment in the lower Kissimmee River Basin. The project included backfilling the 30-foot deep Canal 38 and restoring flow to over 43 miles of presently isolated river channel to restore an estimated 27,000 acres of floodplain wetlands and associated fish and wildlife resources. The project would also provide more natural seasonal flow to Lake Okeechobee.

Current Project Synopsis: As the headwaters of the Everglades system, the health of the 3,000-square-mile Kissimmee River stretching from Orlando to Lake Okeechobee in central Florida is crucial to the health of the South Florida ecosystem. That health will be assured by the reestablishment of more natural flow. Several alternative plans were reviewed, as part of the USACE planning process, to address the lower basin and the Tentatively Selected Plan (TSP) was identified in 1992. The plan involves reestablishing historic hydrologic conditions, recreating the historical river/floodplain connectivity, recreating the historic mosaic of wetland plant communities, and restoring the historic biological diversity and functionality. This would be accomplished. by modifying the operation of the many lakes and Structure 65; enlargement of canals 36 and 37; backfilling 22 miles of C-38; excavation of nine miles of new river channel; removal of two water control structures and locks;, along with land acquisition [Lower Basin Land Acquisition (SFWMD 68,332 acres) and Upper Basin Land Acquisition (SFWMD 36,763 acres)]. The project will restore the ecological integrity of the historical Kissimmee River/floodplain ecosystem by recreating 40 square miles of the river/floodplain ecosystem, including re-establishing flow to 43 miles of contiguous meandering river channel and 27,000 acres of wetlands.

A comprehensive evaluation program for tracking the environmental response to the plan is in place to gauge the success of meeting goals for ecological integrity for the river and the floodplain. This program predicts and tracks resulting ecological changes that are expected, including changes in hydrology, water quality, and major biological communities such as plants, invertebrates, fish, and birds. Evaluation research is required to be continued by the SFWMD for at least 5 years following completion of the final phase of construction (projected for 2014), or until environmental responses stabilize.

The SFWMD and Corps are conducting the Kissimmee Basin Modeling and Operations Study (KBMOS) to evaluate alternative water regulation schedules for the Upper Kissimmee Basin to meet its hydrologic requirements and achieve a more acceptable balance between operations objectives associated with flood control, water supply, aquatic plant management, natural resource requirements of the Kissimmee River Restoration and the Kissimmee Chain of Lakes, and Lake Okeechobee.

NEPA/EIS work for this initiative will begin as alternatives narrow ending with the Coordination Act Report done with the U.S. Fish and Wildlife Service. KBMOS involves many participating local, state, and federal entities, as well as the public. In addition, SFWMD has prepared the Kissimmee Chain of Lakes Long Term Management Plan is expected to further define roles and responsibilities for the future.

The following features are completed: C-38 Reach 1 backfilling (2001), C-35 maintenance dredging (2001), S-65 enlargement (2001), S-65A gate extension (2001), C-36 widening (2003), US highway 98 bridge openings (2004), S-84/84 spillway addition (2007), radio tower (2007), S-65DX2 grade control structure (2007), C-38 reach 4A backfilling (2007), S-68 spillway addition (2009), C-38 Reach 4B backfilling (2009), S-65DX2 retrofit, and Istokpoga Boat Ramp (2010).

Current Status: More than 90% of the 102,061 acres of land needed for the restoration have been acquired by the SFWMD. Natural flow has been reestablished for 22 of 43 miles of historic river channel, including the 4 miles reconnected in 2009, 4 miles in 2007 and 14 miles in 2001. 6,500 acres of floodplain wetlands are restored and several species, including the Ring-necked Duck, American Avocet and Black-necked Stilt, have returned to the Kissimmee after an absence of 40 years.

This latest backfilled section of C-38 work is located south of the Avon Park Bombing Range Boat Ramp, and connects with a previously backfilled segment of the canal reconnecting historic oxbows and re-carved sections of the river lost during the 1960s channelization project that had been constructed to reduce area flooding. The USACE has restored 13 of the 22 miles of the C-38 (lower basin) to date. This section will be closed to navigation in May 2010 as the SFWMD refurbishes navigation locks along the Kissimmee Chain of Lakes and Kissimmee River for the first time in 50 years.

A draft Post Authorization Change Report/General Reevaluation Report to increase the Section 902 limit was prepared and is anticipated for completion in Fall 2011.

Features currently under construction include: the River Acres Flood reduction project, CSX Rail Road Bridge construction, widening of the Canal 37 and the excavation of oxbows and embankment construction projects. .

The following features have yet to be awarded, due to the required sequencing of work: Reach 2 and Reach 3 oxbow excavation (2011), Structure 69 weir (2011), Structure 65D boat ramp (2011), Reach 3 backfilling (2012), S-65EX1 gated spillway addition (2012), and Reach 2 backfilling (2012).

Est. Cost: $ 738,600,000

Project Schedule:

1994	Start
1999	Construction begun
2015	Completed

Detailed Project Budget Information (rounded):

KRR	**Expenditures Thru FY 2011**
USACE	$236,759,000
SFWMD	$401,371,000
Total	**$638,130,000**

Hyperlinks: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

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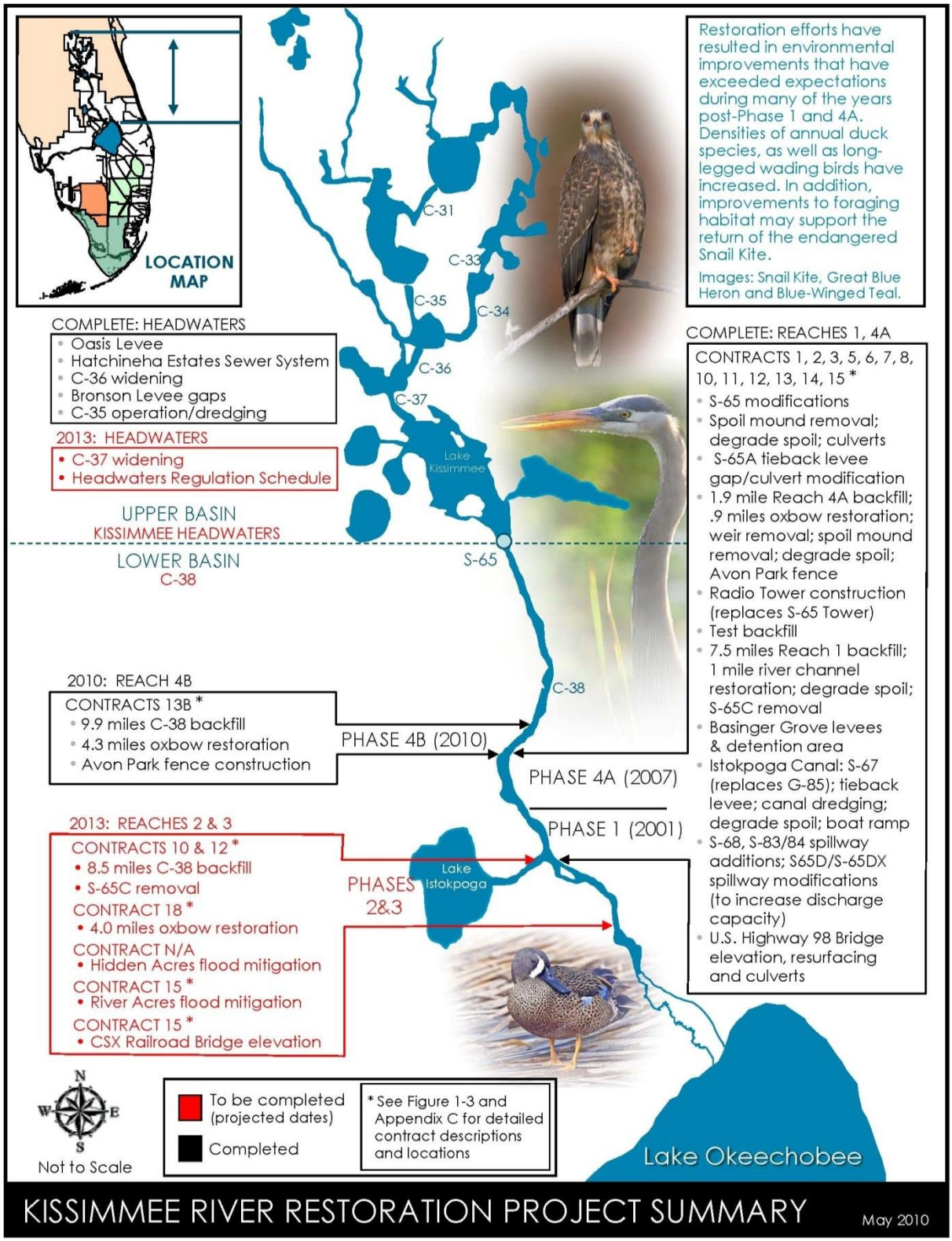
Source: Project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current status information was provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2011 dollars.

Additional Information:


LOCATION MAP
Restoration efforts have resulted in environmental improvements that have exceeded expectations during many of the years post-Phase 1 and 4A. Densities of annual duck species, as well as long-legged wading birds have increased. In addition, improvements to foraging habitat may support the return of the endangered Snail Kite.
Images: Snail Kite, Great Blue Heron and Blue-Winged Teal.
C-31
C-33
C-35
C-34
C-36
C-37
Lake Kissimmee
COMPLETE: HEADWATERS
• Oasis Levee
• Hatchineha Estates Sewer System
• C-36 widening
• Bronson Levee gaps
• C-35 operation/dredging
2013: HEADWATERS
• C-37 widening
• Headwaters Regulation Schedule
UPPER BASIN
KISSIMMEE HEADWATERS
LOWER BASIN
C-38
S-65
COMPLETE: REACHES 1, 4A
CONTRACTS 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15 *
• S-65 modifications
• Spoil mound removal; degrade spoil; culverts
• S-65A tieback levee gap/culvert modification
• 1.9 mile Reach 4A backfill; .9 miles oxbow restoration; weir removal; spoil mound removal; degrade spoil; Avon Park fence
• Radio Tower construction (replaces S-65 Tower)
• Test backfill
• 7.5 miles Reach 1 backfill; 1 mile river channel restoration; degrade spoil; S-65C removal
• Basinger Grove levees & detention area
• Istokpoga Canal: S-67 (replaces G-85); tieback levee; canal dredging; degrade spoil; boat ramp
• S-68, S-83/84 spillway additions; S65D/S-65DX spillway modifications (to increase discharge capacity)
• U.S. Highway 98 Bridge elevation, resurfacing and culverts
2010: REACH 4B
CONTRACTS 13B *
• 9.9 miles C-38 backfill
• 4.3 miles oxbow restoration
• Avon Park fence construction
PHASE 4B (2010)
PHASE 4A (2007)
PHASE 1 (2001)
2013: REACHES 2 & 3
CONTRACTS 10 & 12 *
• 8.5 miles C-38 backfill
• S-65C removal
CONTRACT 18 *
• 4.0 miles oxbow restoration
CONTRACT N/A
• Hidden Acres flood mitigation
CONTRACT 15 *
• River Acres flood mitigation
CONTRACT 15 *
• CSX Railroad Bridge elevation
PHASES 2&3
Lake Istokpoga
Lake Okeechobee
N
W
E
S
Not to Scale
To be completed (projected dates)
Completed
* See Figure 1-3 and Appendix C for detailed contract descriptions and locations
KISSIMMEE RIVER RESTORATION PROJECT SUMMARY
May 2010

Project Name: **U.S. DOI Modified Water Deliveries to Everglades National Park**
Mod Waters (MWD)
Project ID: 1307
Lead Agency: National Park Service
Authority: Everglades National Park Protection and Expansion Act of 1989 (Public Law 101-229)
Funding Source: DOI

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.3 **Secondary:** 2-A.3, supports 3-B.1

Measurable Output(s):

- 21 miles of impediments removed
  {Tamiami Trail (11), L-67 Extension (9); pieces L-67 A & C and L-29 (1)]
- 190,000 acres of habitat improved

Project Synopsis: In 1989, Congress approved the Everglades National Park Protection and Expansion Act for the purpose of modifying the Central and Southern Florida (C&SF) Project to improve water deliveries to Everglades National Park (ENP), and to take steps to restore the Park's natural hydrologic condition.

Hydrological improvements are crucial to restoring ecosystem productivity in the southern Everglades and maintaining adequate freshwater inflow to downstream estuaries along the Gulf of Mexico and Florida Bay. Addressing the effects of the Tamiami Trail (U.S. 41) is a major component. The roadway was built in the 1920s so vehicles could travel between two of the earliest centers of population growth in southern Florida, Tampa and Miami. Decades later, restoration agencies identified the Tamiami Trail as one of the most serious threats to the health of the Everglades, as it acts like a dam stopping water flows from moving south. Modified Water Deliveries (MWD) authorized the USACE, in consultation with the DOI, to construct modifications of the C&SF Project water management system and related operational changes and "to the extent practicable, take steps to restore the natural hydrological conditions within the park" improving water deliveries to ENP.

The project design in the USACE 1992 General Design Memorandum (GDM) and Environmental Impact Statement, *Modified Water Deliveries to Everglades National Park, Central and Southern Florida Project for Flood Control and Other Purposes*, and subsequent supplements, specify the construction of structural features with the intended purpose of restoring conveyance between Water Conservation Areas (WCAs) north of ENP and the Shark River Slough, the lifeline of ENP. The combined features will improve conditions for 190,000 acres of habitat, aid in the recovery of threatened and endangered species, and lay a foundation for future restoration efforts under the CERP.

MWD consists of four major components. All are necessary and work together to restore flows from WCA-3A to WCA-3B and under Tamiami Trail to the historic headwaters of the Northeast Shark River Slough in the Everglades Expansion Area:

(1) **Flood Mitigation for 8.5 Square Mile Area (8.5 SMA):** a residential and agricultural area directly adjacent to expansion boundary in East Everglades, and tribal residential areas along U.S. 41;

(2) **Conveyance and Seepage Control Features (CSCF):** facilitates flow through the system from WCA 3A to WCA-3B and limits seepage eastward from WCA-3B and ENP, including the re-establishment of the historic Shark River Slough flow ways;

(3) **Tamiami Trail Modifications (TTM):** facilitates water flow beyond the road south into ENP; and

(4) **Project Implementation Support (PIS):** includes monitoring and operational changes, an experimental program; a Combined Operational Plan (COP), and raising Osceola Camp.

109,504 acres of land were acquired in the East Everglades as part of the Everglades National Park expansion. Acquisition of land within the East Everglades addition is necessary to limit further losses suffered by ENP due to habitat destruction outside former boundaries and to restore natural water flow patterns critical to the ecological integrity and long-term viability of park resources.

Since completion of the 1992 GDM, scientific investigations identified revised ecosystem restoration requirements and potential design problems associated with some 1992 features. These requirements, in turn, resulted in the completion of supplemental NEPA documents for the 8.5 SMA component (July 2000) and the Tamiami Trail Modifications (TTM) component (January 2006, August 2008). NEPA documents for conveyance and seepage control features and the combined structural and operational plan were delayed due to a potential impact to the Cape Sable seaside sparrow and the revised Tamiami Trail plan.

Due to concerns over delays and the development of the larger CERP, Congress restricted the appropriation of funds for construction of components of the CERP DECOMP project and the Central Lake Belt Storage project until the completion of the MWD in WRDA 2000.

Historically, the project has been funded through DOI annual construction appropriations. Due to the increase in the estimated cost of the project and the focus of much of the remaining work on construction, additional funding was requested through USACE appropriations in FY06, FY07 and FY08. Specifically, in FY06 $32.6 M was received through USACE, primarily to support the construction of the 8.5 SMA and during the latter two years, USACE appropriations supported the Tamiami Trail project. USACE funding provided for the MWD project totaled $77.5 M.

(1) **Flood Mitigation for 8.5 Square Mile Area**
The objectives are consistent with the 2000 GRR ROD:

- Maintain the surface and ground water levels within the project areas of the 8.5 Square Mile Area (8.5 SMA), between the L-357W levee and L-31N levee; and
- Preserve or enhance the hydropatterns of land located west of the L-357W levee (ENP and the publicly owned natural areas).

(2) **Conveyance and Seepage Control Features**
The 1992 General Design Memorandum (GDM) specified the construction of CSCF features: gated structures, spillways, and pump stations.

(3) **Tamiami Trail Modifications**
The *2008 Integrated Limited Reevaluation Report and Environmental Assessment* (LRR) was executed on August 1, 2008. The LRR was written with direction from Congress managers after increased material costs made the 2005 RGRR plan (*Final Revised General Reevaluation Report and Second Supplemental Environmental Impact Statement for the Tamiami Trail Modifications*) plan too expensive to implement. Instead of three miles of bridging and raising the road to allow unconstrained water flows, the LRR plan included one mile of bridging and road reinforcement or road raising to allow a maximum operating limit of 8.5 feet in the L-29 Canal (headwater).

(4) **Project Implementation Support**
Monitoring and mitigation requirements of the MWD project were identified in the 1992 GDM. Operational plan development is also included in this component.

Current Status:
Since the 1992 GDM, the 8.5 SMA 2000 GRR ROD, and the 2008 TTM LRR there have been design changes to the MWD project resulting in additional costs of project components. Due to limitations on the funds available from the NPS line-item construction program, a maximum of $336.5 million is available to complete this project. Combined with the $77.5 million from prior Corps of Engineers funding and the approximate $3+million to be received from the Florida Department of Transportation for the TTM, the not-to-exceed amount to complete the project is now $417+ million. The final allocations from the NPS for the project will be in FY 2013. Priorities suggested by the NPS for completion within the new budget amount were provided to the USACE and include in order of priority:

(1) Tamiami Trail Modifications
(2) Biological Monitoring for endangered species
(3) 8.5 SMA
(4) G-3273 Relaxation and S-356 Test

At this time no additional funding is planned or will be provided for the remaining features of CSCF or COP. In addition, due to water quality concerns expressed by the SFWMD and FDEP, the G-3273 Relaxation effort is on hold. Testing of S-356 will proceed. Current status by component is provided below.

(1) **Flood Mitigation for the 8.5 Square Mile Area** (SMA)
Lands were acquired and construction was completed in 2008. The Las Palmas residential area, referred to as 8.5 SMA, now has perimeter levees and a seepage collector canal to mitigate for the increased flood risk with planned increased water flows and levels in ENP with future MWD and C-111 component implementation. The new pump station (S-357) will remove water from the seepage collector canal to prevent increased water levels in residential areas, while allowing for increases in the adjacent ENP lands, separated by the protection levee. Land preparations necessary for operation, including access control, debris and invasive vegetation removal have been ongoing. The USACE developed a Draft Environmental Assessment (EA) of the Interim Water Control Plan, held a public meeting November 19, 2008 and released the revised Draft EA for additional public comments in May, 2009. Operational testing and monitoring of the 8.5 SMA project features began June 1, 2009 and ended earlier than anticipated due to unanticipated water levels in the Las Palmas community. To address the unanticipated changes in the water levels, new water control criteria were developed and approved. An EA was published and the FONSI was signed June 2011. The features are being evaluated to ensure full functional capability. Land transfer and OMRR&R responsibilities are scheduled to be given to the Non-Federal Sponsor in 2012.

In FY 2012, the focus will be on transferring lands, addressing mitigation concerns associated with the pump station and STA, and transferring structural features to the local sponsor, the South Florida Water Management District. Initial operational tests of the S-357 pump station have created the need for the Corps to confirm that the 8.5 SMA is being provided the appropriate flood mitigation. Modifications to reduce seepage losses from the flow-way channel and improve downstream conveyance have been completed. In addition, the Corps is currently conducting additional

hydrologic modeling and groundwater monitoring to determine if any additional modifications may be required to resolve this problem. A report detailing the results of the modeling and monitoring effort, including recommended project modifications with costs, is scheduled for release in FY 2012.

Once the above work is completed, an interim operating plan will be implemented in cooperation with the Corps of Engineers and the South Florida Water Management District.

Transfer of the lands and the facilities to the South Florida Water Management District were initiated in mid-2011. Final land transfers will occur in FY 2012.

Transfer of the lands to the Department of Interior were initiated in mid-2011. Final land transfers will occur in FY 2012.

(2) **Conveyance and Seepage Control Features** (CSCF)

Related to the 1992 GDM, the following features have been constructed and are complete:

- Spillway structures S-355A and B in the L-29 Levee
- S-333 modifications
- Tigertail Camp elevation (raised to 12.00 ft. with 1st floor elevations of at least 12.5 feet)
- Pump Station S-356 between L-31N Canal and L-29 Canal
- Osceola Camp elevation evaluation
- Degradation of the L-67 Extension Canal and Levee (4 of 9 miles degraded)
- S-331 Command and Control (added telemetry & remote control of conveyance features)

Features originally included in the component with completion affected by budget constraints:

- Structures S-345 A, B, and C through the L-67A and C Levees
- Structures S-349 A, B, and C in the L-67A Borrow Canal
- Degradation of the L-67 Extension Canal and Levee (remaining 5 of 9 miles)

A pilot project to install spreader swales immediately south of two culverts sets found along a 10.7 mile stretch of the Tamiami Trail at the northeastern boundary of the Everglades National Park was proposed to determine if swales would increase hydrologic flow into Everglades National Park and if so, determine the level of increased conveyance. The National Park Service, in collaboration with USACE completed an Environmental Assessment and executed a Finding of No Significant Impact on 23 March 2009. Hydrologic modeling and pre-installation monitoring were conducted by University of Miami. The modeling was favorable and a public meeting was held on 20 January 2010. After considering comments, ENP decided to implement the spreader swale pilot on 1 February 2010. The team prepared a letter report, received a special use permit to install and monitor from ENP, and submitted an environmental resource permit application to FDEP. Due to budget constraints, the spreader swales pilot project will not be installed.

(3) **Tamiami Trail Modifications (TTM)**

In the 2008 Integrated Limited Reevaluation Report (LRR) and Environmental Assessment (EA), USACE re-analyzed the plan approved in the 2005 Revised GRR/SEIS to determine other less costly alternatives and direction for the TTM project. The LRR plan recommended a one-mile bridge to the east (2 miles west of Krome Avenue), allowing L-29 Canal stage to reach 8.5 feet NGVD, and reinforcing the road to mitigate impacts from the 8.5-foot stage. The TTM project as described in the Integrated LRR/ EA, with amendment, was approved by the Assistant Secretary of the Army for Civil Works on August 1, 2008.

The Miccosukee Tribe filed a claim against the USACE regarding the LRR/EA and another against the US Department of Transportation with a petition for an administrative hearing in October 2008. The presiding judge issued a preliminary injunction on November 14, 2008 and later that same day, an amendment to the solicitation to indefinitely postpone receipt of proposals was posted. USACE compiled the required administrative record for the court on January 9, 2009 and the project remained on hold until the preliminary injunction was dissolved and the NEPA-FACA case dismissed by the District Court on June 17, 2009.

The USACE posted an amendment in July 2009 reopening the Tamiami Trail construction solicitation. On September 28, 2009 USACE awarded the $ 81 million Tamiami Trail construction contract for the one-mile bridge and to raise and reinforce an additional 9.7 miles of Tamiami Trail roadway to, accommodate higher water levels in the adjacent L-29 Canal and in turn into the Everglades National Park. A groundbreaking for the Tamiami Trail Bridge portion took place December 4, 2009. Roadwork construction began in March 2010.

USACE determined that the $18.5 million in construction contingency is not sufficient. An existing utility was not located according to the original roadway plans and specifications that resulted in a contract modification awarded in August 2011 that increased the cost of the contract by $11.4 million and added 214 days. Therefore, the project is now expected to complete in December 2013 instead of the original completion date of May 2013. Although the increased amount is within the amount already allocated for contingency, there is expressed concern that the current level of contingency funding is insufficient to complete the project component and additional contingency of $8.1M is required.

(4) Project Implementation Support

This component is ongoing for project and program management support by the DOI and USACE, hydrological stream gage monitoring and wildlife monitoring, and testing of S-356. The Combined Operational Plan (COP) will be an integrated operational plan for WCA-3A, ENP and the South Dade Conveyance System that includes the completed modifications of the Central and South Florida (C&SF) Project as encompassed by the MWD project and the adjacent Canal 111 South Dade Project. A Public Scoping Workshop of COP was held in June 2011. A full array of alternatives based on input received under the COP scoping process will be analyzed. FY 2012 activities will focus on completing the necessary NEPA documents for developing the operating plan for the combined Modified Water Deliveries and C-111 Projects.

Est. Cost: $ 417,156,385

Project Schedule:

1990	Start
2013	Finish

Detailed Project Budget Information (rounded):

DOI	$279,718,000
USACE	$77,493,000
SFWMD	$156,000
Total	**$357,211,000**

Hyperlinks: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

Contact: Donna George, Project Manager, Programs and Project Management Division, USACE
Donna.S.George@usace.army.mil

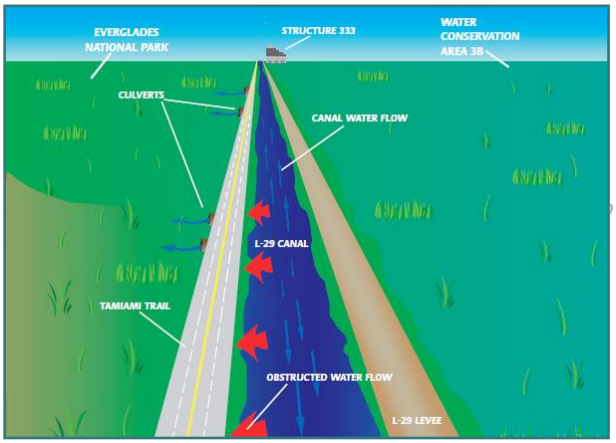
Dave Sikkema, Project Manager, ENP
Dave_Sikkema@nps.gov

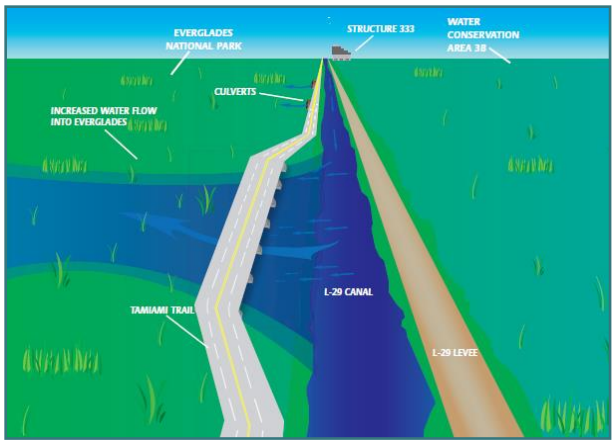
Lisa Cannon, Lead, SFWMD
lcannon@sfwmd.gov

Source: Current status information and expenditure calculation was provided by the project managers. Cost estimate information is updated to reflect current budget approved and agreed to between USACE and DOI.

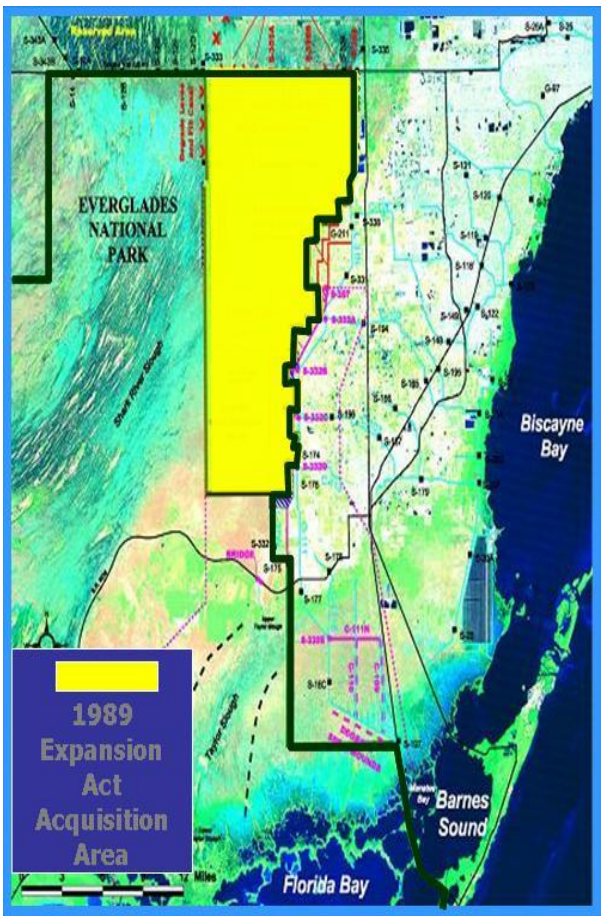
Additional Information:

TAMIAMI TRAIL MODIFICATIONS

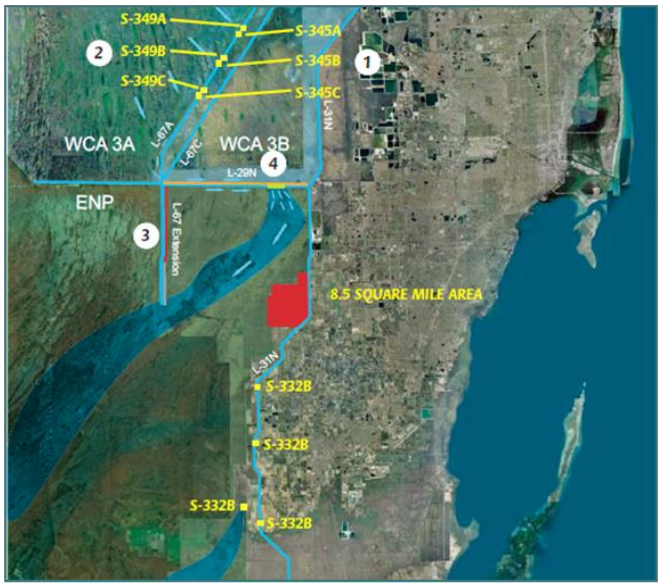




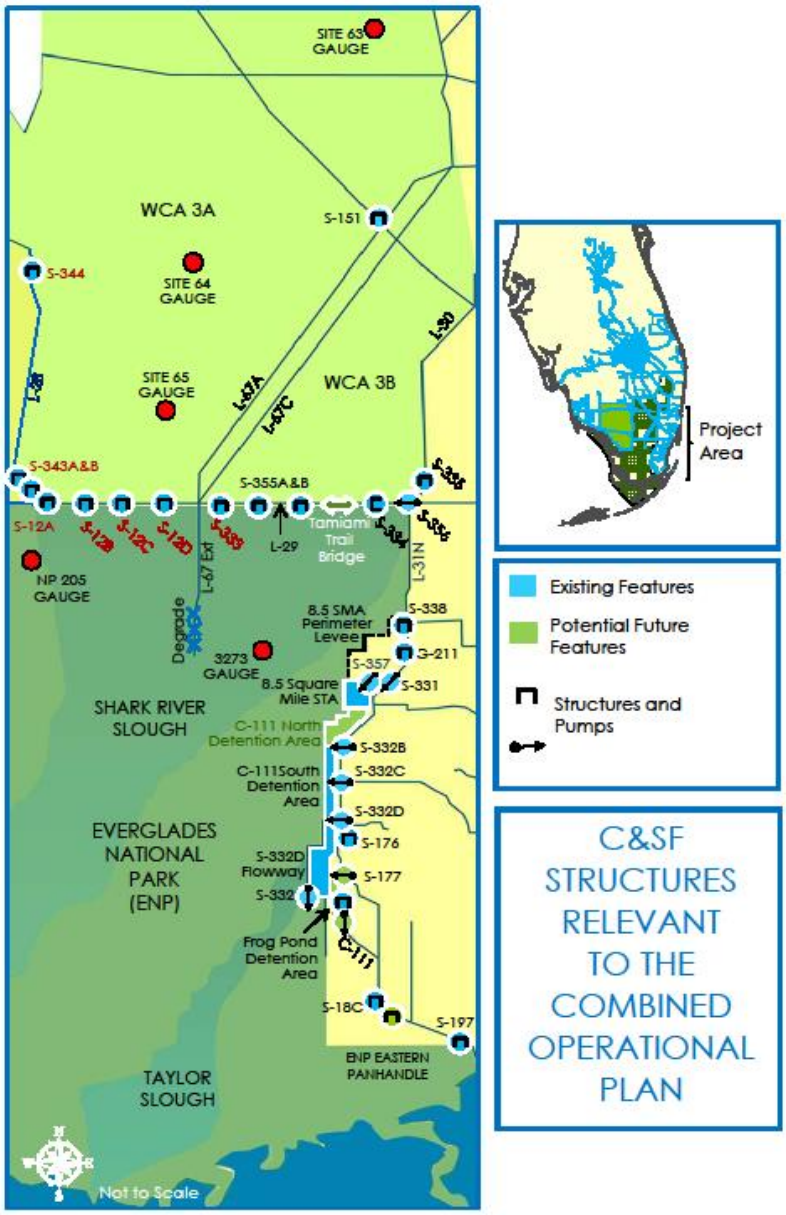
Current Condition of Tamiami Trail



Water Flow When Bridge is Completed



Southeast Florida – Everglades and Adjacent Urban Areas


SITE 63 GAUGE
WCA 3A
S-151
S-344
SITE 64 GAUGE
L-30
SITE 65 GAUGE
L-67A
L-67C
WCA 3B
L-28
S-343A&B
S-355A&B
S-12A
S-12B
S-12C
S-12D
S-333
L-29
Tamiami Trail Bridge
S-355B
S-355A
L-31N
L-67 Ext
NP 205 GAUGE
Degrade
8.5 SMA Perimeter Levee
S-338
S-211
3273 GAUGE
S-357
S-331
8.5 Square Mile STA
SHARK RIVER SLOUGH
C-111 North Detention Area
S-332B
C-111South Detention Area
S-332C
S-332D
EVERGLADES NATIONAL PARK (ENP)
S-176
S-332D Flowway
S-177
S-332
Frog Pond Detention Area
C-111
S-18C
S-197
ENP EASTERN PANHANDLE
TAYLOR SLOUGH
Not to Scale
Project Area
Existing Features
Potential Future Features
Structures and Pumps
C&SF STRUCTURES RELEVANT TO THE COMBINED OPERATIONAL PLAN

Project Name: **E&SF: Critical Projects Tamiami Trail Culverts**
Additional Water Conveyance Structures under Tamiami Trail
Project ID: 1308 *(formerly 1400)*
Lead Agency: USACE / SFWMD
Authority: WRDA 1996; WRDA 2007 *(modified Critical Projects cap)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 16 miles of impediments removed

Project History: WRDA 1996 authorizes the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the south Florida ecosystem. The SFEER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study of and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval (WRDA 1996). In the Restudy, this project was anticipated to be one of the top five funded under the funding cap restrictions of WRDA 1996, later revised under WRDA 2007, that limit spending.

Current Project Synopsis: In 1928, the Tamiami Trail (roadway) was completed between Miami and Naples. To obtain fill material for the roadbed, a borrow canal was excavated on the northern side of the road. The long term effect has been to intercept existing north-south flowways to the Big Cypress National Preserve, and channelize flows through just a few bridges/culverts. Wetland habitats receive too much or too little fresh water and normal seasonal hydropatterns are interrupted.

This project will increase the number of north-south flowways by adding conveyance structures (77 culverts under Tamiami Trail (U.S. 41) in 30 locations) restoring natural hydropatterns impacting sheetflow of surface water within the watersheds of the Ten Thousand Islands National Wildlife Refuge & Aquatic Preserve, Southern Golden Gate Estates, Fakahatchee Strand State Preserve, Big Cypress National Preserve and Everglades National Park enhancing biological restoration of the region. This directly supports objectives for other south Florida projects such as the L-28 Modification and the Picayune Strand Restoration.

There are *two* phases.

Phase I involves planning, project design and construction of 62 culverts and associated improvements of hydrologic sheetflow under 16 miles of Tamiami Trail (US 41) and 15 culverts under the Loop Road between SR 92 and the Collier/Miami-Dade County line. Phase I will not increase the flows, but redistribute them from the northern side of the road to the southern side. Other components include specific plug sites with simple large earthen ditch blocks that could serve as driveway access across the canal. Some existing driveways have pipe culverts that need either to be removed or replaced if the culvert size is found to be substandard. These additional culverts under Tamiami Trail along with a more diffuse flowway beneath artificial barriers will provide a more natural hydropattern both north and south of the highway, enhancing biological restoration in the region.

Phase II involves resurfacing of the roadway of the Tamiami Trail pursuant to construction of the culverts.

During planning, the scope of the project was modified due to budget and time constraints. Cost estimates for completion of the remainder of the project, in combination with the other eight Critical Projects, exceeded the USACE appropriation cap of $95 million (WRDA 2000). The SFWMD completed the acquisition of land and has been constructing the project according to the *revised* plan. Per the revised plan and scope of work: The Tamiami Trail Culvert -- Phase I project currently extends from the intersection of US 41 (Tamiami Trail) and CR 92 and extends from this intersection eastward along the Tamiami Trail corridor to the intersection of US 41 and SR 29, a distance of approximately 16 miles.

Construction of the western portion of Phase I, located west of State Road 92 was begun in June 2004 and completed in March 2006 encompassing the placement of 9 culverts.

Current Status: The western portion of Phase I has been incorporated as a component of the CERP Picayune Strand Restoration project, authorized for construction by Congress as part of WRDA 2007, making this portion of the culvert project eligible for federal cost-share.

Current Status: No work on this project was accomplished during the reporting period.

Est. Cost: $25,584,000 for Phase I

Project Schedule:

1998	Start
2004	Revisions on design
TBD	Finish

Detailed Project Budget Information (rounded):

Tamiami Trail	**Expenditures Thru FY 2009**
USACE	$2,622,128
SFWMD	$952,841
Total	**$3,574,969**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_30_sgge.aspx (*Picayune Strand)*

http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_Critical.htm

Contact: Debby Scerno, Program Management, Everglades Division, USACE
Deborah.H.Scerno@usace.army.mil

Janet Starnes, Principle Project Manager, SFWMD
jstarnes@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).*

Project Name: **Tamiami Trail Modifications: Next Steps Project**
Project ID: 1309
Lead Agency: DOI/NPS
Authority: H.R. 1105: Omnibus Appropriations Act of 2009 (P.L. 111-008, dated March 11, 2009)
Funding Source: DOI

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

- 5.5 miles of bridging between S-333 and S-334 (10.7-mile section of Tamiami Trail)
- Elevation of the remaining 10.7 mile roadway to allow L-29 Canal stages to be raised to as high as the 9.7' design high water (7.5' is the existing constraint and the MWD project should allow for a maximum stage of 8.5')
- Completion of an EIS and ROD that authorized the increased bridging and road raising needed to restore 107,600 acres of wetlands in NESRS and ultimately reconnect WCA-3 to Everglades National Park
- The EIS includes the justification for acquisition of the remaining commercial properties in NESRS. This $25 million was approved by Congress in 2012
- Authorization by Congress in 2012 to construct the "Next Steps" Project

Project Synopsis: The 2009 Omnibus Appropriations Act (March 10, 2009) directed the NPS to evaluate bridging alternatives to the Tamiami Trail (10.7-mile eastern section), beyond what was authorized by the 2008 Limited Reevaluation Report (Modified Water Deliveries Project), in order to "restore more natural water flow to Everglades National Park (ENP) and Florida Bay and for the purpose of restoring habitat within the Park and the ecological connectivity between the Park and the Water Conservation Areas." The 2009 Omnibus Act also directed the Army Corps of Engineers to immediately construct the 2008 LRR plan—a 1-mile mile bridge and the remaining road elevated to allow stages in the L-29 Canal to be raised from the current 7.5 foot elevation to as much as 8.5 feet. Passage of the 2009 Omnibus Act was an acknowledgement that construction of the 1-mile bridge with 1-foot road elevation was only the first step, albeit an important one, to restoration of flows and ecological conditions in ENP.

Current Project Synopsis: The Final EIS was completed with publication of the Notice of Availability on December 20, 2010. The Record of Decision was published in the Federal Register on April 26, 2011. The Key finding in the FEIS/ROD is that an additional 5.5 miles of bridging and raising the balance of the 10.7-mile highway corridor are necessary to achieve the 2009 Omnibus Appropriations Act's restoration objectives. On December 23, 2011, Congress passed the Consolidated Appropriations Act of 2012 (Public Law 112-74) which authorized construction of the "Next Steps" project. In addition, with the Act's passage, Congress appropriated $25 million for land acquisition in Everglades National Park. Due to this $25 million appropriation, the total cost for implementation of the Recommended Plan (Alternative 6E) is reduced from $310 to $285 million. This project cost is reported in Fiscal Year 2010 dollars and does not include any potential escalation costs that could be related to changes in inflation beyond FY 2010.

Current Status: At this time there are no appropriations to construct this project. Everglades National Park has contracted for appraisals of the remaining commercial properties in the Expansion Area in preparation for the acquisition process which should begin in August 2012. The park will complete the radio tower supplemental assessment by June 2012, prior to acquisition as stipulated in the "Next Steps" and 1991 Land Protection Plan NEPA actions.

Est. Cost: $ 285, 000,000

Project Schedule:

2011	ROD completed
2012	Congressional authorization

Project Budget Information (rounded)**:**

Bridge and Roadway Construction	**$285 million (not appropriated)**	**DOI/NPS**
Project Planning NEPA (EIS and ROD)	**$0.35 million**	**DOI/NPS**
Project Support (Corps)	**$1.0 million**	**DOI/NPS**

Hyperlink: http://www.nps.gov/ever/naturescience/nessrestoration.htm

Contact: Bruce Boler, Everglades National Park, Department of the Interior
Bruce_Boler@nps.gov

Source: "Tamiami Trail Modifications**:** Next Steps" EIS and more recent actions provided by Bruce Boler, project manager.

Project Name: C&SF: CERP Southern CREW Project Addition/ Imperial River Flowway
Project ID: 1310
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary 1-A.3 **Secondary:** 2-A.3

Measurable Output(s): 4,090 acres of restored wetlands *(proposed footprint)*

April 1999 (Restudy) Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included an (OPE) under Programmatic Authority for the acquisition and restoration of 4,670 acres of land, replacement of the Imperial Bonita Estates Bridge on the Imperial River, and replacement of the Kehl Canal Weir in southern Lee County, adjacent to Corkscrew Sanctuary; clearing and snagging on Imperial River, Estero River and Halfway Creek, reconnection of Spring Creek and Halfway Creek under U.S. I-75, and replacement of the Imperial Bonita Estates bridge.

WRDA 2000 approved this project as part of the Plan (CERP), but with the limitation that the Southern Corkscrew regional ecosystem "watershed addition should be accomplished outside of the scope of the Plan".

Current Project Synopsis: The same as the Restudy.

Current Status: Portions of this project are currently being pursued under a different program. Please see Project ID 1303.

Est. Cost: $53,533,000

Project Schedule: The CERP project has not begun.

Detailed Project Budget Information (rounded):

Insert project name	Expenditures Thru FY 2010
USACE	$0
SFWMD	$0
Total	**$0**

Contact: Karen Tippett, Program Execution Branch, Everglades Division, USACE
Karen.S.Tippett@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **Long-Term Plan for Achieving Everglades Water Quality Goals**
Project ID: 1520 (Formerly project ID 1723)
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act (EFA)

Strategic Plan Goal(s) Addressed: 1.B.1 **Secondary**: 1.A.3

Measurable Output(s): 45,000 acres of Stormwater Treatment Areas (STAs); additional 11,500 acres to be fully operational in June 2012. Through April 2011, Best Management Practices (BMPs) and STAs have retained more than 3,800 metric tons of phosphorus that would have otherwise entered the Everglades.

Project Synopsis: The Long-Term Plan was developed to achieve compliance with water quality standards in the Everglades Protection Area, including the phosphorus criterion established in Rule 62-302.540. The Long-Term Plan includes expanding the current STA footprints, structural and vegetative enhancements, operations and maintenance of the STAs, STA optimization research, monitoring, and source controls programs. The Long-Term Plan is revised as appropriate, when new information becomes available. FDEP must approve all revisions to the Long-Term Plan. Cost estimates are updated after revisions are approved by the FDEP. The original October 27, 2003 cost estimate for implementation of the Long-Term Plan was $444 million. The current cost estimates reflect all approved revisions to the Long-Term Plan. The Long-Term Plan addresses the initial 13-year phase (FY 2004-2016, inclusive) defined in the 2003 amendment to the EFA.

Current Status: To date, nine revisions to the plan have been approved by the FDEP. All revisions have been developed through collective input from the state, stakeholders, and the public, and will aid in the state's comprehensive efforts to meet the Everglades water quality goals.
*** Cost (Estimate):** Total for Long-Term Plan: $1.2 billion (See Project IFP sheets for details on additional Long-Term Plan costs included here.)

*** Detailed Project Budget Information**

	Actual FY 2003-11	Project Oct 2011 Thru June 2012
State	**$704,000,000** [(1)]	**$60,450,000**
Total	**$704,000,000**	**$60,450,000**

[(1)]Cost data reflects actual inception-to-date expenditures through September 30, 2011. These costs include Acme B, Compartments B&C, and other enhancements of the STAs implemented under the Long-Term Plan. For details on Compartment B&C expansions see the Project IFP sheet 1514A.
Project Development includes Design Phase (contracts and staff costs) costs. Implementation includes all Construction (contracts and contingency) and Construction Management (contracts and staff) costs.
See project IFP sheets for additional Long-Term Plan costs.

Hyperlink:
http://my.sfwmd.gov/portal/page/portal/xweb%20protecting%20and%20restoring/water%20quality%20stormwater%20treatment%20areas
Contact: Lawrence Gerry, SFWMD

Project Name: **Biscayne Bay Feasibility Study**
Project ID: 1401
Lead Agency: USACE / Miami-Dade County
Authority: WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Current Project Synopsis: Biscayne Bay is a shallow, well-mixed estuary located along the southeastern coast of Florida. It includes most of Biscayne National Park, and adjacent lands provide fresh surface- or groundwater to the Bay. The Central and Southern Florida (C&SF) Project impacted the timing, distribution and amount of freshwater reaching the bay affecting natural salinity patterns and ecology.

The Comprehensive Everglades Restoration Plan (CERP) is modifying the C&SF project to improve flows needed for the environment, including Biscayne Bay. Proposed modifications to this connected hydrologic system may also affect Biscayne Bay. Although not part of CERP, this study will allow Miami-Dade County resource managers to assess potential impacts and determine if further studies are needed. Miami-Dade County is sharing the cost.

Current Status: Work on this project has been suspended.

Est. Cost: $ 5,900,000

Project Schedule:

1996	Start
TBD	Finish

Detailed Project Budget Information (rounded):

Biscayne Bay Feasibility Study	**Expenditures Thru FY 2010**
USACE - Reconnaisance Phase (100% Federal)	$470,000
USACE - Feasibility Phase	$1,085,459
Miami-Dade Co. - Feasibility Phase	$556,620
Total	**$2,112,079**

Reconnaissance Study (100% Federal, not included in Estimated Cost or Expenditures): $470,000

Hyperlink: http://www.saj.usace.army.mil/rwp/index.html

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Current status information was provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Broward Co. Secondary Canal System** (CC)
Project ID: 1403 (CERP Project WBS # 24)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Water control structures, pumps, and canal improvements

April 1999 (Restudy) Project Synopsis: Includes a series of water control structures, pumps, and canal improvements located in the C-9, C-12 and C-13 Canal basins and east basin of the North New River Canal in central and southern Broward County. Excess water in the basins will be pumped into the coastal canal systems to maintain canal stages at optimum levels. To maintain these stages, water will be drawn from other sources such as Site 1 Impoundment and North Lake Belt Storage Area, Lake Okeechobee and the Water Conservation Area when basin water is insufficient.

Current Project Synopsis: The purpose of this feature is to reduce water shortages by recharging local well fields and stabilizing the saltwater interface.

Current Status: This project is planned for the future.

Est. Cost: $ 17,777,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Broward Co. Secondary Canal System	**Expenditures Thru FY 2010**
USACE	$19,882
SFWMD	$42,186
Total	**$62,068**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_24_broward_canal.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP Loxahatchee National Wildlife Refuge Internal Canal Structures** (KK)
Project ID: 1408 (CERP Project WBS # 14)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority <$25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Water control structures

April 1999 (Restudy) Project Synopsis: Two water control structures in the northern ends of the perimeter canals encircling the Loxahatchee National Wildlife Refuge (Water Conservation Area 1) located in Palm Beach County.

Current Project Synopsis: The purpose of this feature is to improve the timing and location of water depths within the Loxahatchee National Wildlife Refuge. It is assumed that these structures will remain closed except to pass Stormwater Treatment Area 1 East and Stormwater Treatment Area 1 West outflows and water supply deliveries to the coastal canals.

WRDA 2000 specified that this project was approved as part of the Plan with a limitation that the Federal share for land acquisition to enhance existing wetland systems along the Loxahatchee Wildlife Refuge, including the Strazzulla tract, should be funded through the budget of the Department of the Interior (DOI).

Current Status: This project is planned for the future.

Est. Cost: $ 10,323,000

Project Schedule:
TBD

Detailed Project Budget Information (rounded):

Loxahatchee NWR-ICS	**Expenditures Thru FY 2010**
USACE	$49,426
SFWMD	$0
Total	**$49,426**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_14_loxahatchee.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Seminole Big Cypress Reservation Water Conservation Plan** (OPE)
Project Name: 1409 (CERP Project WBS # 96)
Lead Agency: USACE / Seminole Tribe
Authority: Not authorized.
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other supports 3-A.4 and 3-B.1

Measurable Output(s): Plan to reduce phosphorus level.

April 1999 Project Synopsis: Legislative funding limits of the Critical Projects program (see E&SF Critical Projects sheet) prevented inclusion of the 'east' portion and had only allowed only the 'west' portion of this project to be nominated as a Critical Project. With uncertainty around funding the remaining 'east' portion, the "combined" project was recommended as an OPE in the CERP. The Restudy included construction of water control, management, and treatment facilities to improve the quality of water and runoff from phosphorus generating agricultural sources within the Reservation.

Current Project Synopsis: The proposed comprehensive watershed management system is designed to achieve environmental restoration on the Seminole Big Cypress Reservation located in Hendry County, north of the Big Cypress Preserve, and the Everglades Protection Area. The overall plan has been divided into east and west portions, each of which can provide independent benefits. In addition, the project will reduce flood damage and promote water conservation. The removal of pollutants will be achieved using natural treatment processes in pretreatment cells and water storage areas. A phosphorus level of 50 ppb is the goal; also the level to be achieved by STAs in the Everglades Construction Project.

Should design performance levels for phosphorus become more stringent, this project has sufficient flexibility to incorporate additional alternative technology.

Current Status: The Project Cooperation Agreement (PCA) between the SFWMD and the Corps was executed in 2005. This project is planned for the future.

Est. Cost: $ 102,344,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Seminole Big Cypress Reservation WCP	**Expenditures Thru FY 2010**
USACE	$0
Seminole Tribe	$0
Total	**$0**

Hyperlink: http://www.saj.usace.army.mil/projects/proj6.htm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Craig Tepper, Project Manager, Seminole Tribe of Florida
ctepper@semtribe.com

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Current status is summarized from the PMP (2005).

Project Name: **C&SF: CERP C-43 Aquifer Storage and Recovery Pilot**
F/k/a *Caloosahatchee (C-43) River ASR Pilot*
Project ID: 1411 **(**CERP Project WBS # 33)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(pilot project);* WRDA 2007 *(modified cost)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A.2

Measurable Output(s): Pilot *(output is temporary)*

April 1999 Project Synopsis: Included Aquifer Storage and Recovery (ASR) wells to maximize the benefits associated with the Caloosahatchee River Storage Reservoir. A pilot project for these wells is necessary to evaluate and reduce the technical and regulatory uncertainties of implementing the full-scale Caloosahatchee ASR Project. The pilot will identify the most suitable sites for the aquifer storage and recovery wells near the reservoir and determine the optimum configuration of those wells. It will provide information regarding the characteristics of the aquifer system within the Caloosahatchee River Basin as well as determine the hydro-geological and geotechnical characteristics of the upper Floridan Aquifer. The pilot will also determine the specific water quality characteristics of waters to be injected and the water quality characteristics and the amount of water to be recovered from the receiving aquifer.

Current Project Synopsis: This pilot was initially sited just west of LaBelle, along the Caloosahatchee River, on SFWMD-owned land in western Hendry County. The pilot includes the construction of one five-million gallons per day ASR well and associated monitoring wells and surface facilities. The full-scale project includes the construction of up to 220 mgd of ASR capacity (approximately 44 ASR wells) and a surface water reservoir (impoundment). The full-scale system will store excess water from the Caloosahatchee River Basin when available (typically in the wet season) and release water into the Caloosahatchee River during dry periods.

The project was refined to include information regarding the hydro-geological and geotechnical characteristics of the Hawthorn Aquifer. A Pilot Project Design Report (PPDR) was completed in September 2004 and an exploratory well drilled. However, geological formations including a sand aquifer at the site were not appropriate for open-hole high-capacity ASR wells. The well has been plugged.

WRDA 2007 amended section 601 (b) (2) (B) of WRDA 2000 and increased the authorization for pilot implementation to $8.2 Million (previously $6.0 M).

Current Status: Work has been suspended and this project is currently on hold

Est. Cost: $ 6,000,000

Project Schedule:

2002	Start of feasibility work
2013	Construction completed

Detailed Project Budget Information (rounded):

C-43 ASR Pilot	Expenditures Thru FY 2010
USACE	$1,206,431
SFWMD	$2,048,879
Total	$3,255,310

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_33_cal_river_c43_asr_pilot.cfm

Contact: Wiener Cadet, Project Manager, Everglades Division, USACE
Wiener.Cadet @usace.army.mil

Bob Verrastro, Lead Hydrogeologist, SFWMD
bverras@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

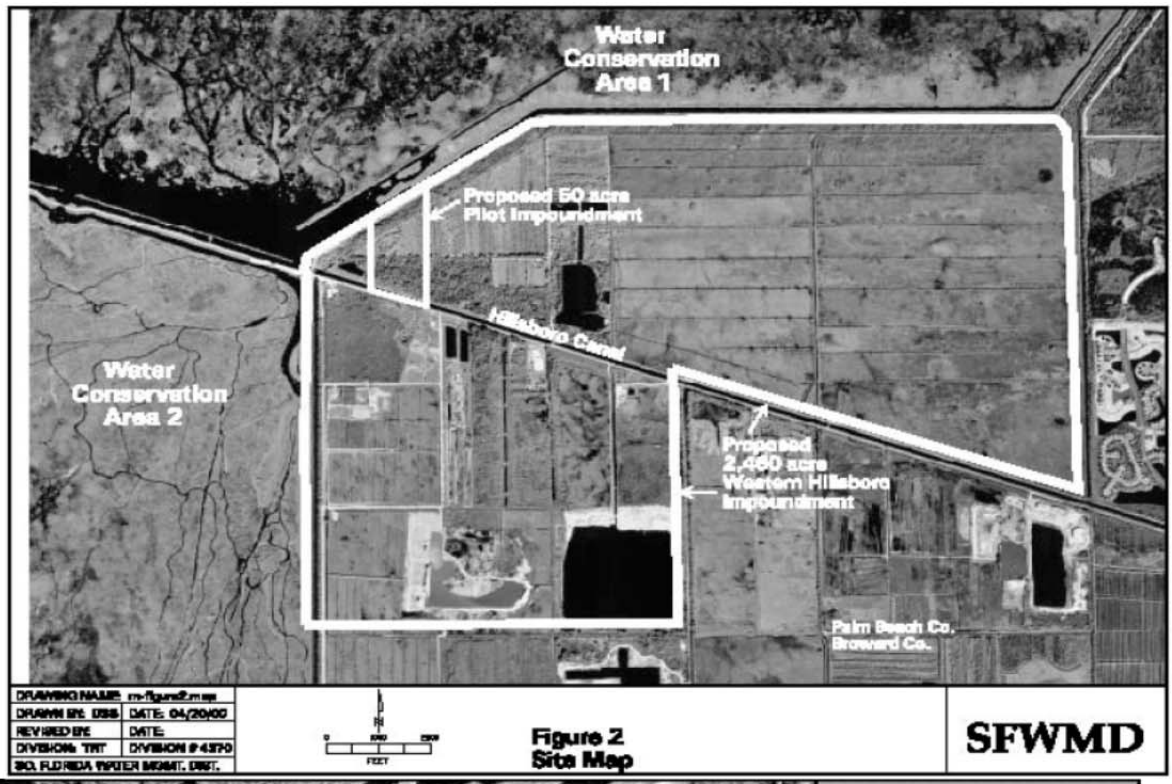
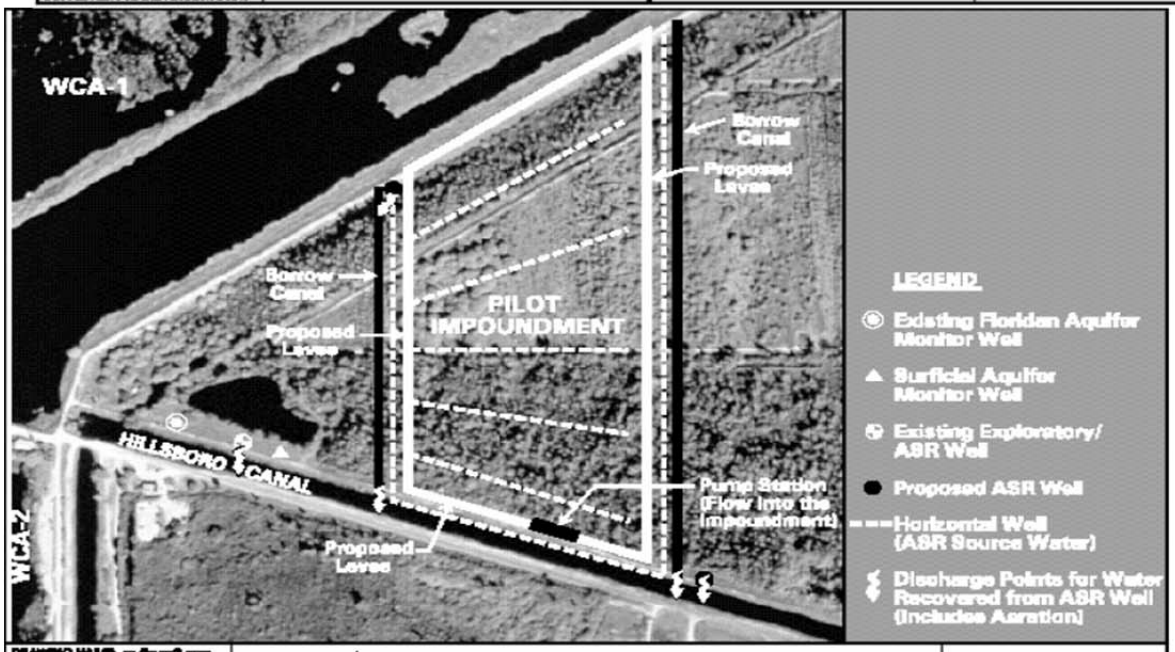


Figure 2
Site Map

SFWMD



1" = Approximately 500 ft.

Figure 3
Project Layout

SFWMD

Project Name: **C&SF: CERP WCA 2B Flows to ENP (*Everglades National Park*) (YY)**
Project ID: 1412 (CERP Project WBS # 48)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3 and 1=B.1

Measurable Output(s): Water control structures, canals, pumps and canal improvements

April 1999 (Restudy) Project Synopsis: "Diverting Water Conservation Area 2 and 3 Flows to Central Lake Belt", originally included two features (YY) and (ZZ) in the Yellow Book. "This feature includes pumps, water control structures, canals, and conveyance improvements located adjacent to Water Conservation Areas 2 and 3 in Broward County." The final size and configuration of the facilities will be determined through the Water Preserve Areas Feasibility Study. "The purpose of this feature is to attenuate high stages in WCA 2 and 3 and transport this excess water to the Central Lake Belt Storage Area where it will be stored to meet downstream demands in Shark River Slough, Water Conservation Area 3B or Biscayne Bay. "

Current Project Synopsis: ZZ has since been combined into the DECOMP project (WBS #12). The remaining (YY) component will store excess water from WCA 2 in the Central Lake Belt Storage Area through control structures and conveyance features and supplement environmental water supply deliveries to: (1) Northeast Shark River Slough, (2) WCA 3B, and (3) to Biscayne Bay, in that order, if available.

Current Status: This project has not yet begun.

Est. Cost: $ 109,554,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

WCA 2B Flows to ENP	**Expenditures Thru FY 2010**
USACE	$284,370
SFWMD	$0
Total	**$284,370**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_48_wca_2b.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP L-31N (L-30) Seepage Management Pilot**
F/k/a *L-31N Seepage Management Pilot*
Project ID: 1416 (CERP Project WBS # 36)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(pilot project)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: Other – supports 1-A.2 and 2-A.3

Measurable Output(s): Pilot *(output is temporary)*

April 1999 (Restudy) Project Synopsis: The purpose of the L-31N Levee Improvements feature is to reduce levee seepage flow across L-31N adjacent to Everglades National Park (ENP) via a levee cutoff wall. Additionally, the feature was designed to reduce groundwater flows during the wet season by capturing groundwater flows with a series of groundwater wells adjacent to L-31N, then back-pumping those flows to ENP. The pilot project for this feature is necessary to determine the appropriate technology to best control seepage from ENP. The pilot will also provide necessary information to determine the appropriate amount of wet season groundwater flow to return that will minimize potential impacts to Miami-Dade County's West Well field and groundwater flows to Biscayne Bay.

Current Project Synopsis: After further study of the L-31N site, it was determined that a seepage management feature at this location might be rendered obsolete with implementation of the full-scale ENP Seepage Management project. The USACE Jacksonville District proposed further study for a feature located along a portion of the L-30 levee, north of U.S. Highway 41, in Miami-Dade County, Florida. The change in study area was endorsed by the Quality Review Board (October 2005). As a follow up, the Jacksonville District requested official approval to prepare a Pilot Project Design Report (PPDR) for the L-30 site, from the USACE South Atlantic Division (SAD).

The L-31N (L-30) Seepage Management Pilot Project will help resolve critical uncertainties associated with seepage management. These include the characterization of the Biscayne Aquifer hydrodynamics, constructability in south Florida geology, reliability of materials and technologies, implementability of a seasonally flexible operating system, appropriateness of monitoring to evaluate effects on seepage, and cost and time requirements necessary for implementation. The pilot will also help answer questions on overall effectiveness of seepage management technologies. The recommended plan will test structural seepage reduction technologies and ability to seasonally manage seepage flows through pumping operations with the use of extraction and injection wells. Field tests, seepage reports and historical data independently showed that this is one of the most transmissive parts of the Biscayne Aquifer.

Current Status: A detailed monitoring plan has been developed to determine the effectiveness of the seepage management system. In December 2008, intermediate plans and specifications were reviewed by the SFWMD. Independent Technical Review and public and agency review of the draft Pilot Project Design Report (PPDR) were completed by January of 2009. Following Independent External Peer Review in March, the PPDR was approved by the Assistant Secretary of the Army for Civil Works in November 2009. Monitoring will be completed in 2012 at which time a Technical Data Report will be released with the baseline monitoring findings.

Est. Cost: $ 17,146,000

Project Schedule:

2012 Baseline groundwater monitoring complete

Detailed Project Budget Information (rounded):

L-31N (L-30) Seepage Management Pilot	Expenditures Thru Quarter 2 of FY 2012
USACE	$2,586,122
SFWMD	$1,430,515
Total	$4,016,637

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_36_l31n_seepage.cfm

Contact: Michael Collis, Project Manager, Everglades Division, USACE
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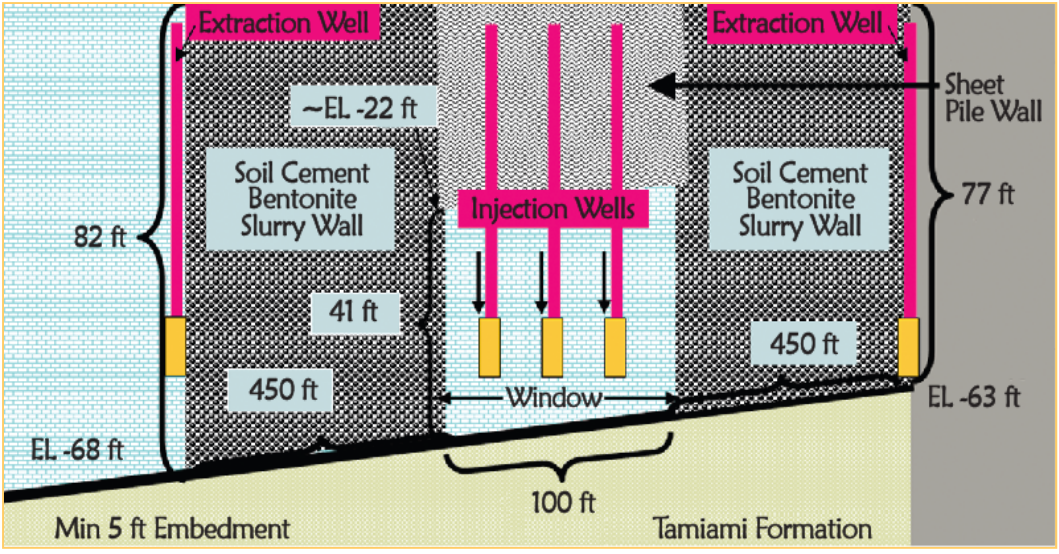
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Actual expenditures include all federal expenditures through FY11 and sponsor verified and recorded in kind credit through 4th quarter FY11. Schedule is updated based on the approved *Integrated Delivery Schedule Through 2020*.

Additional Information: *(see next page)*

UNDER GROUND VIEW



Project Name: **C&SF: CERP Lake Belt In-Ground Reservoir Technology Pilot**
Project ID: 1417 (CERP Project WBS # 35)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(pilot project)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A.2

Measurable Output(s): Pilot *(output is temporary)*

April 1999 (Restudy) Project Synopsis: The initial design of these reservoirs includes subterranean seepage barriers around their perimeter in order to enable drawdown during dry periods, prevent seepage losses, and prevent water quality impacts due to transmissivity of the aquifer in these areas. The pilot is required to determine construction technologies, storage efficiencies, impacts on local hydrology, and water quality effects.

Current Project Synopsis: Several features recommend the use of areas where lime rock mining will have occurred. The pilot project is required to determine construction technologies, storage efficiencies, impacts on local hydrology, and water quality effects. Water quality assessments will include a determination as to whether the in-ground reservoirs and seepage barriers will allow for storage of untreated waters without concern for groundwater contamination. This project adheres to the original concept outlined in the Restudy.

Current Status: The Project Management Plan is completed. The project is planned for the future.

Est. Cost: $ 29,715,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Lake Belt In-Ground Res Pilot	Expenditures Thru FY 2009
USACE	$1,387,423
SFWMD	$531,548
Total	$1,918,971

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_35_lake_belt_pilot.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery Pilot**
Lake Okeechobee ASR Pilot [Kissimmee River ASR (KRASR); Port Mayaca ASR (PMASR)]
Project ID: 1418 (CERP Project WBS # 32)
Lead Agency: USACE / SFWMD
Authority: WRDA 1999; WRDA 2007 *(modified cost)*
As part of the "Hillsboro and Okeechobee Aquifer, Florida" project
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other - supports 1-A.2

Measurable Output(s): Pilot testing *(output is temporary)*

April 1999 Project Synopsis: The pilot project is necessary to identify the most suitable sites for the aquifer storage and recovery (ASR) wells in the vicinity of Lake Okeechobee and to identify the optimum configuration of those wells. Additionally, the pilot will investigate changes to water chemistry resulting from aquifer storage and determine specific water quality characteristics of water to be injected and the water quality characteristics and amount of water recovered from the aquifer. Further information from the pilot project will provide the hydro-geological and geotechnical characteristics of the upper Floridan Aquifer System within the region and the ability of the upper Floridan Aquifer System to maintain injected water for future recovery.

Current Project Synopsis: The initial pilot project consisted of up to five ASR wells, each with an estimated capacity of five million gallons per day (mgd) per well. Three of the ASR wells would be located spatially around Lake Okeechobee to demonstrate ASR performance in geographically different areas. A three-well cluster facility is to be installed to demonstrate how multiple-well ASR systems perform. Monitoring wells and surface facilities are also constructed at each of the systems.

The wells will be used to recharge and recover surface water from the Lake and/or its tributaries. Extensive water quality characterization and pilot treatment testing takes place during the permitting and design phase. Once constructed, the Lake Okeechobee ASR pilot project systems (Kissimmee River and Port Mayaca locations) will be cycle tested to evaluate their ability to achieve assumed water quality and volumetric levels of performance, and recommendations for facility expansion. Well sites are as follows:

Port Mayaca: site includes the construction of three ASR wells and multiple monitoring wells
Kissimmee: site includes the construction of one ASR well and multiple monitoring wells
Moore Haven: site includes the construction of one ASR well and multiple monitoring wells

WRDA 1999 authorized the project described in the Chief's Report for the *Hillsboro and Okeechobee Aquifer Project* for aquifer storage and recovery described in the U. S. Corps of Engineers Central and Southern Florida Water Supply Study, Florida, dated April 1989, and in House Document 369, dated July 30, 1968. This project was refined during the Pilot Project Design Report (PPDR) completed in September 2004.

WRDA 2007 amended WRDA 2000 by adding the "Hillsboro and Okeechobee Aquifer, Florida" project(s) are to be treated "in the Plan", except that operation and maintenance costs of the project shall remain a non-Federal responsibility. WRDA 2007 section 6001 also modified WRDA 1999 and authorized the Secretary to carry out the project for aquifer storage and recovery, Hillsboro and Okeechobee Aquifer (WBS #32 and #34) at a total cost of $42,500,000 combined.

Exploratory wells around Lake Okeechobee obtained preliminary lithologic, geophysical, and hydrogeological data. Results have been incorporated into the PPDR that now includes all three pilot projects [Lake Okeechobee, Hillsboro, and Caloosahatchee River (C-43)].
Installation of this pilot's Kissimmee River ASR facility was completed in 2008. Preliminary operational testing for state and federal regulatory compliance was completed at the end of December 2008.

Current Status: Cycle testing began in 2009 and is continuing through 2012. It is anticipated that the final project Technical Data Report will be completed by 2013.

Est. Cost: $ 35,382,000

Project Schedule:

2001	Start
2009	Cycle testing began
2012	Cycle testing ends

Detailed Project Budget Information (rounded):

LOW ASR	Expenditures Thru FY 2010
USACE	$16,482,218
SFWMD	$4,225,945
Total	**$20,708,163**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_32_lake_o_asr_pilot.cfm

Contact: Wiener Cadet, Project Manager, Programs Project Management Division, USACE
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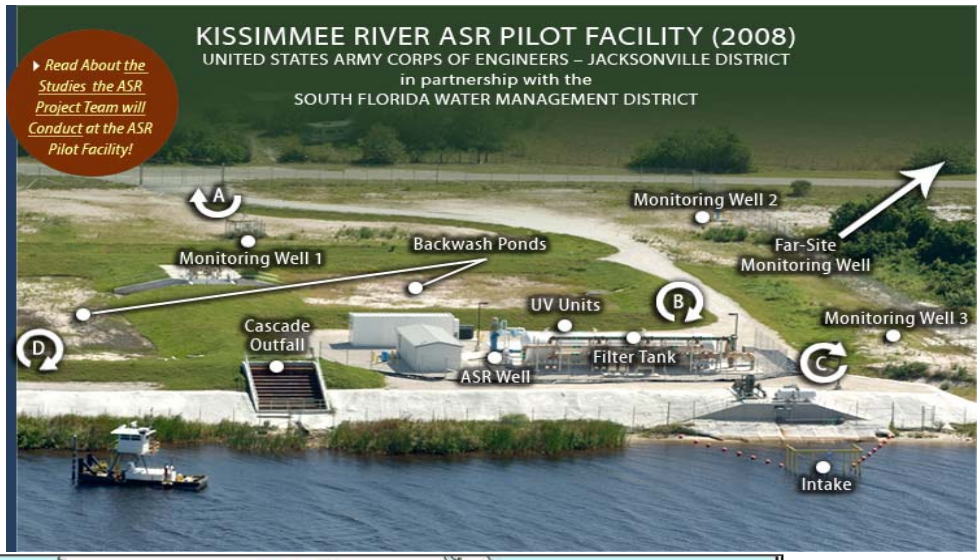
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Current status is provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2010 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2010).

Additional Information: (see next pages)



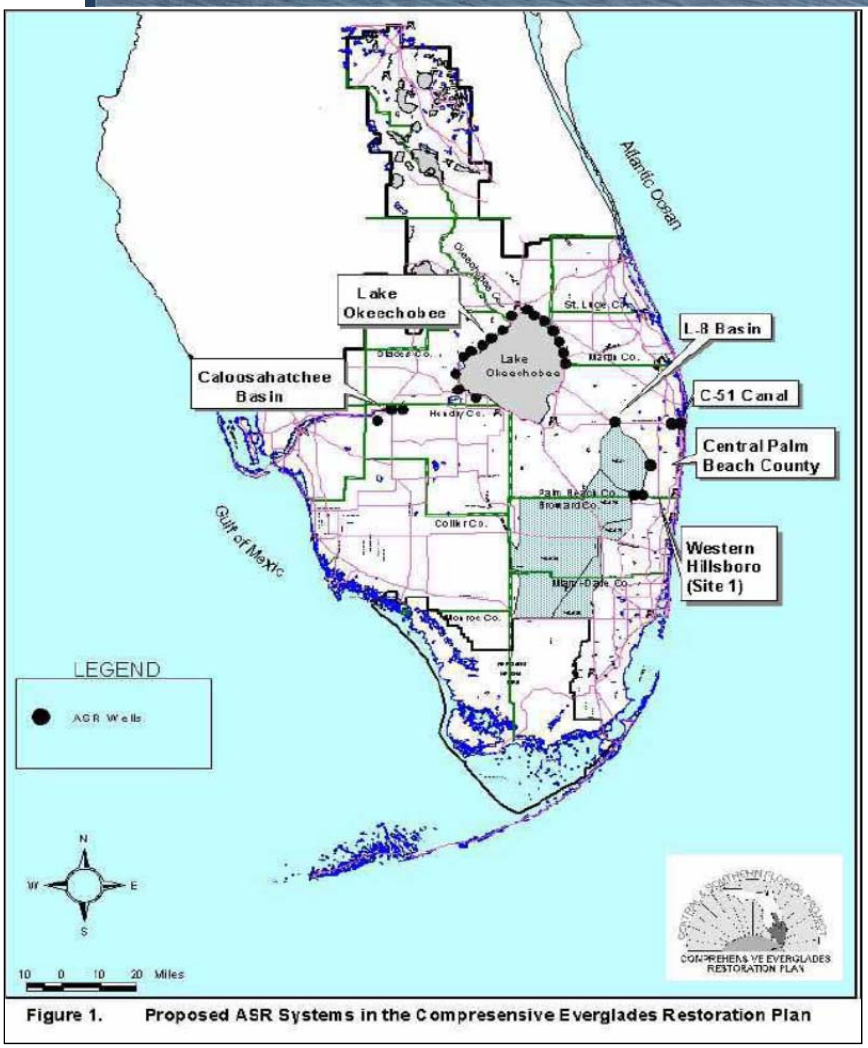


Figure 1. Proposed ASR Systems in the Compresensive Everglades Restoration Plan

Program Name: Infrastructure
Project Name: **C&SF: CERP Lake Okeechobee Regulation Schedule** (F)
Project ID: 1419
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other - supports 1-A.1

Measurable Output(s): Water Management change

April 1999 (Restudy) Project Synopsis: The Lake Okeechobee Regulation Schedule will be modified in order to take advantage of the additional storage facilities identified in the construction features. Two additional zones will be added to the schedule. The first zone will trigger discharges to the north of Lake Okeechobee reservoir and the Everglades Agricultural Area reservoir. The second higher zone will trigger the Lake Okeechobee aquifer storage and recovery facilities to begin injecting water from the Lake. Climate based forecasting will be used to guide management decisions regarding releases to the storage facilities.

It is anticipated that all flood control releases through the C-43 and C-44 Canals will be eliminated with the exception of emergency zone A. Zone A levels are expected to be similar to the levels that occur in the current regulation schedule Run 25, however, the number of times that the Lake is above zone A is expected to be dramatically reduced.

Current Project Synopsis: During the Corps planning process, several alternative plans were reviewed. Currently, regulation schedule revisions are proposed in two phases. The goal of this interim schedule revision is to operate Lake Okeechobee at lower pool elevation while meeting water supply requirements. The second phase studies will be implemented in 2010. This revision will consider the effects of the early CERP projects and the state-expedited projects upon the lake. For both Regulation Schedule revisions, National Environmental Policy Act supplemental Environmental Impact Statements are anticipated.

Est. Cost: TBD as schedule revisions are initiated (C&SF O&M)

Schedule: TBD
Regulation Schedule revisited when appropriate as other facilities come on-line.

Hyperlink:
https://my.sfwmd.gov/portal/page?_pageid=1314,2554645,1314_19738269:1314_19738234&_dad=portal&_schema=PORTAL

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
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Source: Original project descriptions summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999)*.

Project Name: **C&SF: CERP Modify Holey Land Wildlife Management Area Operation Plan** (DD)
Project ID: 1420 (CERP Project WBS # 15)
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Operational changes and water deliveries TBD

April 1999 (Restudy) Project Synopsis: Several operational components were recommended after evaluation on a regional scale using the South Florida Water Management Model, to analyze regional hydrologic effects. More detailed planning will be necessary to develop the optimum modifications to the C&SF project. Costs to implement these features were not estimated. Most measures will be implemented in association with related construction features and it is assumed costs will be borne by the appropriate affected utilities.

Current Project Synopsis: Water deliveries made to Holey Land from the Rotenberger Wildlife Management Area or from Stormwater Treatment Area 3/4 if Rotenberger flows are insufficient. The deliveries are assumed to be of acceptable water quality. Modification to the current operating plan and rules for Holey Land Wildlife Management Area will be made to implement rain-driven operations for this area to improve the timing and location of water depths within this wildlife management area.

Current Status: To be implemented under existing authorizations and address as needed.

Est. Cost: $0 *(no budget)*

Project Schedule: TBD

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_15_modify_holey.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
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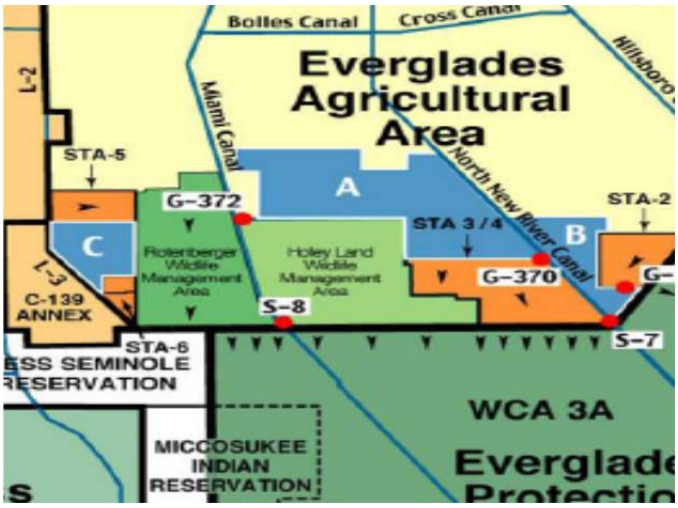
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).*



Project Name: **C&SF: CERP Modify Rotenberger Wildlife Management Area Operation Plan** (EE)
Project ID: 1421 (CERP Project WBS # 16)
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Operational changes and water deliveries TBD

April 1999 (Restudy) Project Synopsis: Several operational components were recommended after evaluation on a regional scale using the South Florida Water Management Model, to analyze regional hydrologic effects. More detailed planning will be necessary to develop the optimum modifications to the C&SF project. Costs to implement these features were not estimated. Most measures will be implemented in association with related construction features and it is assumed costs will be borne by the appropriate affected utilities.

Current Project Synopsis: These new operational rules are intended to improve the timing and location of water depths within the Rotenberger Wildlife Management Area. Modification to the current operating plan for the Rotenberger Wildlife Management Area will be made to implement rain-driven operations for this area as needed. Water deliveries are made to the Rotenberger Area from Stormwater Treatment Area 5.

The water deliveries are assumed to be of acceptable water quality.

Current Status: To be implemented under existing authorizations and address as needed.

Est. Cost: $0 *(no budget)*

Project Schedule: TBD

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_16_modify_rotenberger.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).*

Program Name: Infrastructure
Project Name: **C&SF: CERP Modifications to Southern L-31N and C-111** (OO)
[F/k/a *Operational Modification to Southern Portion of L-31N and C-111* (OO)]
Project ID: 1422
Lead Agency: SFWMD / USACE
Authority: No Congressional action is required
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 3-B.1

Measurable Output(s): Modified operations

April 1999 (Restudy) Synopsis: Modifications to the operations of the C-111 project, currently under construction, will be made to the southern portion of L-31N Borrow Canal and C-111. These operational modifications will be made to improve deliveries to Everglades National Park and decrease flood risk of adjacent agricultural areas in the Lower East Coast Service Area.

Current Status: The first part of the operational changes are being implemented in conjunction with the Combined Structural and Operational Plan (CSOP) analysis component associated with the C-111 (South Dade) and Modified Water Deliveries to Everglades National Park projects (MWD).

The balance of changes will be implemented in coordination with other CERP implementation.

Est. Cost: $ 0 budget

Schedule: *Implement as part of C-111 (South Dade) project (Task Force ID #1300).*

Hyperlink:
http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_C111.htm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).*

Project Name: **C&SF: CERP Hillsboro Aquifer Storage and Recovery Pilot**
(A/k/a *Hillsboro ASR Pilot)*
Project ID: 1423 (CERP Project WBS # 34)
Lead Agency: USACE / SFWMD
Authority: WRDA 1999; WRDA 2007 *(modified cost)*
As part of the "Hillsboro and Okeechobee Aquifer, Florida" project
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): Pilot *(output is temporary)*

April 1999 (Restudy) Project Synopsis: The Site 1 above-ground impoundment is proposed to be operated in conjunction with multiple aquifer storage and recovery (ASR) wells in order to maximize the benefits of the reservoir. An ASR pilot will include the construction of a 5- million gallon per day ASR well. The pilot will determine the most suitable sites for the aquifer storage and recovery wells near the reservoir. In addition, identification of the hydro-geological and geotechnical characteristics of the soils and aquifer, the specific water quality characteristics of water within the aquifer, and the quality of water injected and recovered from the aquifer will be determined. Using the pilot project data, the ASR Regional Study team will then determine the optimum configuration and operation of the ASR wells.

Current Project Synopsis: WRDA 1999 authorized the project described in the Chief's Report for the "Hillsboro and Okeechobee Aquifer, Florida" project for aquifer storage and recovery described in the U.S. Corps of Engineers Central and Southern Florida Water Supply Study, Florida, dated April 1989, and in House Document 369, dated July 30, 1968. This project was refined during the Pilot Project Design Report (PPDR) process completed in September 2004.

The CERP Hillsboro ASR Pilot project is located just south of the Loxahatchee National Wildlife Refuge (LNWR) and north of the Hillsboro Canal on a 1,660-acre tract of SFWMD-owned land in south-central Palm Beach County. The Hillsboro pilot site includes the construction of one 5-mgd ASR well and several monitoring wells. Its purpose is to evaluate and reduce the technical and regulatory uncertainties of implementing the full-scale Hillsboro ASR Project, as described in the CERP.

The full-scale Hillsboro ASR project includes construction of up to a 150-mgd ASR capacity (approximately 30 wells) and will be co-located with the 1,660-acre surface water reservoir (Site 1 Impoundment). The full-scale system will store excess water from the Hillsboro Basin when available (typically in the wet season) and release water into the Hillsboro Canal to maintain canal stages during dry periods.

The final Pilot Project Design Report (PPDR) was approved and the Environmental Impact Statement (EIS) received a Record of Decision for all three pilots (C-43, Hillsboro and Okeechobee) in late 2005.

WRDA 2007 amended WRDA 2000 by adding that the *Hillsboro and Okeechobee Aquifer, Florida* project(s) (WBS #32 and #34) are to be treated as "in the Plan", except that operation and maintenance costs of the project shall remain a non-Federal responsibility. WRDA 2007 section 6001 also modified the prior authorization under WRDA 1999 and authorized "the Secretary to carry out the project at a total cost of $42,500,000" (total combined for the two pilot projects).

The SFWMD had taken the lead for this pilot and prepared the plans and specifications for the 5-mgd ASR system that was installed in autumn 2008.

Current Status: Cycle testing began in January 2010 and is continuing through 2012. It is anticipated that the final project Technical Data Report will be finalized by 2013.

Est. Cost: $ 9,830,000

Project Schedule:

2001	Start
2009	Cycle testing began
2012	Cycle testing ends

Detailed Project Budget Information (rounded):

Hillsboro ASR	Expenditures Thru FY 2010
USACE	$1,670,161
SFWMD	$5,308,399
Total	**$6,978,560**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_34_hillsboro_asr_pilot.cfm

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Bob Verrastro, Lead Hydro-geologist, SFWMD
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Current Status is from the Project Manager.
Cost estimate information is updated to reflect current price levels in October 2010 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011).

Project Name: **E&SF: Critical Projects - Seminole Tribe Big Cypress Water Conservation Plan**
Project ID: 1425
Lead Agency: USACE / Seminole Tribe of Florida
Authority: WRDA 1996; WRDA 2000 *(addressed cost sharing);* WRDA 2007 *(amended WRDA 1996 Critical Projects cap; raised federal share of cost ceiling to $30 M for this project))*
Funding Source: Federal/Seminole Tribe

Strategic Plan Goal(s) Addressed: Other – supports 1-B.2

Measurable Output(s): Construction of conveyance systems, major canal bypass structures, and water resource areas to meet the 50 ppb phosphorous level goal of the Everglades Construction Project or more stringent performance levels as developed.

Project History, WRDA 1996 authorized the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the south Florida ecosystem. The SFER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study of and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval (WRDA 1996) with a funding cap of $12M. Due to the legislated funding limits of the Critical Projects program, only the "west" portion of the project was nominated as a Critical Project.

The Seminole Tribe had requested the assistance of the Natural Resources Conservation Service (NRCS) to implement the "east" portion of the plan. With uncertainty of the NRCS funding and the potential that the west portion might not be entirely funded through the Critical Projects program, the "combined" project was recommended as an Other Project Element (OPE) as part of the Comprehensive Plan in the Restudy. (See: CERP Projects).

April 1999 (Restudy) Synopsis: The proposed comprehensive watershed management system is designed to achieve environmental restoration on the Reservation, the Big Cypress Preserve, and the Central and Southern Everglades and reduce flood damage and promote water conservation on the Reservation to ensure a complete project.

Current Project Synopsis: The project purpose is to improve quality of agricultural water runoff within the Reservation; improve wetland hydrology and return native vegetation. In addition, this project will mitigate agricultural runoff adverse impact and promote water conservation on the Reservation. The Big Cypress Reservation, in Hendry County, is traversed by the L-28 and L-28I canals and the North and West Feeder canals (conveyances were constructed as part of the Central and Southern Florida (C&SF) Project).

East side work consists of conveyance canals, designed and constructed by the Seminole Tribe. West side work consists of several basins, each of which will consist of water resource area (similar to a storm water treatment area (STA), pump stations for transferring water, canals for distribution, and inverted siphons to carry effluent under the West Feeder Canal into the reservation's Native Range. Water will then flow southward into the Big Cypress National Preserve. A planned network of surface water management structures is designed to accomplish the following four objectives to get the water right through quantity, quality, timing and distribution necessary for restoration:

- Remove phosphorus and other pollutants from water leaving the Reservation: The removal of these pollutants will be achieved using natural treatment processes, in water resource areas (WRAs). The Tribe's WRAs will take advantage of the natural treatment processes and will serve additional functions in the storage and conveyance of water
- Convey and store irrigation water: To make use of water provided by the District (to replace the Tribe's diverted Compact water rights), the Tribe needs to be able to take this water, when it is available, to move it and to store it. This will be accomplished through water conveyance improvements.
- Provide improved storm-water flows control: Storm water must be controlled on the Reservation to prevent storm-water damage to agricultural lands and limit impacts downstream to Big Cypress National Preserve. This will be accomplished by means of storm-water attenuation areas.
- Re-hydrate Big Cypress National Preserve: The Seminole Water Conservation Project will provide the opportunity to restore more natural hydro periods southward in the Big Cypress National Preserve.

WRDA 2000 stated that "the Seminole Tribe of Florida shall be responsible for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities for the Big Cypress Seminole Reservation Water Conservation Plan Project". Construction of the conveyance canal system on the 'east' side of the Reservation (Phase I) was completed in May 2004. Canal pump stations will connect this conveyance canal system to the North Feeder Canal system. WRDA 2007 increased the Federal share cap specific for the 'west' portion of this Critical Project "not to exceed $30,000,000".

Phase II identified four basins for construction. Basin 1 was constructed (August 2008) and transferred (February 2010) to the Seminole Tribe of Florida for OMRR&R.

Geotechnical testing in basins 2, 3, and 4 revealed permeability rates greater than originally assumed in design documentation. Basin 4 design was modified and basins 2 and 3 designs will be modified to address the higher seepage rates while preserving the environmental restoration benefits.

Current Status: Basin 4 construction was awarded in September 2011 and is scheduled for completions in February 2013, with transfer to the Seminole Tribe of Florida by July 2013 for OMRR&R purposes. Basin 2 is scheduled for design completion in October 2012 and construction contract advertisement in January 2013.

Est. Cost: $60,000,000 (Federal project cost not to exceed $30,000,000)

Project Schedule:

1997	Start
2008	Basin 1 Construction completed.
2013	Basin 4 Construction completed.(expected)
2014	Basin 2 Construction complete (expected)
2016	Basin 3 Construction complete (expected)

Detailed Project Budget Information (Rounded):

Seminole Big Cypress	**Expenditures Thru FY 2011**
USACE	$23,339,120
Seminole Tribe of America	$23,339,120
Total	**$46,678,240**

Ongoing construction of basin 4 water resource area. Photo taken March 15, 2012.

Hyperlink:
http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_Critical.htm

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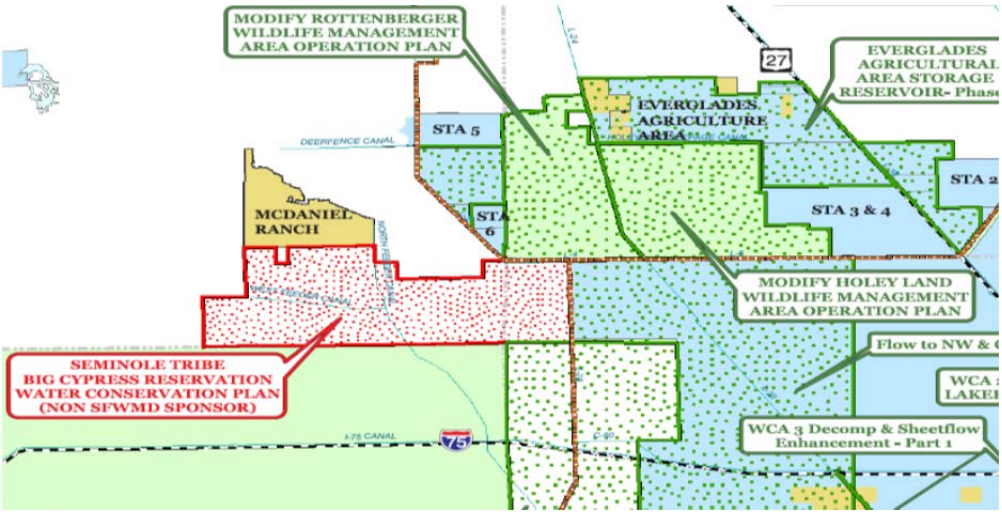
Source: Current status is summarized from information provided by the USACE project manager.

Additional Information:



Project Name: **C&SF: CERP Florida Bay Florida Keys Feasibility Study (FBFKFS)**
Project ID: 1426
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Recommendations

April 1999 (Restudy) Project Synopsis: Construction of Flagler's railroad to Key West and subsequent conversion into U.S. Highway 1 (US-1) involved the placement of fill material in wetlands and open water to build the numerous causeways between keys. These causeways altered tidal flows between Florida Bay and the Atlantic Ocean, resulting in adverse water quality and fish and wildlife habitat impacts.

One of the House of Representatives Committee on Public Works and Transportation resolutions of September 24, 1992 requested that the USACE conduct a study of Florida Bay, including a comprehensive, coordinated ecosystem study with hydrodynamic modeling of Florida Bay and its connections to the Everglades, the Gulf of Mexico, and the Florida Keys Coral Reef ecosystem. The Plan recognized that more thorough investigations of regional water resource problems was needed, and directed these to be conducted under the authority of WRDA 1996 that allows for the continuation of studies and analyses necessary**.** A comprehensive feasibility study was recommended to evaluate Florida Bay and to determine the types of modifications needed to restore water quality and ecological conditions of the Bay.

Current Project Synopsis: The study goal is to "Evaluate Florida Bay and its connections to the Everglades, the Gulf of Mexico and the Florida Keys marine ecosystem to determine the modifications that are needed to successfully restore water quality and ecological conditions of the Bay, while maintaining or improving these conditions in the Keys' marine ecosystem."
Similarly, the PDT has determined that the objectives of the FB&FK FS are:
Determine the quantity, timing, distribution and quality of freshwater that should flow to Florida Bay and provide recommendations for any modifications of water deliveries that will result from current CERP plans for Everglades' wetlands.
Determine the nutrient sources and loads to the study area, evaluate their impacts to reef and bay ecosystems, and recommend restoration targets and implementation plans.
Establish water quality and ecological performance measures.
Evaluate the effects of restoring historical connectivity between Florida Bay and the Atlantic Ocean.
Evaluate management alternatives in a holistic manner employing, where necessary, hydrodynamic, water quality and ecological models.

Various models were completed in 2006 and early results of these models were reviewed by the PDT. The focus was on refinement and documentation of the models for reevaluation of the issues in a holistic manner. No Tentatively Selected Plan has been chosen. A draft "letter" report was completed to document the work completed as of January 2007 and the project was suspended.

Current Status: Suspended. The project is planned for the future.
Est. Cost: $ 6,500,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Florida Bay Florida Keys		Expenditures Thru FY 2009
USACE	Recon (100%)	$155,712
	Feasibility (50/50)	$1,843,391
SFWMD		$4,012,956
Total		$6,012,059

Hyperlink: http://www.evergladesplan.org/pm/studies/fl_bay.cfm

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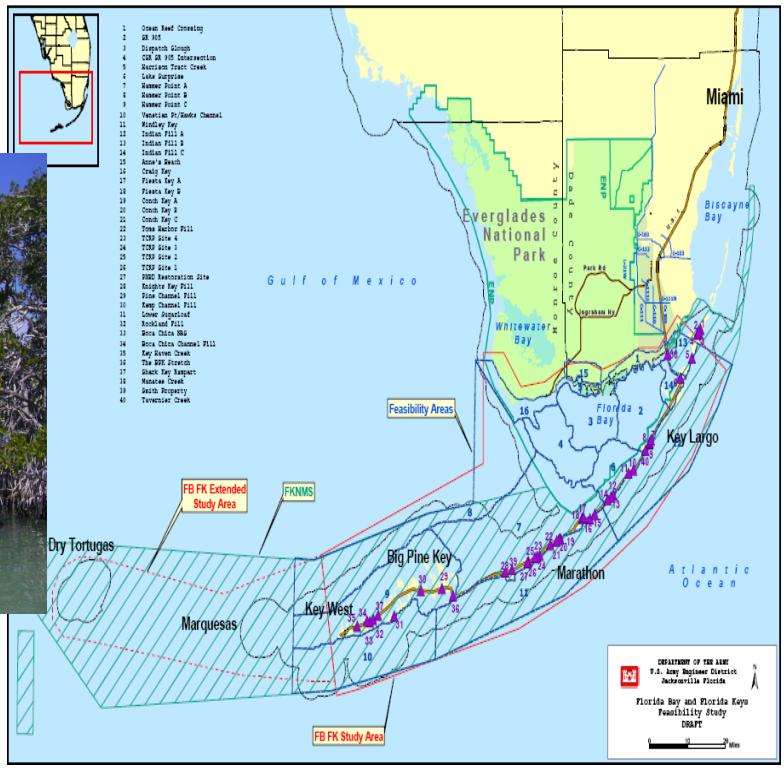
Sources: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current Description summarized from the *Florida Bay / Florida Keys Feasibility Study Project Management Plan (PMP), Feb 2002 – Final.* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Additional Information:



Project Name: **C&SF: CERP Southwest Florida Feasibility Study (SWFCWP)**
Project ID: 1431 (CERP Feasibility Study WBS # 516)
Lead Agency: USACE / SFWMD
Authority: WRDA 1992, WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 3-A.4

Measurable Output(s): Regional Plan

April 1999 (Restudy) Project Synopsis: The Plan recognized that more thorough investigations of regional water resource problems was needed, and directed these to be conducted under the authority of WRDA 1996 that allows for the continuation of studies and analyses necessary**.**

The purpose of the study was to determine the feasibility of and provide a framework for making structural, non-structural, and operational modifications and improvements in the region in the interest of environmental quality, water supply, and other purposes and investigate water resources problems and opportunities.

Current Project Synopsis: The Southwest Florida Feasibility Study was tasked with developing a comprehensive regional plan of action to address the health of aquatic and upland ecosystems; the quantity, quality, timing, and distribution of water flows; agricultural, environmental, and urban water supply; the sustainability of economic and natural resources; flood protection; fish and wildlife; biological diversity; and natural habitat.

The Restudy recognized the lack of hydrologic data available for southwest Florida and recommended a comprehensive evaluation of the environmental, agricultural and municipal water resource needs for the region. The area encompasses 4,300 square miles including all of Lee County, much of Collier and Hendry counties, and portions of Charlotte, Glades, and Monroe counties. The northern boundary of the study area parallels the northern drainage extent of the Caloosahatchee River Basin, while the eastern boundary is the drainage divide between the Big Cypress Swamp and the Everglades system.
The study has been underway since 2002, with the assistance of an interagency and interdisciplinary planning team. Issues addressed by the CWMP include loss of habitat, fragmentation of natural areas, alteration of natural freshwater flows to wetlands and estuaries (altered surface water hydrology), invasion of exotics, loss of groundwater recharge and water quality degradation in surface waters.

The study will provide a Comprehensive Watershed Plan that will incorporate projects recommended by a multi-agency PDT to restore natural hydrologic connections, improve habitat and landscape connectivity, enhance existing natural areas, and maintain water supply and flood control throughout the study area. From this Master Plan the PDT will develop a method of tiering to illustrate those components which would be viable as USACE Interest (Tier 1), State/Federal Interest (Tier 2), and Local Interest (Tier 3). Utilizing this method, and coupled with the historic USACE plan formulation process, the watershed plan will highlight specific Tier 1 interests for consideration and acquisition by a possible cost sharing partner.

Current Status: Following review of the initial SWFFS Draft Report at the USACE District and Headquarters levels, the Southwest Florida Feasibility Study was returned to the Jacksonville District office with direction to reformat and package as a Comprehensive Watershed Plan. The PDT has worked to repackage the deliverables in a new draft, while keeping historic documentation from the original feasibility study (to include the Conceptual modeling of alternatives, development of Rough Order of Magnitude construction and real estate costs for alternative analysis, and selection of the TSP).

Currently, discussions between the South Atlantic Division and Headquarters USACE are determining if a formal submission to Congress is necessary to finalize the project. Estimated completion of the Southwest Florida Comprehensive Watershed Plan is scheduled for winter of 2013.

Est. Cost: $ 17,000,000

Project Schedule:
2001 Start
2012 Complete

Detailed Project Budget Information (rounded)**:**

USACE Recon (100%)	$235,000
Feasibility (50/50)	$8,034,000
SFWMD	$8,100,000
Total	$16,369,000

Hyperlink: http://www.evergladesplan.org/pm/studies/swfl.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Cost estimate information is updated to reflect current price levels in October 2008 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in-kind credit through 4th quarter FY07.

Additional Information:

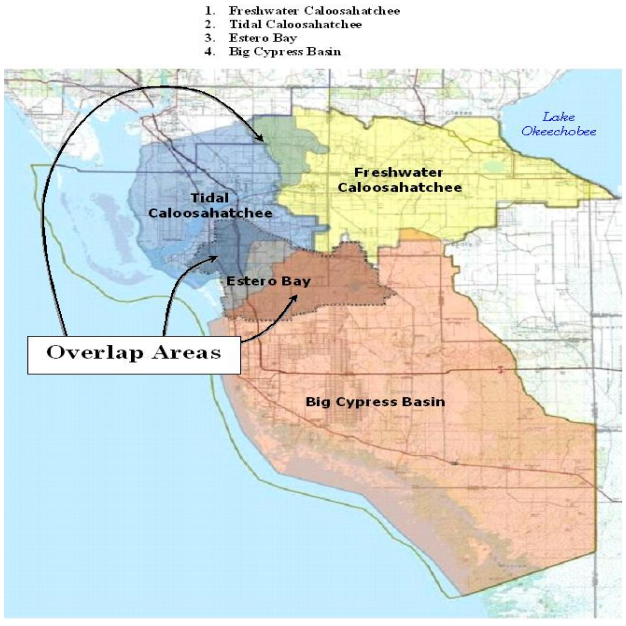

Figure 2: Watersheds in the SWWFS Area

Project Name: **C&SF: CERP C-4 Control Structures (T)**
Project ID: 1435 (CERP Project WBS # 46)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A.2

Measurable Output(s): Well field recharge; seepage reduction

April 1999 (Restudy) Project Synopsis: Includes two water control structures located in the C-4 Canal in Miami-Dade County. The purpose of this feature will be to enhance wetland hydroperiods and enhance recharge to Miami-Dade County's Northwest Well field.

Current Project Synopsis: The eastern C-4 structure (S-380E) will be operated to reduce regional system deliveries by diverting dry season stormwater flows to the C-2 Canal to provide salt-water intrusion protection and recharge to downstream ground water well fields. The structure can be operated to maximize the flow in both canals during the wet season to mitigate flooding.

The existing western structure, being implemented under the E&SF Critical Projects (WRDA 1996) program, will be operated to control water levels in the C-4 Canal at a higher elevation to reduce seepage losses from the Pennsuco Wetlands and areas to the west of the structure. This project adheres to the original concept outlined in Restudy.

Current Status: This project has not yet begun.

Est. Cost: $ 3,190,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

C-4 Control Structures	Expenditures Thru FY 2009
USACE	$92,144
SFWMD	$21,337
Total	**$113,481**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_46_c4_structure.cfm

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Source: Original project description summarized from the Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999). Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Program Name: **C&SF: CERP PLA /Information and Data Management**
Program ID: 1437
Lead Agency: USACE / SFWMD
Authority: Design Agreement

Strategic Plan Goal(s) Addressed: Other – Program Support

April 1999 (Restudy) Program Synopsis: While not specifically described in the Restudy, the CERP Master Program Management Plan (MPMP) called for the creation of a shared data network. The MPMP directed implementation of these activities under the guidance of the Program Controls Management Plan.
Current Program Synopsis: The Design Coordination Team (DCT) recommended the creation of a Program Management Plan (PMP) for CERP Information and Data Management (IDM). The Corporate Review Group (CRG) and the Project Review Board (PRB) approved this concept. The initial Information and Data Management PMP (February 26, 2002) included the functional areas of GIS and engineering data. Responsibility for these areas of infrastructure, World Wide Web services and electronic document management moved to Information and Data Management with the adoption of a revised PMP in 2007.

Under this program, the South Florida restoration effort operates a common information system used to collaborate during the planning, engineering, construction, and post-construction phases of the program. This common information system is accessible, upon request, to all Program/Project Delivery Team (PDT) members in the performance of their current and future roles. Much of this data is also made available to the public as projects move out of the developmental stage and into design and construction. Sharing information by all participating agencies increases efficiency, avoids duplication, and provides reliable short term and long term repositories for CERP data.

The data Quality Assurance and Oversight function, responsible for the quality of scientific data collected for the entire CERP program, was also incorporated into Information & Data Management with the 2007 PMP.

Current Status: IDM Programmatic activity is currently a combination of information services and systems that support the project and program level activities of CERP and other South Florida restoration programs. A revised IDM PMP covering the years 2011 to 2015 was signed in FY 2011. The IDM program developed a database for monitoring data from the CERP program specifically for data that cannot be stored in the SFWMD's DBHydro database. Efforts are underway to populate this new database with previously and currently collected data.

The Quality Assurance Oversight Team (QAOT) continued to revise the Quality Assurance Systems Report (QASR) as necessary. The QASR manual lays out the protocols and procedures for environmental data gathering activities for the implementation of CERP. Efforts in 2011 concentrated on methods for collecting ecological and biological data and culminated with the development of CGM 40 for Project Level Monitoring Plans effective April 2, 2012. Quality Assurance Reports (QAR), compiling QA information for CERP projects and programs, were released in 2008, 2009 and 2011. A QAR for the data sampled from May 1, 2010 to April 30, 2012 is being compiled and will be published in the calendar year 2012. The QAOT's PMP was updated in conjunction with the IDM PMP.

Detailed Project Budget Information: *Funding is part of the overall Program-Level Activities budget.*
Hyperlink: http://www.evergladesplan.org/pm/progr_data_mgmt.aspx
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Program Name: **C&SF: CERP PLA/Inter-Agency Modeling Center (IMC)**
Program ID: 1438
Lead Agency: USACE / SFWMD
Authority: Master Program Management Plan

Strategic Plan Goal(s) Addressed: Other – Program Support

Measurable Output(s): Critical models and modeling results.

April 1999 (Restudy) Program Synopsis: While the authority for the IMC Program Management Plan (PMP) was not specifically mentioned in the Water Resources Development Act of 2000 it is implicit in the Design Agreement between the Department of the Army and the South Florida Water Management District; and in the Master Program Management Plan that the modeling needs of CERP implementation must be met in a sufficient and adequate manner.

Current Program Synopsis: Good program and project management require unique and complex modeling to execute CERP implementation. System-wide computer models are important tools used to simulate South Florida hydrology and water management, and to evaluate the system-wide performance of the Plan.

A collaborative state and federal interagency effort, the Interagency Modeling Center (IMC), was established in 2003 to provide a centralized pool of resources and expertise to promote greater efficiency and consistency in the hydrologic and ecologic modeling that supports CERP planning. It provides, coordinates, and oversees the modeling needs and efforts for CERP both at the Program Coordination level, such as modeling that will be needed for the MISP scheduling updates, and at the project level for individual project analyses. Modeling needs for individual project analyses are addressed by Project Delivery Teams (PDTs) and consultants, but are coordinated through the IMC to insure consistency with the regional model, for model selection, and appropriate application of project-level models.

Since its inception, the IMC has performed thousands of regional model simulations to support CERP projects and RECOVER evaluations; and has responded to hundreds of requests from CERP projects for review of modeling strategies, scopes of work and reports of project-level model applications. In addition, IMC modelers provide liaison services to PDTs and RECOVER to facilitate their interaction with the IMC.

Current Status: The primary regional model covering most of the CERP domain is the South Florida Water Management Model (SFWMM). Other sub-regional models are often used in conjunction with the SFWMM when finer detail for a portion of the CERP domain is needed, or when the project falls outside the domain of the SFWMM.

The Regional Simulation Model RSM encompasses a family of next generation sub-regional models that are beginning to be applied to certain basins/watersheds to provide more accurate representations of performance under the CERP. Implementation of the Natural System Regional Simulation Model (NSRSM) is intended to provide a superior representation of the pre-drainage system and replace the Natural System Model (NSM).

The SFWMM is being updated to extend the period of record, update land use, topography, and enhance the model code. It was ported from Unix to Linux to facilitate simulations on computer clusters which has dramatically reduced computer run-times for SFWMM simulations.

There will be continued demand for regional and sub-regional model applications for planning and evaluation of CERP projects. Sub-regional implementations of the RSM will be completed and deployed in the IMC for application to provide more accurate representations of the performance of CERP plans. Project-level modeling will continue to be coordinated by the IMC to insure consistency with regional models and for appropriate model applications. Ecological models, which have been under development outside of the IMC, will be implemented in the IMC to facilitate the evaluation of ecological response to CERP projects.

Detailed Project Budget Information: *Funding is part of the overall Program-Level Activities budget.*

Hyperlink: http://www.evergladesplan.org/pm/progr_imc_plan.aspx.

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Program Name: **C&SF: CERP PLA/Environmental and Economic Equity (EEE)**
Program ID: 1439
Lead Agency: USACE / SFWMD
Authority: Executive Order E012898 (1994)

Strategic Plan Goal(s) Addressed: Other – Program Support

The 1994 Executive Order 12898 directed Federal agencies to make "Achieving Environmental Justice" part of their missions; and requires these agencies to identify and address adverse environmental effects of their programs, policies, and activities on minority and low-income populations, U.S. territories, Commonwealths, and Indian tribes.

April 1999 (Restudy) Program Synopsis: Not specifically described in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy).

Current Program Synopsis: Economic Equity and Environmental Justice are integrated into restoration efforts. Federal laws and executive orders (EO) directed Federal agencies to promote economic equity and environmental justice through fair treatment of all persons regardless of color, creed, belief, or national origin; and to ensure that no group of people, including racial, ethnic, or tribal groups bear a disproportionate share of the negative environmental impacts resulting from industrial, governmental operations, or execution of Federal actions or local programs or policies.

In WRDA 2000, Congress specifically recognized the importance of ensuring that small business concerns, including those owned or controlled by socially and economically disadvantaged individuals and persons with limited English proficiency, are provided with assistance and educational opportunities to review, comment on, and participate in the development and implementation of the CERP. This law also recognized the importance of ensuring to the maximum extent practicable that public outreach and assistance, and educational opportunities are provided to all and every citizen of South Florida including low-income populations and minority populations. The U.S. Army Corps of Engineers District Jacksonville, Florida, under its Environmental and Economic Equity and Outreach program, has targeted efforts to ensure that these opportunities are provided to realize Everglades Ecosystem restoration benefits to both the natural and human systems, and to ensure the complete success of the CERP.

The USACE and SFWMD co-chair the Environmental and Economic Equity Program, which supports mitigation of adverse socio-economic, socio-ecological, and environmental effects that may result from CERP. The Environmental and Economic Equity Program Management Plan (PMP) states six objectives. One objective is to provide relevant, timely, valid and reliable socio-economic and environmental justice baseline data for system-wide and project specific assessments. Baseline data will include, but not be limited to, demographic, economic, water use, conservation and land use data.

The USACE's environmental justice mission, embodied in its environmental and economic equity and outreach program, sees this guiding principle as critical to the long-term success of the Federal Government continuing responsibility to ensure that civil works projects are implemented in ways that do not result in disproportionate impacts on any community(s); and to assure that All Americans, including the unique cultural and ethnic diversity of South Florida's populations, live in "safe, healthful and aesthetically and culturally pleasing surroundings."

Current Status: Project Delivery Team (PDT) technical efforts are ongoing to identify, assess and address potential negative impacts of socio-economic, socio-ecological and environmental effects on the people of South Florida, including low-income and minority populations.

More than fifteen CERP and CERP-related contracts, valued at over $40 million, were awarded to socially and economically disadvantaged firms between 2004 and 2009. In addition, the USACE participated in over 70 business outreach events in South Florida to educate newly qualifying companies about contracting processes and opportunities with the USACE and other Federal agencies.

The 2001 PMP, redrafted in 2007, is being reviewed for approval by the USACE and the SFWMD. The PMP emphasizes meaningful participation by local communities, as well as collection of data, to support the analyses and mitigation of potential adverse impacts on humans.

Detailed Project Budget Information: *Funding is part of the overall Program-Level Activities budget.*

Hyperlink: http://www.evergladesplan.org/pm/progr_eee.aspx

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Program Name: **C&SF: CERP PLA/Master Recreation Plan (MRP)**
Program ID: 1440
Lead Agency: USACE / SFWMD
Authority: WRDA 1996, WRDA 2000

Strategic Plan Goal(s) Addressed: Supports 3-A2

Measurable Output(s): Critical planning document

April 1999 (Restudy) Program Synopsis: This programmatic need was not initially identified in the *Central and Southern Florida Project Comprehensive Review Study* (Plan); however, recreation is an authorized purpose of the Central & Southern Florida Project. The purpose of the Master Recreation Plan (MRP) is to support the implementation of the CERP Projects while maintaining and protecting the authorized purpose of recreation.

Current Program Synopsis: A significant part of recreation in South Florida is water based. As CERP projects are implemented, the impact to recreation opportunities will be addressed along with the additional recreation opportunities that may be made available by the CERP. A Master Recreation Plan (MRP) is under development to identify the best locations for regional recreation sites within the CERP area. This effort takes a system-wide approach to identify, evaluate, and address the impacts of CERP implementation on existing recreational use within the South Florida Ecosystem and to identify and evaluate potential new recreation, public use and public educational opportunities. A particular focus is on the identification of additional public use and recreational opportunities to compensate for public use facilities that may be lost as a result of CERP implementation.

Opportunities may be recommended for further evaluation during the development of Project Implementation Reports for specific CERP Projects; for implementation through other cost-share arrangements between federal, state, local, and not-for-profit entities; or as stand-alone Congressional authorizations. Specific recreation features will not be recommended; however, opportunities to address deficiencies identified through the Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) and public involvement will be identified on a regional basis through Conceptual Regional Plans.

Initial suitability mapping for the MRP began in June 2005. A mapping study looked at nine key recreation activities and how they might mesh with the surrounding landscape and restoration purposes in each of the projects. After the maps were complete, the USACE and the SFWMD held 18 "listen and learn" public scoping workshops throughout South Florida, gathering input regarding recreation demand and emerging recreation issues. Following the workshops, regional program analysis and conceptual recreation plans were created. After public review and comment during the spring of 2008, the regional conceptual recreation plans were finalized.

Current Status: The draft MRP is currently being revised per comments received from SAD workshops.

Detailed Project Budget Information: *Funding is part of the overall Program-Level Activities budget.*

Hyperlink: http://www.evergladesplan.org/pm/progr_master_rec_plan.aspx

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Program Name: **C&SF: CERP PLA/REstoration COordination and VERification (RECOVER)**
Program ID: 1441
Lead Agency: USACE / SFWMD
Authority: WRDA 2000; Master Program Management Plan (USACE and SFWMD 2000a); Design Agreement between the Department of the Army and the South Florida Water Management District for the Design of Elements of the Comprehensive Plan for the Everglades and South Florida Ecosystem Restoration Project (USACE and SFWMD 2000b); Programmatic Regulations for the Comprehensive Everglades Restoration Plan; Final Rule (DOD 2003)

Strategic Plan Goal(s) Addressed: All – Program Support

Measurable Output(s):

- CERP Conceptual Ecological Models (CEMs)
- System-wide Monitoring and Assessment plan (MAP)
- Online publication of the *Scientific and Technical Knowledge Gained in Everglades Restoration (1999-2009)* document
- Hydrologic, Ecological/Biological and Water Quality Performance Measures
- System Status Report (http://www.evergladesplan.org/pm/ssr_2009/ssr_main.aspx)
- CERP Adaptive Management Strategy
- CERP Adaptive Management Implementation Guide
- Recommendations for CERP Interim Goals and Interim Targets
- System-wide evaluations of individual CERP projects or groups of projects and refinements of the Plan and the existing and future without project condition
- Identification and evaluation of operational modifications to improve system-wide performance during plan formulation
- Reviews of project-level performance measures for consistency with system-level hydrologic, ecological and water quality performance measures
- Identification of improvements for project performance that will improve its system-wide performance
- Maintenance of the most current version of the Plan
- Maintenance of the most current version of the existing and future without project conditions
- Assessment and identification of opportunities for operational modifications to improve system-wide performance
- System-wide Operating Manual
- Identification of opportunities for refinements to the CERP
- Climate Change Study
- Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP) coordination

April 1999 (Restudy) Program Synopsis: The RECOVER team will be established to provide system-wide evaluation and analyses and to implement the AA&M program. The RECOVER team represents the evolution of the multi-disciplinary interagency Restudy Team that formulated the Plan. CERP is science-based and it is the role of RECOVER to ensure that science continues to guide implementation of the Plan. RECOVER is designed to organize and provide the highest quality scientific and technical support during CERP implementation including assessment of whether the goals and objectives of the CERP are being met.

RECOVER conducts scientific and technical evaluations and assessments for improving the CERP's ability to restore, preserve and protect the south Florida ecosystem while providing for the region's other water-related needs including water supply and flood protection. This will determine how to refine the Plan in the future.

Current Program Synopsis: RECOVER links science and the tools of science in three broad missions of system-wide assessment, evaluation and planning and integration. RECOVER has a 3-part mission:

Assessment - to physically measure, through monitoring, and interpret actual responses in the natural and human systems as the CERP projects are implemented
Evaluation - to work with project delivery teams to evaluate (through predictive modeling) and maximize the contribution made by each project to the system-wide performance of the CERP
Planning and Integration - to identify potential improvements in the design and operation of the CERP, consistent with the CERP objectives, and to strive for consensus regarding scientific and technical aspects of the CERP

RECOVER encompasses all the CERP projects and works with the project delivery teams to relate system-wide goals and objectives to project design and performance as well as incorporates information obtained during project plan formulation into the Plan. At the program level, RECOVER maintains a system-wide focus as it evaluates and assesses the performance of CERP, develops refinements and improvements in the design and operations of the Plan, and reviews the effects that other projects may have on the performance of the CERP. RECOVER continues to operate throughout the entire duration of the restoration process, continuously seeking improvements to the Plan as system-wide monitored responses direct the CERP Adaptive Management process.

RECOVER accomplishes its activities through a partnership amongst the following twelve federal, state and local agencies, and tribal governments: the U.S. Army Corps of Engineers, the South Florida Water Management District, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Florida Department of Agriculture and Consumer Services, Florida Department of Environmental Protection and Florida Fish and Wildlife Conservation Commission. RECOVER also provides opportunities for the public and stakeholders to participate in the review and refinement of RECOVER work products.

The CISRERP, in their 2010 Biennial Review, concluded that the foundation for Adaptive Management has been laid for CERP and the theory now needs to be put into practice. Further, CISRERP found that research efforts are providing a sound basis for critical decision making, but the effectiveness of the linkages between science and decision making should be examined by CERP leadership.

The 2009 System Status Report was released in January 2011. This report was the third in a series of system-wide reports and provided a thorough accounting of the CERP Monitoring and Assessment Plan. This document was released as a web document that allows the reader to drill down in to the level of scientific detail they desire (http://www.evergladesplan.org/pm/ssr_2009/ssr_main.aspx). The 2009 SSR documents the status and trends of the essential and defining attributes of the South Florida ecosystem. Hard copies of the Executive Summary and Key Findings were produced.

The Adaptive Management Integration Guide was finalized in 2011 to provide technical guidance on how to integrate adaptive management activities within projects and program implementation efforts. Coordination workshops occurred on how to develop AM plans for projects and better integration of system-wide science in project and program management. Phase 1 is development of a program-level AM plan to fill gaps between existing documents to illustrate how key uncertainties are being addressed and how new information informs current and future management decision.

CGM 56 Integrating Adaptive Management into CERP Program and Project Management was approved by the DCT in February 2011. This CGM provides guidance on how to integrate adaptive management into Project Implementation Reports (PIR). This CGM complements the Adaptive Management Integration Guide and assists the Project Delivery Teams (PDTs) to apply adaptive management to address uncertainties that inhibit PIR development.
The *Scientific and Technical Knowledge Gained in Everglades Restoration (1999-2009)* (SKG) document summarizes monitoring, research, engineering, and modeling advances that have become available since 1998 pertinent to Everglades restoration. The value of this document is in its objectivity and it's accessibility to readers having many backgrounds; each topic is summarized in a plain language, 4-page maximum, thoroughly referenced literature review with an extensive bibliography for readers who want to pursue the topic further. Producing the document included coordination of ~fifty authors, and three levels of peer-review with approximately seventy reviewers from the ten agencies, two tribes, and several public stakeholder groups interested in Everglades restoration. The review process also included two formal public meetings. The SKG is considered a 'living document' that can be updated to keep current with growing knowledge.

The Greater Everglades Fish Performance Measure was accepted in 2011.

Current Status: RECOVER continues to integrate science and policy by providing system-wide support to projects.

The Central Everglades Planning Project and RECOVER are sharing information on existing performance measures in the region, ecological modeling data, and climate change performance measures.

A joint ecological modeling effort between US Geological Survey, Everglades National Park and USACE/RECOVER is underway to integrate hydrologic and ecological models for CERP analysis. The product will define commonality in input and output standards of modeling data and improve the visualization tools for model output.

As CERP projects are in a variety of stages, RECOVER is transitioning from planning to design and construction focused Adaptive Management (AM) activities. In 2012, RECOVER is working to establish avenues for providing feedback from scientists with engineers, water managers, and area offices. The CGM 56 Adaptive Management and the PIR template will need modified to reflect the result of the AM Plan implementation. RECOVER will continue to engage with stakeholders and collaborate with agencies, to refine restoration goals and objectives, and to review scientific uncertainties in ecosystem performance.

The Southern Coastal Systems (SCS) completed the SCS Salinity Performance Measure (PM) for Biscayne Bay based on the results of the Adaptive Hydraulics (AdH) Model in 2011 and finalized in 2012. The Salinity PM measure for the Florida Bay Component is under refinement with the assistance of the Interagency Modeling Center by applying a different mesh dimension from Regional Simulation Model (RSM) and Natural Systems Model (NSM) and expected to be complete in 2012.

The CERP Integrated Database (CID)/EverGlades Restoration data Extraction Tool (EGRET) was accepted for use by the Design Coordination Team on Jul 2011. CID will store all CERP ecologic and hydrologic monitoring data that cannot be stored in DBHYDRO. EGRET is the end-user spatial query interface. This effort was initiated in Oct 2009 (championed by RECOVER and designed/built by CERP Information & Data Management). CID went into limited production on Mar 2011. 2012 MAP Contracts include the upload of data into CID/EGRET. 75 sets of data have been added to the inventory under CID for upload into the EGRET, the visual GIS Tool.

Detailed Project Budget Information: *Funding is part of the overall Program-Level Activities budget.*

Hyperlinks: http://www.evergladesplan.org/pm/recover/recover.aspx
http://www.saj.usace.army.mil/Divisions/Everglades/Branches/RECOVER/index.htm

Contact: April Patterson, Project Manager, Ecosystem Restoration Branch, USACE
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Susan Gray, SFWMD
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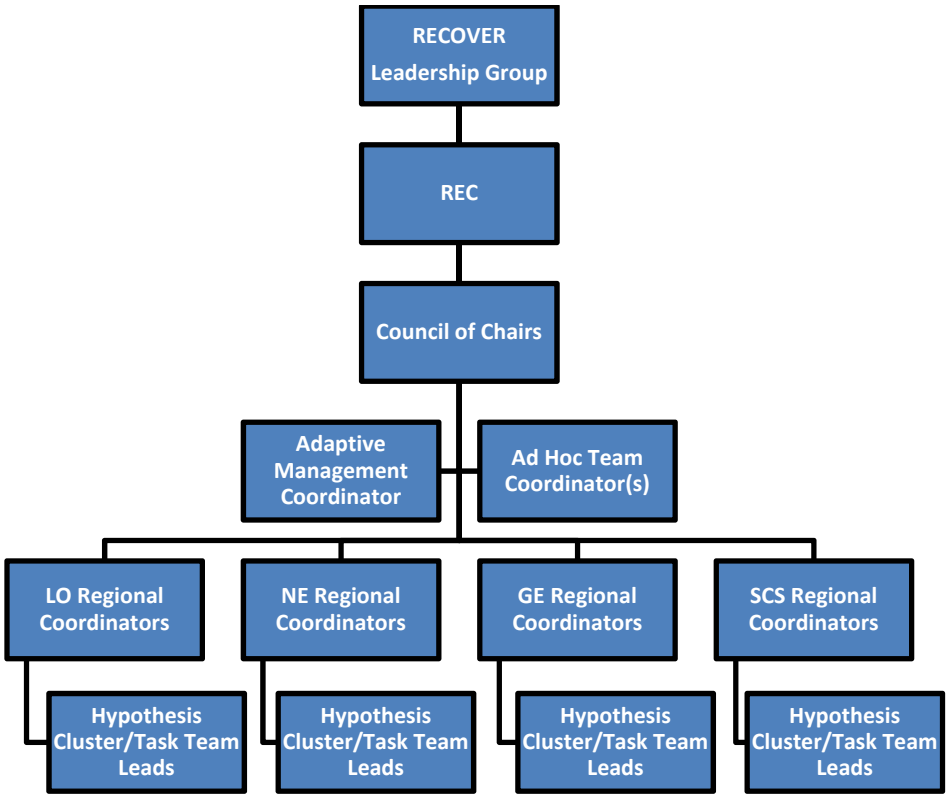
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999)* and WRDA 2000. Additional information provided from the Monitoring and Assessment Plan (2008) and the RECOVER team.

Additional Information: Revised structure of RECOVER



Project Name: **C&SF: CERP Program Management**
Project ID: 1442
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed:

Measurable Output(s):

April 1999 (Restudy) Synopsis: The scope of the recommended Comprehensive Plan warrants a management approach that is programmatic in nature. This "program" will require a management structure that is integrated into both the Corps and the local sponsor's executive, managerial, and technical staffs. The program's resources must be based on a sound strategy for implementation that includes identification of system-wide efforts, assigns responsibility for component development, and provides a projection of budget, funding, schedules and manpower requirements supported by appropriate agreements for local cooperation. This management strategy will provide the conceptual framework for Federal, State, local, tribal, and private efforts to protect and restore the south Florida ecosystem.

Current Project Synopsis: The Master Program Management Plan and the Design Agreement have provided additional details in regards to the CERP Program Management, but it is still in-line with what was presented in the Restudy.

Current Status: Initial program guidance was published in August 2000 in the *Master Program Management Plan (MPMP)*. The MPMP is regarded as the baseline program guidance document for the implementation of the CERP program. In the WRDA 2000, Congress approved the Plan and required promulgation of the Programmatic Regulations to ensure that the goals and purposes of the CERP are achieved. The Programmatic Regulations require the development of program coordination processes and products such as the Master Implementation Sequencing Plan (MISP), Pre-CERP Baseline, Guidance Memoranda, Interim Goals and Interim Targets, and Initial CERP Update.

Since the initial MPMP, the USACE and SFWMD program managers have made decisions on a wide array of issues that directly affect execution of the program and have jointly translated their decisions into specific Guidance Memoranda. Efforts have also included work on the Pre-CERP Baseline, Interim Goals and Interim Targets. While Program Coordination was a large part of the initial CERP start-up effort, it continues to be significant because as projects move into the design construction phases, the guidance necessary for those phases is being developed and refined. In 2005, the MISP was completed in accordance with South Florida Ecosystem Restoration Programmatic Regulations. The MISP defined the order in which CERP projects would be planned, designed, and constructed. Building on recommendations in the Committee on Independent Scientific Review of Everglades Restoration Progress 2006 Report to Congress, while the MISP was being updated, it was incorporated into an overall schedule for restoration known as the Integrated Delivery Schedule (IDS).

In addition, there are several CERP Program level activities that support or assist the planning and execution of the projects. These efforts include Restoration Coordination and Verification (RECOVER), the Interagency Modeling Center, the Information and Data Management Program (includes Quality Assurance Oversight Team), and Public Outreach. All of these programs continue to provide support and guidance to the projects and the overall program.

Est. Cost: $ 656,780,000

Project Schedule: On-going

Detailed Project Budget Information (rounded):

Program Management	Expenditures Thru FY 2011
USACE	$215,411,000
SFWMD	$169,774,000
Total	**$385,185,000**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_06_cal_backpumping.cfm

Contact: Brooke Hall, Program Manager, Programs and Project Management Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars.

Project Name: **C&SF: CERP Big Cypress - L-28 Interceptor Modifications (CCC)**
Project ID: 1500 (CERP Project WBS # 10)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 1,900 acre Stormwater Treatment Area

April 1999 Project Synopsis: This feature includes modification of levees and canals, water control structures, pumps, and stormwater treatment areas with a total storage capacity of 7,600 acre-feet located within and adjacent to the Miccosukee and Seminole Indian Reservations in Collier and Hendry Counties. The initial design of the stormwater treatment areas assumed a total acreage of 1,900 acres (water level fluctuating up to 4-feet above grade). Conceptual sizes of the stormwater treatment areas were based on interim phosphorus concentration targets in the conceptual plan for the Everglades Construction Project.

Current Project Synopsis: The purpose of this feature is to reestablish sheetflow from the West Feeder Canal across the Big Cypress Reservation and into the Big Cypress National Preserve, maintain flood protection on Seminole Tribal lands, and ensure that inflows to the North and West Feeder Canals meet applicable water quality standards. Upstream flows entering the West and North Feeder Canals will be routed through two stormwater treatment areas to be located at the upstream ends of the canals. After conversion to a pump station, S-190 will also push flows south into the L-28 Interceptor Canal where sheetflow to the southwest will be reestablished with backfilling and degradation of the southwest levee of the canal.

Sheetflow will be reestablished south of the West Feeder Canal by a system to be developed consistent with the Seminole Tribe's Conceptual Water Conservation System master plan. Design of the STAs will be based on water quality criteria of the Seminole Tribe and criteria applicable to Big Cypress National Preserve, as appropriate.
This project adheres to the original concept outlined in the Restudy.

Current Status: This project has not yet begun and is planned for the future.

Est. Cost: $ 59,098,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

BC-L-28	**Expenditures Thru FY 2011**
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_10_big_cypress.cfm
Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Miccosukee Tribe Water Management Plan (OPE)**
Project ID: 1502 (CERP Project WBS # 90)
Lead Agency: USACE / Miccosukee Tribe
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 900-acre constructed wetland

April 1999 (Restudy) Project Synopsis: Converts 900 acres of tribally owned cattle pasture into a wetland retention /detention area on the Miccosukee Tribe's Alligator Alley Reservation and includes a pump station, levees, trenches and culverts to create the inflow and outflow facilities for the retention/detention area to filter out harmful nutrients contained in stormwater runoff before entering the Everglades Protection Area.

Current Project Synopsis: The Miccosukee Tribe Water Management Plan pertains to constructing a managed wetland on the Tribe's Reservation in western Broward County. It would also provide water storage capacity and water quality enhancement for tribal reservation waters, which discharge from tribal lands downstream into the Everglades Protection Area. The project was sized to treat the nutrient inputs of the Miccosukee Tribal lands and adheres to the original concept outlined in the Restudy.

Current Status: This project has not yet begun.

Est. Cost: $ 33,207,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Miccosukee Tribe WMP	**Expenditures Thru 2011**	**FY**
USACE		$0
Miccosukee Tribe		$0
Total		**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_90_miccosukee.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **C&SF: CERP Caloosahatchee Back-pumping with Stormwater Treatment (DDD)**
Project ID: 1505 (CERP Project WBS # 06)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 5,000 acre STA with a total capacity of 20,000 acre-feet

April 1999 (Restudy) Project Synopsis: This feature includes pump stations and a stormwater treatment area with a total capacity of approximately 20,000 acre-feet located in the C-43 Basin in Hendry and Glades Counties. The initial design of the stormwater treatment area assumed 5,000 acres (water level fluctuating up to 4 feet above grade).

Current Project Synopsis: The purpose of this project is to capture excess C-43 Basin runoff, which will be used to augment regional system water supply. The feature will operate after estuary and agricultural/urban demands have been met in the basin and when water levels in the C-43 Storage Reservoir exceed 6.5 feet above grade. Lake Okeechobee must also be considered to have available storage. When these conditions are met, a series of pump stations will back pump excess water from the reservoir and the C-43 Basin to Lake Okeechobee after treatment through a stormwater treatment area.

Current Status: The project has not yet been initiated.

Est. Cost: $ 114,640,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Caloosahatchee Back-pumping with Stormwater Treatment	Expenditures Thru FY 2011
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_06_cal_backpumping.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: **E&SF: Critical Projects - Lake Okeechobee Water Retention / Phosphorous Removal**
Project ID: 1506
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): Two stormwater treatment areas with 940 acres

Project History: WRDA 1996 authorizes the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the South Florida Ecosystem. The SFEER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study of, and produced a report transmitted to, the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval and authorized to be appropriated by Congress (WRDA 1996) for the Department of the Army to pay the federal share up to $75 million (no more than $25 million for any single project) for fiscal years 1997-1999. WRDA 2007 amended the sum to up to $95 million.

Current Project Synopsis: Four key basins for the Lake Okeechobee watershed include the lower Kissimmee River basins (S-65D, S-65E, and S-154), and the Taylor Creek-Nubbin Slough basin (S-191). Wetlands account for between 18 and 25 percent of the land classification in the basins (U.S. Fish and Wildlife Service 1990 National Wetlands Inventory); however, approximately 37 percent of these wetlands have been ditched to drain the land for agriculture (i.e., improved pasture). Many of these wetlands were isolated depressions that once functioned as small water retention areas in the landscape. Others were more expansive and experienced drying from the regional built drainage system.
The resulting system causes an accelerated loss of water from the watershed as surface water runoff, which is rapidly transported to the tributary system draining into Lake Okeechobee. Loss of isolated wetlands has contributed to rapid rises in the stage of Lake Okeechobee -- resulting in damaging freshwater discharges to the estuaries. There has been a loss of the water quality treatment function that used to result from retaining water for short periods in those wetlands, and a loss of wetland habitat for migratory birds and waterfowl.

As part of the USACE planning process, alternative plans were reviewed and the Tentatively Selected Plan (TSP) was identified in 1998 with a two-pronged approach. The first is to restore the hydrology of isolated wetlands by plugging the connection to drainage ditches; and the second is diversion of the collector canal flows to adjacent wetlands to attenuate peak flows and retain phosphorus in Reservoir-Assisted Stormwater Treatment Areas (RSTAs). The plan includes construction of two stormwater treatment areas, acquiring conservation easements and removing improvements, which will also reduce phosphorous loads going to Lake Okeechobee as well as reestablishing wetlands previously drained for agriculture. At the sub-basin scale, land parcels that were once part of the tributary system's historic flood plain will be re-flooded to add adjacent and/or isolated wetlands back to the landscape. The result will be increased regional water storage north of Lake Okeechobee and restoration of wetland functions in the process.

Current Status: Construction for the Lake Okeechobee Water Retention and Phosphorus Removal Nubbin Slough and Taylor Creek portion was physically complete in 2006 and the interim construction and testing phase, begun in 2007, is still in progress due to low water conditions and other issues.

After a pipe leak during a routine test late in 2008, project features were investigated and defects are being repaired. Upon completion and acceptance of the construction repair work, the project will be transferred to O&M Authority for operation and maintenance. .

Est. Cost: $ 28, 082, 416

Project Schedule:

1997	Start
2006	Construction complete
2013	Construction repair and testing complete; transfer to sponsor

Detailed Project Budget Information (rounded):

LOW	Expenditures Thru FY 2011
USACE	$12,994,719
SFWMD	$10,166,234
Total	**$23,160,953**

Hyperlink: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

Contact: Wiener Cadet, Project Management, Project Management Division, USACE
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Lisa Krieger, Project Manager, SFWMD
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Source: Current status information was provided by the Project Manager. Project description is from the Tentatively Selected Plan (1998), and other planning documents.

Additional Information:

Project Name: **C&SF: West Palm Beach Canal STA-1E / C-51 West**
Project ID: 1513
Lead Agency: USACE / SFWMD
Authority: Flood Control Act 1968; WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary**: 1-B.1 **Secondary**: 3-B.1

Measurable Output(s): 6,500-acre storm water treatment area

Project History: The USACE completed work on the West Palm Beach (C-51) Canal, opening it for travel in 1917, as citrus and agriculture boomed in the area. A Design Memorandum containing the same National Economic Development plan as the original project background had many of the same features proposed in the June 1992 Detailed Design Memorandum, a Design Memorandum (February 1998 was approved referencing an "authorized plan",) the plan included replacement of the 2.5 square-mile detention area with STA 1E from the Everglades Construction Project. The "authorized" plan is one result of the Technical Mediated Plan, agreed to as a resolution by the Department of Justice, DOI, DOA, the State of Florida and the SFWMD related to Everglades litigation.

The state's Everglades Forever Act is based, in part, on the Technical Mediated Plan. The Act includes language for the C-51 West project that additional work, as described in the Everglades Construction Project, shall be accomplished at full Federal cost. This plan was authorized by WRDA 1996.

Current Project Synopsis: The project is located in Palm Beach County and runs east/west from Water Conservation Area 1 (Loxahatchee National Wildlife Refuge) to West Palm Beach at Lake Worth.

The technical mediated plan included a substantially modified C-51 project. The modified plan expands the original 1,600-acre floodwater detention area into what is currently a 6,500-acre STA (1E). It provides both 30-year flood risk management to the urbanized eastern basin and 10-year flood protection to the western basin. In addition to the flood damage/reduction benefits, the modified plan provides water quality treatment, reduction of damaging freshwater discharges to Lake Worth, and increased water supply for the Everglades and other users.

Major components include construction of the following: STA 1E, pumping station S-319 and S-362, Canal C-51 enlargement, and gated structure S-155A. The project will operate in parallel with STA 1W to reduce runoff from both the C-51 West and S-5A basins improving water quality prior to discharge into the Water Conservation Area (Arthur R. Marshall Loxahatchee Wildlife Refuge).

Current Status: All eastern basin features have been constructed. The STA 1E works, pumping station S-319 and S-362, Canal C-51 enlargement, and gated structure S-155A are completed and were transferred to the SFWMD for operations in 2005. A field test for treatment using periphyton was completed in 2010. Deficiency correction work for culverts and trash rakes are underway. Estimated cost for the repair work is $73M and with 3 of 8 Task Orders awarded. Cell 5/7 is being modeled and a decision will be made if more work is to be done there or if a modification to operations will improve the results of the phosphorous removal in those cells. The modification report is expected late December 2012.

S-375 repairs are complete. The contractor is currently completing dredging operations on the western and eastern ends of the structure to remove excess materials. This work is expected to be completed by the end of May, 2012.

Est. Cost: $ 391,550,000

Project Schedule:

1994	Start
2018	Finish

Detailed Project Budget Information (rounded)**:**

STA 1E/C-51	Expenditures Thru FY 2011
USACE	$231,667,000
DOI	$46,000,000
SFWMD	$30,109,000
Total	$307,776,000

Hyperlink: http://www.evergladesplan.org/pm/projects/project_list.aspx

Contact: Alan C. Bruns, Project Manager, USACE
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Jorge Jaramillo, Project Manager, SFWMD
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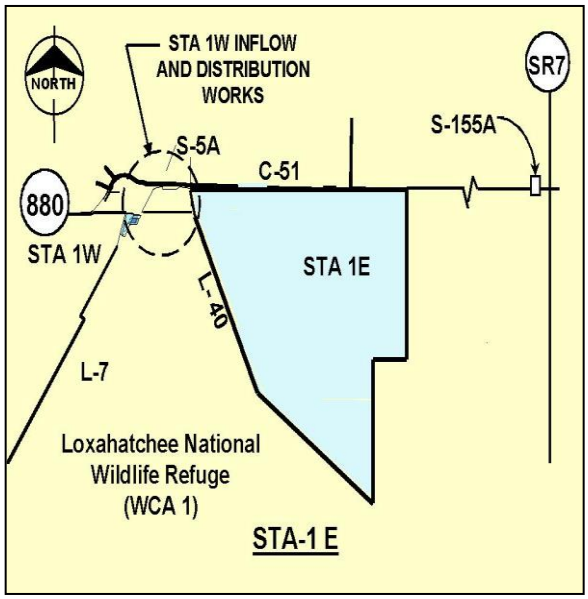
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current status information was provided by the project manager. Last cost estimate reflect price levels in October 2011 dollars.

Additional Information:



Program Name: Infrastructure
Project Name: State Project Includes Everglades Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion (Project is being implemented as part of the Long-Term Plan for Achieving Everglades Water Quality Goals [Long-Term Plan])
Project ID: 1514 A
Lead Agency: SFWMD
Authority: Everglades Forever Act (EFA)
Funding Source: State – Long-Term Plan funds

Strategic Plan Goal(s) Addressed: Primary: 1.B.1

Measurable Output(s): ~18,000-acre STA expansion, water quality, phosphorus reduction

Project Synopsis: This SFWMD project, which is being implemented as part of the Long-Term Plan, will expand the size and enhance the performance of existing Stormwater Treatment Areas created as part of the Everglades Construction Project. These constructed wetlands naturally reduce stormwater runoff pollution levels flowing from the Everglades Agricultural Area before entering the Everglades. This Project will add approximately 18,000 acres of additional treatment area to the existing Everglades Agricultural Area Stormwater Treatment Areas (EAA STAs). The expansions are being built in Compartment B, an approximately 9,500-acre parcel of land located in southern Palm Beach County, and Compartment C, an approximately 8,800-acre parcel of land located in eastern Hendry County.

The first phase of implementation was the EAA STA Initial Expansion Projects and involved expanding STA-2 into Compartment B to construct cell 4, expanding STA-5 into Compartment C to construct flow way 3, and STA 6 into section 2. Phase 1 became flow capable on December 31, 2006. The second phase of implementation, the EAA STA Compartment B and Compartment C Build-out Projects, involves STA construction in the remaining areas of Compartment B and Compartment C. The second phase is currently in construction.

Current Status: Construction of the initial phases of EAA Compartments B and C STAs and the C-139 Annex Pump Station are complete.
Construction of Compartment C pump station G-508 and Compartment B pump stations G-434, G-435, and G-436 started in September 2009.
Flow capable status was achieved by December 2010 for EAA Compartments B and C Build-out STAs.
EAA Compartments B and C Build-out STAs civil works construction was completed in 2011, with permanent pump stations G-434, G-435, G-436 and G-508 to be completed in 2012.

Total Estimated Project Cost: $334,499,557
Construction Start Date: April 2009, Compartment C; June 2009, Compartment B
Scheduled Project Completion Date: December 2010 (Flow-Capable), June 2012 (Pump Stations)

Actual Expenditures to date by SFWMD:

	Thru 2007	**2008**	**2009**	**2010 ***	**2011**	**2012 (as of 5/02/12)**	**Total**
SFWMD	$81,918,970	$8,468,665	$30,893,640	$100,085,464	$100,191,267	$12,940,551	$334,499,557 (as of 5/02/12)

*Updated through May 2, 2012

Hyperlink:
http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/2011_sfer/v1/chapters/v1_ch8.pdf

Contact: Jeff Kivett, SFWMD

G-434 Pump Station – Compartment B Inflow Pump Station to Cells 4, 5 & 6

G-436 Pump Station – Compartment B Outflow Pump Station Cell 4, 5, 6, 7, & 8

G-508 Pump Station – Compartment C Inflow Pump Station

Program Name: Restoration Program: Water Quality and Hydrology
Project Name: **Lakeside Ranch STA -** The SFWMD is implementing as part of the Northern Everglades Project
Project ID: 1515
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1.B.1 Get the water quality right

Measurable Output(s): 2,700-acre STA

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative, which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The plan identifies five construction projects north of Lake Okeechobee, including the Lakeside Ranch STA, as expedited projects.

The South Florida Water Management District is expediting this project as part of the Northern Everglades and Estuaries Program. It is a portion of Taylor Creek/Nubbin Slough Storage and Treatment Area and involves construction of a 2,700-acre STA, adjacent to Lake Okeechobee, and will provide approximately nine to 19 metric tons of phosphorus reduction. Removing this phosphorus will help improve the lake's water quality.

Current Status:
This project has been divided into two phases, STA North and STA South:
Phase 1: STA-North and canal improvements, S-650 pump station
STA-N construction and canal improvements completed in April 2012
S-650 construction to be complete in July 2012
Phase 2: STA-South and S-191A pump station
STA-S Final design completed
S191A Final design completed

Total Estimated Project Cost: $90,660,000

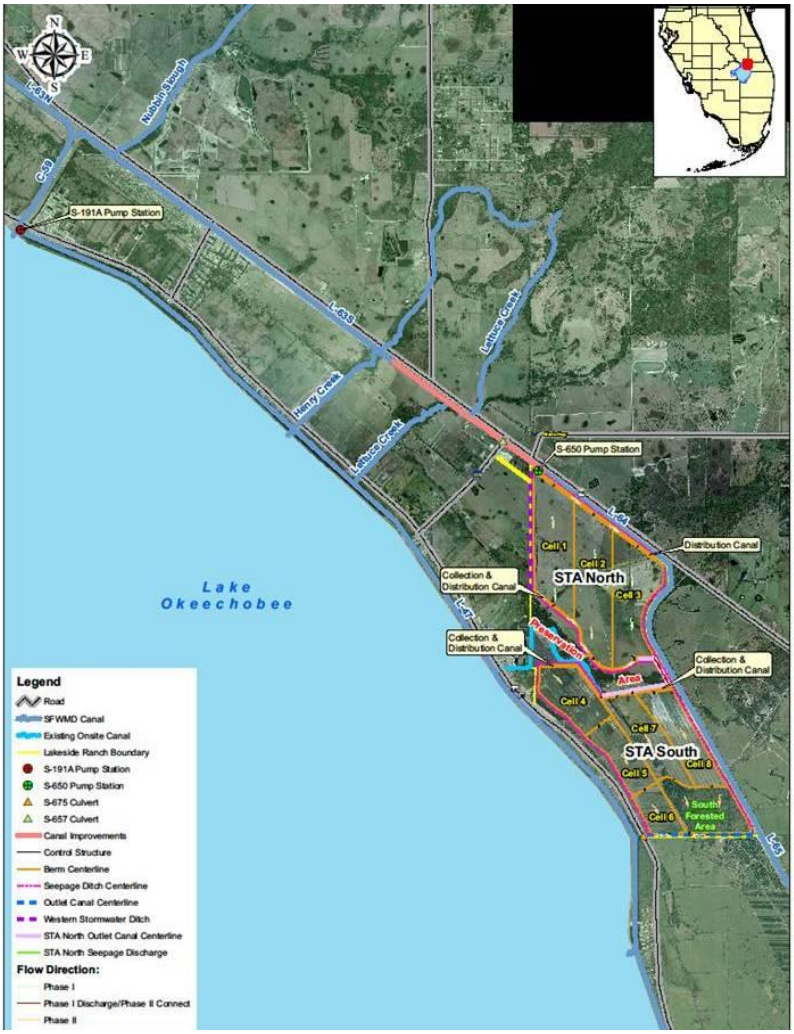
Project Schedule: Start Date: October 2005
Finish Date: February 2012 for STA North, TBD for STA South

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Project Design								
Construction and Installation								
Operations and Monitoring								

Actual Expenditures to date by SFWMD:

	2006/8	2009	2010	2011	2012	Total
SFWMD	$9,474,149	$3,231,933	$11,556,697	$13,598,734	$4,486,761	$42, 348,274

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/jtf_lakesideranch_sta.pdf
Contact: Jianchang Cai, SFWMD



Project Location Map

Lakeside Ranch North Inflow Control Structure

Project Name: **C&SF: CERP Henderson Creek-Belle Meade Restoration (OPE)**
Project ID: 1518 (CERP Project WBS # 93)
Lead Agency: USACE/FDEP
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 10-acre stormwater lake/marsh filtering system

April 1999 (Restudy) Project Synopsis: Includes multiple individual elements to complement each other to form a larger-scale combined effect: a 10-acre stormwater lake/marsh filtering system; four culverts under State Road 951; hydrologic restoration around Manatee Basin including culverts, ditching, removal of some roadbed; invasive, exotic plant removal; a public access point and interpretive boardwalk; construction of a swale and spreader system; and removal of the Road-to-Nowhere.

Current Project Synopsis: The area known as Belle Meade is the primary drainage basin for the Henderson Creek Estuary, which drains into Rookery Bay. Changes in land use within the primary watersheds draining into Rookery Bay have been identified as the highest priority resource issue that threatens the long-term preservation of the research reserve's estuarine resources. The purpose of this feature in Collier County is to restore historic sheetflow to the estuary, treatment of stormwater, improvement of water quality and increase in habitat value and wetland functions.

Current Status: This project is planned for the future.

Est. Cost: $ 5,622,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Henderson Creek-Belle Meade	**Expenditures Thru FY 2009**
USACE	$128,009
FDEP	$0
Total	**$128,009**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_93_henderson.cfm

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C-43 Water Quality Treatment Area and Test Facility**
Project ID: 1519
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: State Funds

Strategic Plan Goal(s) Addressed: 1.B.1

Measurable Output(s): 1,200-acre Water Quality Treatment Area (WQTA) and Test Facility

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative, which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The South Florida Water Management District and Lee County agreed to develop a Water Quality Treatment Area project near the Caloosahatchee River in the C-43 Basin to address total nitrogen treatment, with a focus on organic nitrogen removal, as well as other incidental nutrient treatment of the Caloosahatchee River Basin water upstream of structure S-79. The immediate goal of the project is to investigate and test wetland-based strategies for reducing total nitrogen (TN) loads, total phosphorus (TP), and total suspended solids (TSS). The testing facility will be comprised of small scale experiments, also referred to as mesocosms, and larger test cells (1/2 to 1 acre in size) that can be used to test the scalability of different plant communities arranged in different configurations. The ultimate goal is to build a full scale WQTA at the current site. It is anticipated that the project will generate strategies that can be applied to estuaries throughout the SFWMD.

Current Status: Conceptual design of a test facility is ongoing and is expected to be completed by October 2012. Preliminary, intermediate, and final detailed design of the test facility is to be completed in FY13 followed by construction in FY14. The testing facility will be operated and tested for at least three (3) consecutive years with construction of the full scale WQTA sometime after that.

Total Estimated Project Cost: $1.7M (test facility only)

Project Schedule: Start Date: September 2007
Finish Date: September 2017 (test facility only)

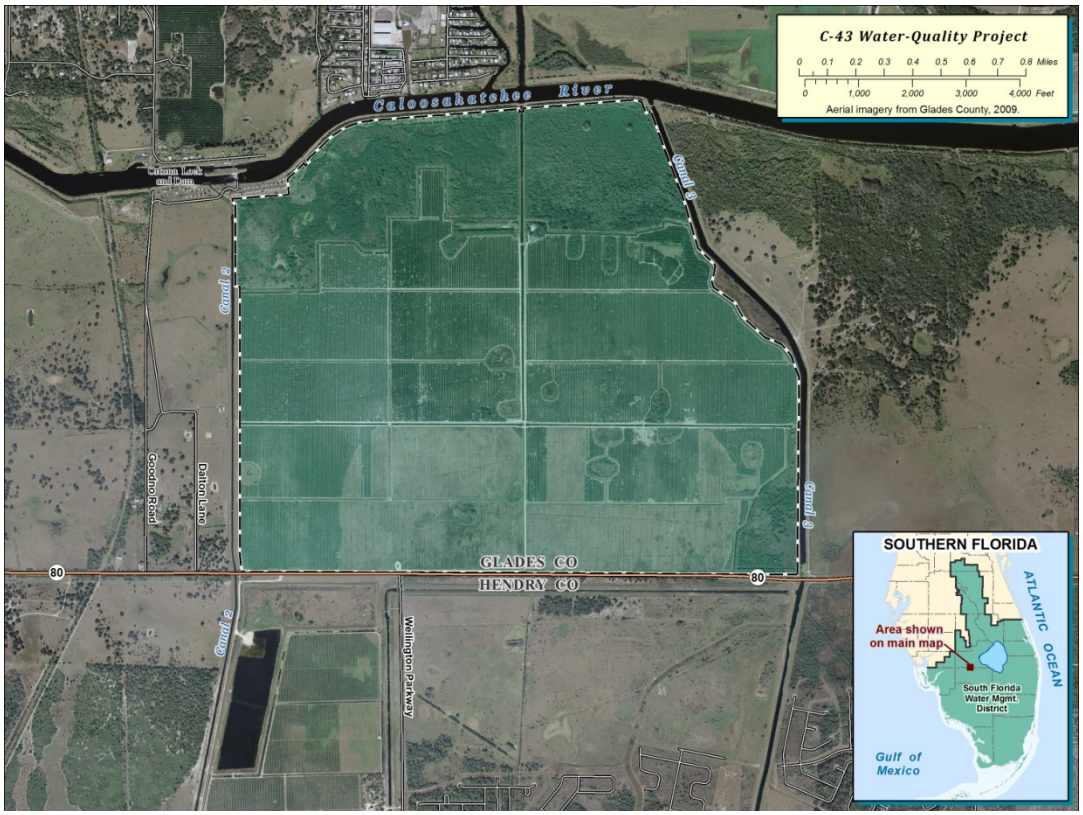
	2011	2012	2013	2014	2015	2016	2017
Project Design		X	X	X			
Mesocosm Construction and Installation				X			
Mesocosm Operation and Testing				X	X	X	X
Test Cell Construction				X	X		
Test Cell Operation and Testing					X	X	X

Detailed Project Budget Information

	2007	2008	2009	2010	2011	2012	Total
SFWMD	0	$817	$746,000	$709,943	$2,655	$40,327	$1,499,742

Hyperlink:
http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/2011_sfer/v2/chapters/v2_ch2.pd

Contact: Eric González, SFWMD



The goal of this project is to investigate and test wetland-based strategies for reducing concentrations of total nitrogen and other constituents including total phosphorus.

Program Name: Water Quality
Project name: **Total Maximum Daily Load (TMDL) for South Florida**
Project ID: 1600
Lead Agency: Florida Department of Environmental Protection
Authority: 403.067, F.S.

Strategic Plan Goal(s) Addressed: 1.B.2

Measurable Output(s): Basin Assessments, Identifying Impaired Waters, Supplemental Data Collection, Develop TMDLs, Implementation Plans, Verification WQ Standards have been met

Project Synopsis: During the first phase, the water quality data for each basin will be assessed in detail, including the identification of waters for which TMDLs will be developed. Once a basin assessment report and a Plan of Study are completed, intensive monitoring will be conducted in the basin to supply any additional data needed to model the impaired waters in the basin and generate TMDLs. During the third phase, TMDLs will be calculated and then allocated to individual point sources and the major categories of nonpoint sources. After TMDLs are approved, a consensus-based basin management action plan (BMAP), which will include a TMDL implementation plan, will be developed during the fourth phase. The implementation plan will include more detailed allocations to nonpoint sources, but the allocations will be voluntary if the sources are currently outside of the State's regulatory authority. Once these plans have been adopted and implemented, verification (using added WQ monitoring data, evaluations of beach closure reports, or number of fish kills, for example) will allow waters to be certified as meeting water quality standards.

Current Status: Since 2008, the Department has completed and adopted by rule TMDLs identifying needed reductions for nutrients and/or to address low dissolved oxygen levels in the St Lucie Basin (including the Estuary, North Fork, South Fork, C-44, C-24, C-23 canals, and Bessey Creek), and for nutrients in the estuarine portion of the Caloosahatchee (below the Franklin Locks) and for fecal coliforms in Trout Creek (Caloosahatchee Basin). In addition, nine TMDLs were completed for nutrients, dissolved oxygen, unionized ammonia, or fecal coliforms in the Everglades West Coast Basin (1 for Cocohatchee River Estuary, 1 for the Gordon River, 3 for Hendry Creek, 1 for the Imperial River, and 3 for Lake Trafford). In 2011, the Department proposed TMDLs to address high fecal coliforms concentrations in 20 water bodies located in the Southeast Coast region of the state, ranging from St Lucie County to Miami-Dade. These TMDLs have now been adopted into rule and became effective May 14, 2012. The Department has initiated a stakeholder-driven process for developing BMAPs for the Caloosahatchee, Everglades West Coast, and St. Lucie basins that will identify projects and activities need to restore water quality such that it meets the designated uses in these watersheds.

Cost:

Total:	$1,300,000
Project Development:	$1,000,000*
Land Acquisition:	Unknown
Implementation:	$300,000
Operations and maintenance:	Unknown

**includes $400,000 for state-wide mercury TMDL*

Project Schedule:

Start Date: July 1, 2000

Finish Date: Upon Completion (Current schedule runs to 2011)

Total Maximum Daily Load (TMDL) for South Florida Detailed Project Budget Information– ($1000)						
	Thru 2009	**2010**	**2011**	**2012**	**2013**	**TOTAL**
Federal						
State	6,660	1,300	1,300	1,300	1,300	TBD
Other						
Total	**6,660**	**1,300**	**1,300**	**1,300**	**1,300**	**TBD**

Project Name: **C&SF: CERP Comprehensive Integrated Water Quality Plan (CIWQP)**
Project ID: 1701
Lead Agency: USACE / FDEP
Authority: WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 3-A.4

Measurable Output(s): Recommendations

April 1999 (Restudy) Project Synopsis: There was no comprehensive plan for achieving water quality restoration in south Florida, which links together water quality restoration programs in the context of comprehensive planning for ecosystem restoration. Achieving all of the water quality goals for ecosystem restoration in all use-impaired water bodies within the study area will depend on actions outside the scope of the *Central and Southern Florida Project Comprehensive Review Study* (Restudy). The degree to which some of the existing water quality improvement programs have been implemented has been limited. To ensure that south Florida ecosystem restoration objectives are achieved, a Comprehensive Integrated Water Quality (CIWQ) Plan that links water quality restoration targets and remediation programs to the hydrologic restoration objectives of the recommended plan must be developed for the entire study area.

In its July, 1998 Interim Report on the C&SF Project Restudy (GCSSF, 1998), the Governor's Commission recommended that a water quality implementation plan for the Restudy be developed with Florida Department of Environmental Protection as the lead agency, in cooperation with the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, South Florida Water Management District, the Seminole and Miccosukee Native American Tribes, and local governments. In order to resolve water quality problems on an ecosystem wide basis, the Governor's Commission recommended that a comprehensive water quality plan be initiated as a feature of the Restudy. The 1999 Restudy recommended this plan to be conducted under the authority of WRDA 1996 that allows for the continuation of studies and analyses**.** The Restudy recognized the need for a comprehensive water quality plan that would integrate the Comprehensive Everglades Restoration Plan (CERP) projects and other federal, state and local government programs.

Current Project Synopsis: The Comprehensive Integrated Water Quality Plan for south Florida involves identifying pollution-impaired water bodies, quantifying types and sources of pollution, establishing interim and final pollution load reduction targets necessary to achieve ecosystem restoration, recommendations for development of potential source reduction programs, recommendations for baseline and future water quality monitoring programs to assess ecological responses to water quality changes, and recommendations for designing and constructing water quality treatment facilities, if necessary.

Although the scope of the study was not fully developed, it was envisioned that this feasibility study would also address other issues. Recommendations would address fragmented, uncoordinated water quality sampling, data quality, and climatological effects and trends; practices for oversight and support of improved water quality modeling efforts in south Florida; development of additional water quality restoration targets, where needed; remediation programs to achieve those targets; Best Management Practices in specific agricultural and urban areas where appropriate (including identifying those urban areas where participation in the NPDES municipal stormwater program is needed); and, synchronizing water quality restoration programs with the implementation schedule for the Plan components.

The Comprehensive Integrated Water Quality Plan may also include recommendations for locations of water storage and treatment areas and design features to optimize recommended plan components to achieve water quality restoration targets the determination of additional features (e.g., polishing cells, operational features) for the larger recommended plan components currently lacking specific water quality performance elements.

DEP agreed to participate in the Project Management Plan (PMP) phase of the feasibility study as the local sponsor. The Project Delivery Team identified the issues for the feasibility study, and a Draft Project Management Plan (PMP) was prepared in 2003 and approved by the project's Design Coordination Team.

In 1999, the same year the Restudy was published, the Watershed Restoration Act of 1999 (section 403.067 F.S.) directed the Florida Department of Environmental Protection (FDEP) to scientifically evaluate the quality of Florida's surface waters and promote the mechanisms necessary to clean up pollution. The Act was created specifically to implement the federal Total Maximum Daily Load (TMDL) program, which is a systematic approach to establishing how much pollution water bodies can assimilate while still meeting water quality standards. This act had a direct effect on the suspension of work on the Comprehensive Integrated Water Quality Plan. To streamline the TMDL program, DEP adopted a five-year cycle that divides Florida into five groups in which different activities take place each year and the cycle is reiterated continuously. Activities include

Preliminary basin assessments;
Identification of pollutant-impaired waters;
Targeted water quality monitoring and data analysis;
TMDL development and adoption;
Basin planning with local stakeholders to establish the actions necessary to reduce pollution; and
Implementation through regulatory action, funding, pollution prevention strategies and other measures.
The FDEP also adopted an Impaired Waters Rule establishing the methods by which surface waters are evaluated and the need for TMDLs is determined.

Current Status: The FDEP has completed the whole 5-year cycle once and is finishing up the second cycle. FDEP developed and adopted, by rule, 92 TMDLs as of June 2009; another 87 TMDLs have been proposed or are in draft, all of which must also be adopted by rule. Of these, as many as 16 final TMDLs and 5 draft TMDLs are in the CERP study area.

At the same time, FDEP has worked with the Florida Department of Agriculture and Consumer Services (FDACS) and the state's five water management districts to improve the mechanisms local governments, utilities, industries and agricultural operations can use to implement pollution reductions and improve water quality. FDACS has invested significant resources in targeting best management practices to particular agricultural commodity groups and demonstrating why it is in their best long-term economic and social interests to implement them. FDEP has invested over $17.5 million on research and development of non-agricultural best management practices and implementation of targeted monitoring expressly for the TMDL program. FDEP has awarded another $26 million in federal section 319 grants to local governments to implement better urban stormwater treatment projects and practices.

At the same time, the SFWMD and the Monitoring Assessment Plan (MAP) have gone through significant efforts to coordinate water quality monitoring in the CERP study area in order to increase efficiency and decrease duplication of effort. The Interagency Modeling Center was established between the SFMWD and the USACE to better coordinate modeling efforts in south Florida.

Est. Cost: $ 8,100,000

Project Schedule: TBD

Detailed Project Budget Information (rounded)**:**

Comprehensive Integrated Water Quality Study		**Expenditures Thru FY 2009**
USACE	Recon (100%)	$624,921
	Feasibility (50/50)	$110,000
FDEP		$0
Total		$734,921

Hyperlink: http://www.evergladesplan.org/pm/studies/ciwq.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Sources: Original project description was summarized from the original PMP and discussion documents. Cost estimate information reflects current price levels in October 2009 dollars; however, cost estimates need to be re-determined, as the PMP has never been finalized. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07. Current status of the TMDL program is from the report "*Florida's Total Maximum Daily Load Program: the First 5 Years.*"

Additional Information: The study area encompasses 17,500 square miles from Orlando to the Florida Reef Tract. The Kissimmee River, Lake Okeechobee and the Everglades are the dominant watersheds that connect a mosaic of wetlands, uplands, coastal areas, and marine areas. The study area includes all or part of 19 counties: Monroe, Miami-Dade, Broward, Collier, Palm Beach, Hendry, Indian River, Martin, St. Lucie, Brevard, Volusia, Glades, Lee, Charlotte, Highlands, Okeechobee, Osceola, Orange, and Polk. The project boundary corresponds to that of the SFWMD and the Indian River Lagoon (IRL) North Feasibility Study.

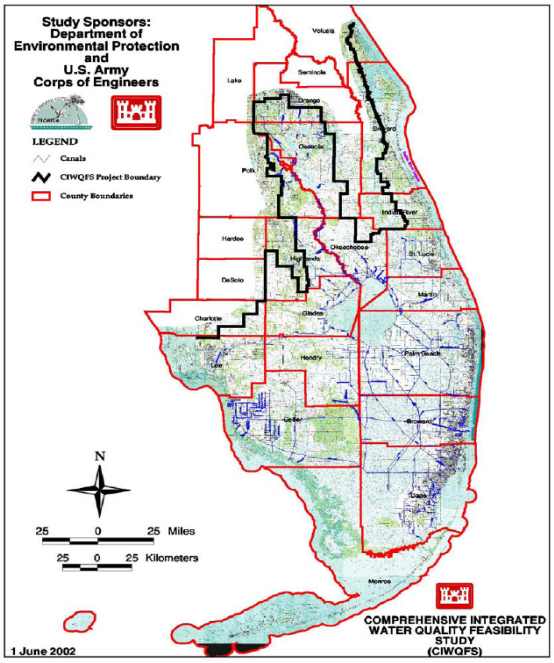


Figure 1.1 STUDY AREA BOUNDARY

Project Name: **E&SF: Critical Project - Lake Trafford Restoration**
Project ID: 1702
Lead Agency: USACE / SFWMD
Authority: WRDA 1996; WRDA 2000 *(Programmatic Authority)*

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 2.85 million cubic yards of organic sediments removed

Project History: WRDA 1996 authorizes the Secretary of the Army to expeditiously implement restoration projects deemed critical to the restoration of the south Florida ecosystem. The SFEER Task Force nominated 35 projects with input from the Governor's Commission for a Sustainable South Florida and the public. Based on the set of priorities, the USACE conducted an abbreviated study of and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 restoration "Critical Projects" having the Secretary of the Army's approval (WRDA 1996).

April 1999 (Restudy) Project Synopsis: The project is also described in the *Central and Southern Comprehensive Review Study (1999)* as an *OPE,* utilizing one or more 14-inch portable cutter dredges to accomplish lake-wide organic sediment removal.

Current Project Synopsis: Lake Trafford, the largest lake south of Lake Okeechobee, with a surface area of approximately 1,494 acres, is located in north Collier County. The lake is the headwaters for the Corkscrew Swamp Sanctuary to the southwest, the Corkscrew Regional Ecosystem Watershed (CREW) to the west, and the Fakahatchee Strand system including the Florida Panther National Wildlife Refuge, to the south. Lake Trafford has poor water quality, extensive muck accumulations, lost native submerged plant communities, experienced periodic aquatic weed infestations, and had numerous moderate fish kills. Poor water quality is attributed to internal nutrient cycling from extensive organic muck deposits throughout the basin. About 8.5 million cubic yards of loose, flocculent, organic materials form a blanket with a thickness of 9" up to 9' on the lake bottom. The project includes the use of cutter dredges to remove this material and pump it into a 449-acre, diked, agricultural facility. Once completed, improved water quality should enhance fish and wildlife habitat in and around Lake Trafford.

The Lake Trafford Restoration project was initiated in 2002. The in-lake portion of dredging was completed by the spring of 2006. This phase of the project removed approximately 3 million cubic yards of organic sediments from the bottom of the lake. A second phase was to remove approximately 800,000 cubic yards of the muck sediment from the littoral zone and commenced in 2006. However, the prevailing historic drought in south Florida rendered the lake levels critically low for operation of the dredging machinery and remaining effort had to be terminated that same year.

The USACE completed plans and specifications, but at that time there was insufficient funding to award a contract. The SFWMD assumed 100% of the cost of revamping the detailed design and the construction with the intent of receiving credit and/or reimbursement upon project completion and approval by the USACE. The FWC and Collier County Tourist Development Council provided some financial assistance to SFWMD for the project

Current Status: The containment facility and much of the dredging were completed in early 2008. The second phase was re-initiated in spring 2009 and is now expected to be complete by the end of the fiscal year.

Est. Cost: $26,000,000
Project Schedule:
2011 Construction complete

Detailed Project Budget Information (rounded):

Lake Trafford	Expenditures Thru FY 2009
USACE	$1,600,943
SFWMD	$11,490,192
Total	**$13,091,135**

Hyperlink:
http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_Critical.htm

Contact: Debby Scerno, Program Management, Everglades Division, USACE
Deborah.H. Scerno@usace.army.mil

Janet Starnes, Project Manager Principal, SFWMD
jstarne@sfwmd.gov

Source: Original project description (OPE) is summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current status and estimate was provided by the project manager.

Program Name: Long-Term Plan for Achieving Everglades Water Quality Goals (Long-Term Plan)
Project Name: **Phosphorus Source Controls for Basins Tributary to the Everglades**
Project ID: 1706
Lead Agency: South Florida Water Management District
Authority: Everglades Forever Act (EFA)
Funding Source: State - Long-Term Plan funds, which include Everglades Agricultural Privilege Tax

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Mandatory BMP Program Compliance Model Results; Updates on Implementation of Basin Specific Water Quality Improvement Plans; Reporting on the Long-term Compliance Permit requirements.

Project Synopsis: As a result of the EFA, the SFWMD established the Everglades Regulation Bureau. The Bureau is responsible for complying with the requirements of specific Florida Department of Environmental Protection-issued permits. One such requirement is implementation of the Regulatory Source Control Programs, including Best Management Practices (BMPs), in the Southern Everglades tributary basins. The Regulatory Source Control Program is primarily made up of a regulatory program developed to decrease phosphorus loads into the stormwater treatment areas (STAs) from the Everglades Agricultural Area (EAA) and C-139 Basins (also referred to as ECP Basins) by reducing phosphorus in permittee discharges to specified levels prior to entering the STAs. For the remaining tributary basins (also referred to as Non-ECP Basins), the source control program is a combination of regulatory and cooperative efforts.

Current Status: For the 16 years that the program has been in place in the EAA Basin, the total phosphorus loads have been reduced by greater than 50% on average. The C-139 Basin Regulatory Source Control Program was initially implemented in 2002. Rule amendments to optimize water quality improvement efforts in the C-139 Basin became effective in November 2010. Water Quality Improvement Plans were developed for each of the other tributary basins to ensure that all basins discharging directly to the Everglades meet state water quality standards. These strategies include BMPs, existing regulatory stormwater management programs, public outreach, and construction of public works projects. All of this work and the funding for this work are mandated by the Everglades Forever Act and the Long-Term Plan.

Cost:

Total	N/A
Project Development	N/A
Land Acquisition	N/A
Operations and Maintenance	N/A

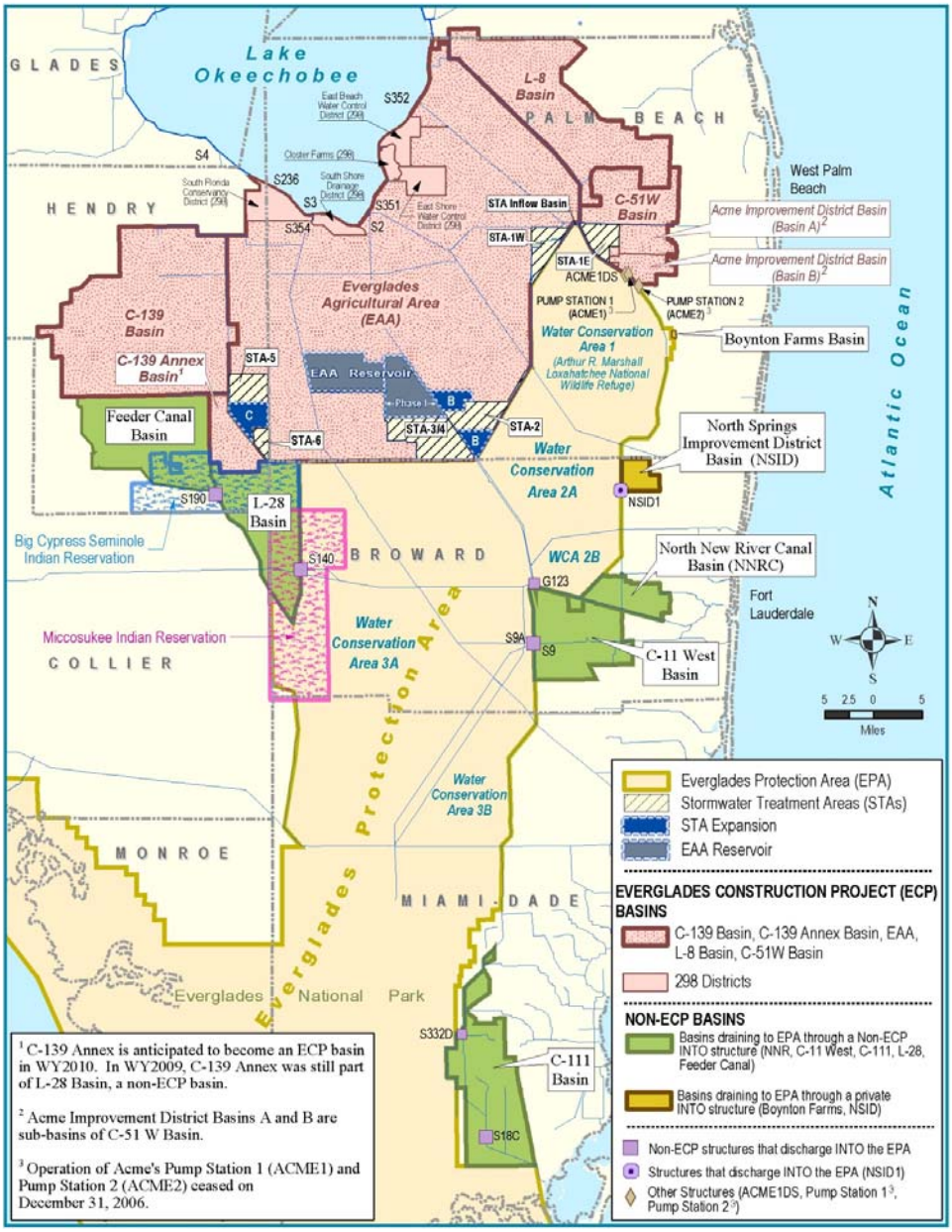
Project Schedule:
Start Date: March 1998
Finish Date: N/A – This is an on-going mandated regulatory program with no end date.

Detailed Project Budget Information (1000s)

	2000-04	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012***	**Total**
Federal										
State	14,023	3,446	4,236	2,722	2,924	4,863	4,063	3,256	2,141	41,674
Total	**14,023**	**3,446**	**4,236**	**2,722**	**2,924**	**4,863**	**4,063**	**3,256**	**2,141**	**41,674**

*estimated

Hyperlink:
https://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_watershed/portlet_stamanagement_ltp/tab1834329/ltp_mtg_25feb2010_sourcecontrols.pdf
Contact: Pamela Wade, SFWMD, 561-682-6901



Basins Tributary to the Everglades Protection Area

Program Name: Surface Water Management
Project Name: **Seminole Tribe Best Management Practices for the Big Cypress Reservation**
Project ID: 1714
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Council Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):
The project will result in immediate, measurable improvements in the quality of water discharged to the Everglades Protection Area. It will also provide tangible improvement of the water quality leaving the Western Basins, an area not addressed completely by the Everglades Construction Project and the Everglades Forever Act.

Project Synopsis:
The Seminole Tribe has contracted with the NRCS to implement a comprehensive system of best management practices (BMP's) for all seven basins in the Big Cypress Reservation through the EQUIP program. Enhanced water management will be accomplished through BMP's that include: conservation irrigation systems; nutrient loading reduction; application procedure training; fencing of WRA's and irrigation cells as detailed in the Water Conservation Plan; cross fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and will function independently of the Water Conservation Project, the two will work best together to create the most benefit for the ecosystem.

Current Status:

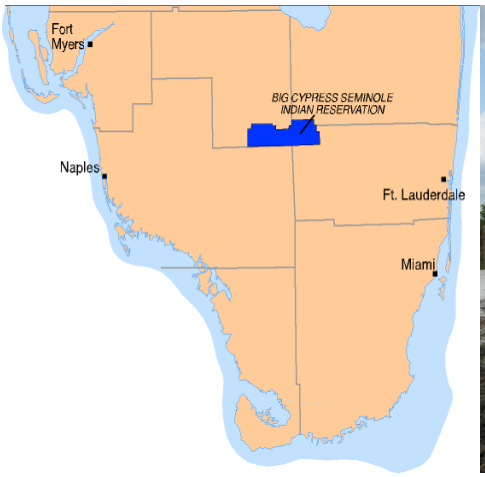
Grazing Management Plans are complete. Interior fence installation is complete as well as 18 solar panel and pump systems.
Cost:
Total: $4,779,000
Project Development:
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: June 1996
Finish Date: September 2015

Detailed Project Budget Information ($1000)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	Balance to complete	Total thru '12
Federal	358.4	358.4	358.4	358.4	358.4	358.4	358.4	358.4	392.58	(324.32)	3,259.78
State											0
Tribal	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	39.25	(199.45)	995.25
Total	**477.9**	**477.9**	**477.9**	**477.9**	**477.9**	**477.9**	**477.9**	**477.9**	**431.83**	**(523.77)**	**4,255.03**

Hyperlink: N/A
Contact: Craig Tepper, Director
Environmental Resource Management Department
Seminole Tribe of Florida



Program Name: Infrastructure
Program Name: Surface Water Management
Project Name: **Seminole Tribe Best Management Practices for the Brighton Reservation**
Project ID: 1715
Lead Agency: Seminole Tribe of Florida
Authority: NRCS EQIP Program/Tribal Council Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):
Implementation of BMP's will provide immediate water quality benefits for the watershed which includes Lake Okeechobee. They will also compliment a comprehensive system of surface water management works planned for the Brighton Reservation.

Project Synopsis:
The Seminole Tribe has contracted with NRCS to design a comprehensive system of best management practices (BMP's) for the Brighton Reservation. Enhanced water management will be accomplished through application of field-level BMP's which might include: conservation irrigation systems; nutrient loading reduction; application procedure training; cross-fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and a tail-water recovery system where appropriate.

Current Status:
The plan was completed in 2002. Conservation irrigation systems, livestock watering facilities, closed-end irrigation systems have been established. Monitoring results show reduction in nutrient loads. Solar panels (22) and pump systems are in the process of being installed.
Cost:
Total
$374,000
Project Development
Land Acquisition
Implementation
Operations and maintenance

Project Schedule:
Start Date: January, 1998
Finish Date: September, 2012

Detailed Project Budget Information (1000s)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Federal	36	36	36	36	36	36	36	1.5	36	0	289.5
State										0	0
Tribal	12	12	12	12	12	12	12	.5	0	0	84.5
Total	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**2**	**36**	**0**	**374**

Hyperlink: N/A

Contact: Craig Tepper, Director
Environmental Resource Management Department
Seminole Tribe of Florida

Program Name: Surface Water Management
Project Name: **Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation**
Project ID: 1716
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Council by Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): This plan would provide positive water management benefits to the Indian Prairie Basin which discharges into Lake Okeechobee. Water quality will be improved by reducing nutrient loadings through detaining discharges from Tribal lands in each group. Flood control will be enhanced through the implementation of additional sites in each sub-basin. Storage and conveyance of surface waters will be increased and enhanced in each and between sub-basins. Re-hydration of slough systems in each group will also be accomplished.

Project Synopsis: A comprehensive surface water management system will be designed and implemented for the Brighton Reservation which will include supplemental irrigation, storage, improved flood control, surface water conveyance and water quality treatment.

Current Status:

Complete

Cost: $15,818,000

Project Schedule:
Start Date: 1999
Finish Date: 2010

Detailed Project Budget Information (1000s)

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Balance to complete**	**Total**
Federal	20	4,344	970	679	853	853	655	0	8,374
State									0
Tribal	0	4,343	970	679	852	426	174	0	7,444
Total	**20**	**8,687**	**1,940**	**1,358**	**1,705**	**1,279**	**829**	**0**	**15,818**

Hyperlink: N/A

Contact: Craig Tepper, Director
Environmental Resource Management Department
Seminole Tribe of Florida

Program Name: Surface Water Management
Project Name: **Seminole Tribe Water Conservation Project for the Big Cypress Reservation**
Project ID: 1717
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Council Resolution/ UDSA PL-53-866

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):
This network of surface water management structures will produce the following substantial restoration, preservation, and protection benefits and will do so immediately and independently of the completion of any other projects:

Remove phosphorus and other pollutants from water leaving the Reservation and flowing to the Big Cypress National Preserve into Mullet Slough to the Everglades Protection Area. The removal of these pollutants will be achieved using natural treatment processes in pretreatment cells and water resource areas (WRA's). Unlike the stormwater treatment areas in the Everglades Construction Project, the Tribe's WRA's will take advantage of the natural treatment processes and will serve additional functions of water storage and conveyance.

Rewater the Big Cypress National Preserve. This project will provide the opportunity to restore more natural hydroperiods in the Big Cypress National Preserve. The clean water sent in a sheetflow over the Preserve and into Mullet Slough will improve the hydrology in the Everglades Protection Area as well as convey and store irrigation water. To make use of water provided by the SFWMD to replace the Tribe's diverted Compact water rights, the Tribe needs to be able to move and store such water, when it is available. Water conveyance improvements and irrigation storage cells will move and store the Compact water converted for Everglades restoration. This diversion allowed for treatment of water flowing to the Everglades Protection Area.

Provide improved flood control. To prevent extended periods of flooding and to limit downstream impacts of flooding, stormwater must be controlled. Stormwater attenuation areas will detain water from large storm events.

Project Synopsis:
The Seminole Tribe's Big Cypress Reservation is located in Hendry and Broward Counties, directly north of the Big Cypress National Preserve and the federal Miccouskee Reservation. This project provides for the design and construction of water control, management, and treatment facilities in Basins 5, 6 & 7 composing the eastern portion of the Big Cypress Reservation. The project elements include conveyance systems, including major canal bypass structures, irrigation storage cells, and water resources areas. This project is designed to meet 50 ppb. phosphorus, which is the current performance level designed to be achieved by the Everglades Construction Project. Should design performance levels for phosphorus become more stringent, this project is designed to be able to incorporate additional technology to meet stricter levels. This project will enhance the hydroperiod in Big Cypress National Preserve through Mullet Slough and improve the water quality in the Everglades Protection Area.

Current Status:

An EIS has been completed for the project. No activities are planned for Basins 5, 6 and 7.

Cost:

Total
$60,000,000

Project Schedule:
Start Date: 2002
Finish Date: 2012

Detailed Project Budget Information (1000s)

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Total**
Federal	1,500	3,500	3,500	3,500	3,500	8,000	12,500	0	0	36,000
Tribal	0	1,625	1,625	1,625	1,625	4,000	6,400	7,100	0	24,000
Total	**1,500**	**5,125**	**5,125**	**5,125**	**5,125**	**12,000**	**18,900**	**7,100**	**0**	**60,000**

Contact: Craig Tepper, Director
Environmental Resource Management Department
Seminole Tribe of Florida

Program Name: Lake Okeechobee Restoration: Water Quality
Project Name: **Lake Okeechobee Protection Plan**
Project ID: 1722
Lead Agency: South Florida Water Management District
Funding Source: State of Florida Appropriation

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Improve the health of Lake Okeechobee through phosphorus load reductions and increased water storage. Reduction of total phosphorus loads from the watershed to meet the Lake's Total Maximum Daily Load (TMDL) of 140 MT/year through implementation of Best Management Practices (BMPs), phosphorus reduction projects as well as sub-regional and regional water quality projects. Planning analyses completed in 2008 (Lake Okeechobee Watershed Construction Project), which assumed that no additional lake water could be sent to south through the Everglades Agricultural Area (EAA) to the Everglades, identified a Lake Okeechobee Watershed water storage goal of 900,000 to 1.3 million acre-feet to be achieved through a combination of above-ground reservoirs, underground storage and dispersed water management projects on public and private lands. This storage goal may need to be refined depending on the opportunities for additional water storage and treatment in EAA.

Project Synopsis: Although there has been a long history of regulatory and voluntary incentive-based programs to control phosphorus inputs to Lake Okeechobee, there had not been any substantial reduction in loading during the preceding decade. As a result, the Florida legislature passed the Lake Okeechobee Protection Act (LOPA) in 2000, mandating that the South Florida Water Management District (SFWMD), the Florida Department of Environmental Protection (FDEP), and the Florida Department of Agriculture and Consumer Services (FDACS) work together to implement an aggressive program to address the issues of excessive phosphorus loading and exotic species expansion. The SFWMD, in cooperation with FDEP and FDACS, developed the Lake Okeechobee Protection Plan (LOPP) as required by LOPA, which was submitted to the Florida Legislature in January 2004, and was updated in February 2007.

In 2007, the Florida Legislature substantially expanded the Lake Okeechobee Protection Act to the Northern Everglades and Estuaries Protection Program (NEEPP) (Section 373.4595, F.S., 2007). Consequently, the Lake Okeechobee and Estuary Recovery (LOER) Plan, announced in October 2005, was migrated into this program. The NEEPP specifically called for the development of the Lake Okeechobee Watershed Construction Project Phase II Technical Plan (LOWCP P2TP- completed in 2008), along with separate river watershed protection plans for both the Caloosahatchee and St. Lucie (completed in 2009 and updated in 2012) developed by the SFWMD, FDEP, and FDACS , collectively known as the coordinating agencies. Recently, the coordinating agencies updated the Lake Okeechobee Protection Plan incorporating LOWCP P2TP elements and additional program components designed to benefit the lake ecosystem (SFWMD et al., 2011)

The LOPP contains a phased, watershed-based, comprehensive approach to reduce phosphorus loading to the lake and identifies construction projects, along with on-site measures that prevent or reduce pollution at its source such as agricultural and urban best management practices needed to achieve water quality targets for the Lake. Because the legislature has provided substantial funding for the implementation of the LOPP since 2000, the cooperating agencies have also implemented a large number of phosphorus reduction projects including phosphorus source control grant programs for agricultural landowners, dairy best available technology pilot projects, soil amendment projects, and isolated wetland

restoration remediation of former dairies and regional public/private partnerships. In addition, the LOPP includes dispersed water management and other projects for increasing water storage north of Lake Okeechobee to achieve healthier lake levels and reduce harmful discharges to the Caloosahatchee and St. Lucie rivers' estuaries. The LOPP also contains elements of research and monitoring as specified by the act. Accordingly, a comprehensive monitoring program for water quality in the lake and watershed and ecological indicators in the lake has been implemented.

Current Status: The LOPP is currently being implemented and the next update is due in 2014.

Cost: The LOPP includes a phased implementation. In 2011 LOPP update, implementation of near-term projects (2011-2013) and the cost for operations and maintenance of current (constructed or completed) projects are estimated to be $92.6M.

Project Schedule:

Start Date: 2000
Finish Date: TBD

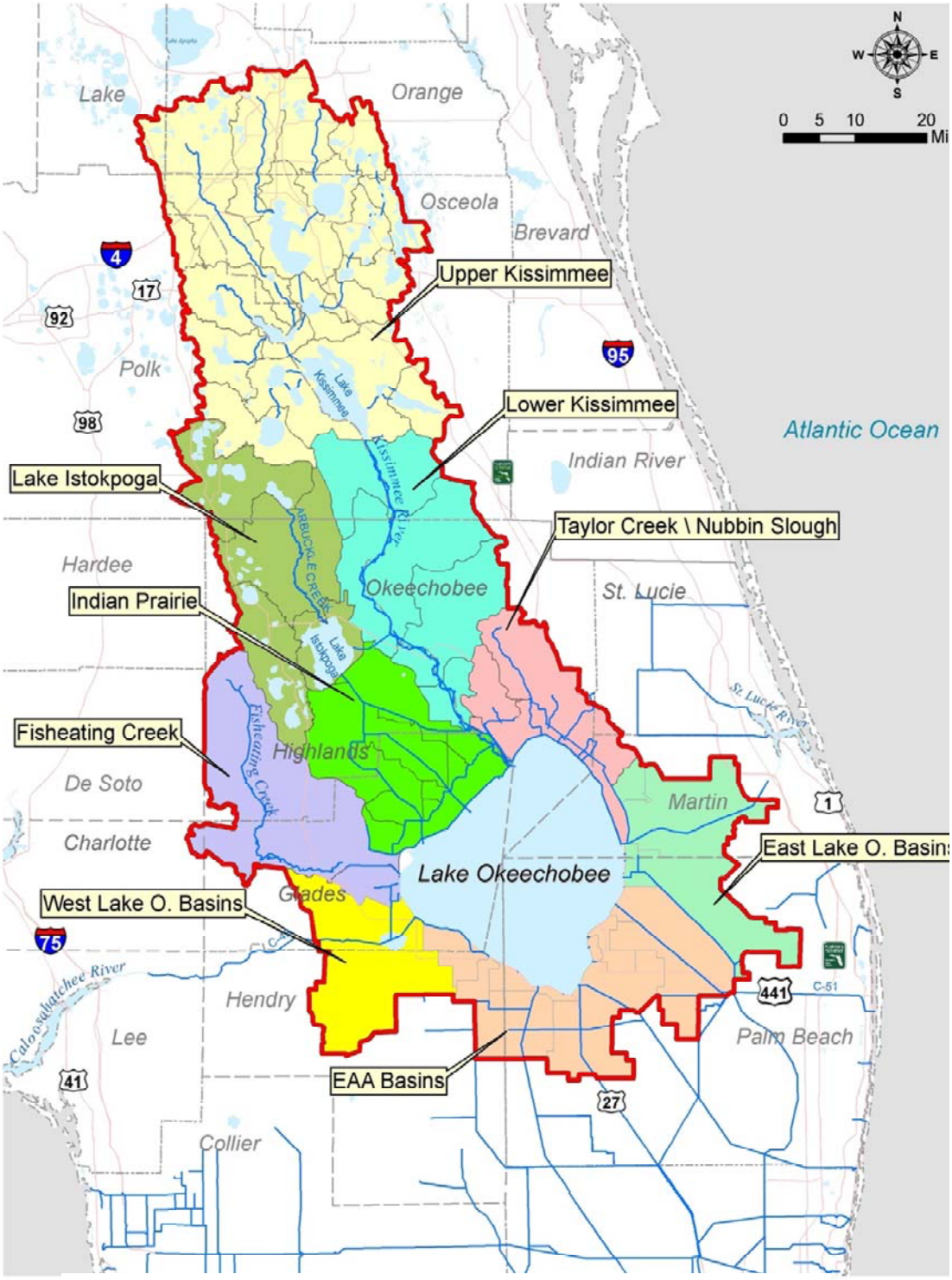
Detailed Project Budget Information (1000s)

	FY 1999-2007	**2008**	**2009**	**2010**	**2011**	**2012**
Federal EPA						
*State SFWMD	116,689	54,000	67,890	53,091	27,893	15,566
**Other	84,892	30,336	22,305	8,142	9,097	10,235
Total	**201,581**	**84,336**	**90,195**	**61,233**	**36,991**	**25,801**

Sources:
* Lake Okeechobee Program adopted budget – state appropriations
** Lake Okeechobee Program adopted budget – non-state appropriations
Note: Adopted budget may include fund balances from prior years.

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/lopp_update_2011_ex_sum.pdf

Contact: Lesley Bertolotti, SFWMD



Lake Okeechobee Protection Plan Boundaries and Sub-Watersheds

Program Name: Northern Everglades and Estuaries Protection Program
Project Name: **Hybrid Wetland Treatment Technology**
Project ID: 1723
Lead Agency: SFWMD, State of Florida
Funding Source: Save Our Everglades Trust Fund (SOETF)

Strategic Plan Goal(s) Addressed: 1-B-2, Other Related Water Quality Projects

Measurable Output(s): Estimated annual phosphorus load reduction is 4 metric tons for six Hybrid Wetland Treatment Technology (HWTT) systems.

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades and Estuaries Protection Program (NEEPP) (*Section 373.4595, F.S., 2007)*, which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. This project was initiated by the State of Florida under NEEPP. It combines the use of both wetland and chemical treatment components to remove nutrients from surface waters. This project was jointly initiated in 2007 by the SFWMD and FDACS to demonstrate the technical feasibility and cost effectiveness of this technology.

In 2008, four HWTT systems were constructed (Nubbin Slough, Mosquito Creek, Ideal Grove 2, Larson Lagoon) and optimization efforts were initiated. Three of the facilities are continuous flow systems while the fourth (Larson Lagoon) was used for batch treatment of waters with high nutrient levels but is no longer operational. In 2009, two additional systems were constructed on Wolff Ditch and Lemkin Creek on a District-owned parcel, with operations beginning in late 2009. During 2010 and 2011, a 10 cfs HWTT facility was constructed at the District's Taylor Creek/Grassy Island property with the optimization monitoring period beginning in late 2011. In early 2012, construction of Phase II of the Grassy Island HWTT facility started to increase the treatment capacity of the facility up to 30 cfs.

Current Status:
Operations continue on the six current sites (Nubbin Slough, Mosquito Creek, Ideal Grove 2, Wolff Ditch, Lemkin Creek and Grassy Island) providing phosphorus concentration reductions ranging from 60 to 90 percent. The newly expanded Taylor Creek/Grassy Island facility will commence operation at 20 cfs in late 2012.

Total Estimated Project Cost for Project: $13.484M to date

Project Schedule:
Start Date: October 2007
Finish Date: On going

	2008	2009	2010	2011	2012	Total to Date
SFWMD	$3M	$3M	$3M	$1.484M	$3M	$13.484M

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xweb%20protecting%20and%20restoring/other%20everglades

Contact: Jim Laing, SFWMD
Orlando Diaz, SFWMD

HWTT Facilities in the Northern Everglades Watershed

Program Name: Northern Everglades and Estuaries Protection Program
Project Name: **Local Cost-Share Projects with Martin County**
Project ID: 1724
Lead Agency: SFWMD, State of Florida and Martin County
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1-B-2, Other Related Water Quality Projects

Measurable Output(s): Improves hydrology, water quality and aquatic habitats in the St. Lucie Watershed. Also reduces sediment and nutrient loading to the St. Lucie River and Estuary and increases basin storage and treatment.

Project Synopsis: The State of Florida, the SFWMD, and Martin County have initiated the implementation of four water quality improvement projects under a unique cost share agreement as part of the Northern Everglades and Estuaries program. These projects will provide water quality treatment through construction of stormwater detention/retention areas and marsh filtration areas prior to discharge.

The four projects funded in the Martin County partnership are:
Phase III of the Old Palm City Stormwater Quality Improvement Project will develop a neighborhood stormwater quality management system including construction of two STAs.

The final component of the **Manatee Pocket Dredging Project** is designed to improve the water quality in the Manatee Pocket of the St. Lucie Estuary.

The **North River Shores Sewer System** will provide sanitary sewer service to approximately 450 single-family and multi-family parcels of land in the North River Shores area. The project will enhance water quality in the North Fork of the St. Lucie River by eliminating nutrient loading from septic systems.

The **Manatee Creek Water Quality Retrofit** is to provide additional water quality treatment for drainage from 833 acres of residential, commercial and industrial development that discharges into the Manatee Pocket of the St. Lucie Estuary.

Current Status:
Phase III of the Old Palm City Stormwater Quality Improvement Project: Construction of the project is substantially completed and the project close-out is expected to be finalized by summer 2012.

Manatee Pocket Dredging Project: Hydraulic dredging of the main channel in the Pocket was completed in December 2011. Dredging is complete in all of the creeks as well. The staging area in Martin County's Sandsprit Park will be in use until all mechanical dredging is complete. Project is complete.

North River Shores Vacuum Sewer System: Project has been completed.

Manatee Creek Water Quality Retrofit: Substantial Completion was achieved September 30, 2011. It is anticipated that construction closeout, project certification, final billing and deliverables will be completed in April 2012.

Total Estimated Project Cost: $25,977,000

Project Schedule: **Start Date:** Contract execution date for first contract - June 27, 2008
Finish Date: Expiration date for last contract – May 26, 2012

Actual Expenditures to Date by SFWMD:

	2008	2009	2010	2011	2012	Total to Date
SFWMD	-	$1,151,834.80	$167,316.56	$4,902,780.37	$2,415,876.85	$1,319,151.36

Contact: Pinar Balci, SFWMD

Project Name: **C&SF: CERP Lake Trafford Restoration**
Project ID: 1725
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 2.85 million cubic yards of organic sediments removed

April 1999 (Restudy) Project Synopsis: Lake Trafford, the largest lake south of Lake Okeechobee, with a surface area of approximately 1,494 acres, is located in north Collier County. The project is described in the *Central and Southern Comprehensive Review Study (1999)* as an *OPE,* utilizing one or more 14-inch portable cutter dredges to accomplish lake-wide organic sediment removal.

Current Project Synopsis: Same as Restudy. T

Current Status: Portions of this project are currently being pursued under a different program. Please see Project ID 1702.

Est. Cost: $20,821,000

Project Schedule: The CERP project has not begun.

Detailed Project Budget Information (rounded):

Insert project name	Expenditures Thru FY 2009
USACE	$0
SFWMD	$0
Total	**$0**

Contact: Karen Tippett, Program Execution Branch, Everglades Division, USACE
Karen.S.Tippett@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

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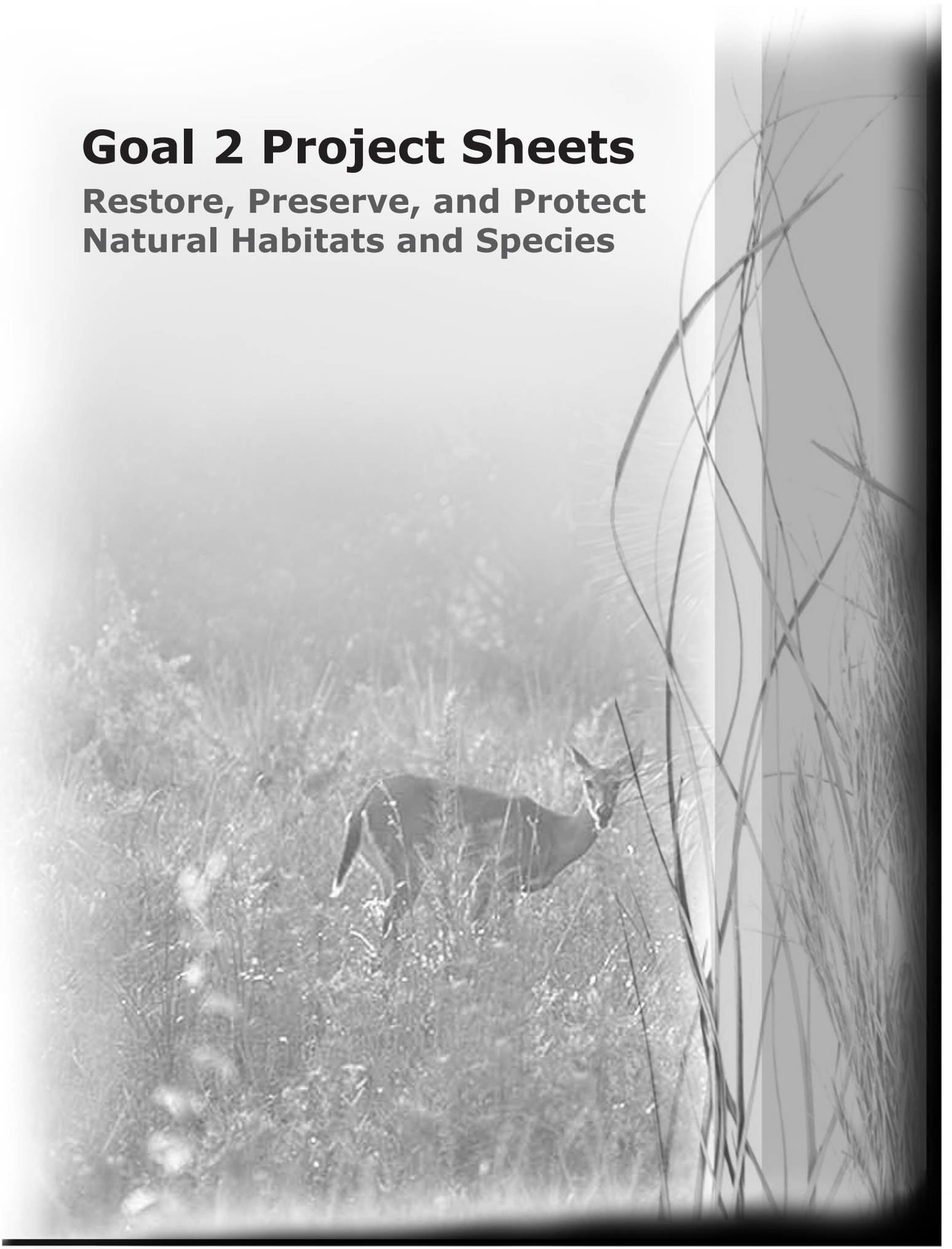
Goal 2 Project Sheets

Restore, Preserve, and Protect Natural Habitats and Species



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Program Name: Land Acquisition
Project Name: **Adams Ranch**
Project ID: 2181
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 10,841 Acres Acquired

Project Synopsis: The Adams Ranch Florida Forever project includes a portion of one ownership to be considered for less than-fee-simple acquisition totaling 11,057 acres in southern Osceola County. About 5.2 miles of the western boundary of the project abuts the southeastern boundary of Three Lakes Wildlife Management Area. The northwestern boundary fronts Lake Marian for 1.3 miles. The project stretches east through the center of the entire Adams Ranch holding, which is bracketed to the north and south with Adams Ranch, Inc. property and bounded on the east by Peavine Road. Avon Park Air Force Range and Bombing Range Ridge Florida Forever project are no more than 10 miles to the west of the project. The Mills Ranch and Escape Ranch Conservation Easements lie approximately 3.5 miles to the east. Kissimmee Prairie Preserve State Park is approximately 8.5 miles to the south.

One of the primary concepts of this project is the protection of the way of life for the ranch, which is managed in a way that has historically allowed for the continued protection of an important and biodiverse assemblage of imperiled vertebrate wildlife. Another stated goal of the project is to provide for continued buffering of the Three Lakes Wildlife Management Area from development, avoiding fragmentation of the landscape and allowing for the continuation of proper management on a landscape scale through prescribed fire, maintenance of hydrological regimes, and other appropriate strategies.

This project meets the Florida Forever goals of increasing protection of biodiversity by acquiring 81 acres of Priority 1 habitat and 6,140 acres of Priority 2 habitat, and preserving 10,618 acres of habitat for such rare species as the eastern indigo snake and the bald eagle. Another Florida Forever goal is to increase the acreage of landscape linkages and conservation corridors, by contributing to a 200,000-acre mosaic of protection areas that includes the adjoining Three Lakes Wildlife Management Area. Other Florida Forever goals are to protect waters and wetlands of the state, and the Adams Ranch will preserve 762 acres of floodplain, 5,811 acres that would help protect surface waters, and 2,598 acres of functioning wetlands. Some 10,979 acres of the proposal help recharge the aquifer.

Cost: Project size 10,841. No acres have been acquired.

Project Schedule:
Start Date: 1997
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	Balance to complete	Total
State*			
Local			
Federal			
Total	**0**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Allapattah Flats**
Project ID: 2100
Lead Agency: Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1 Secondary: 1.A.1

Measurable Output(s): 40,363 Acres Acquired

Project Synopsis: The Allapattah Flats/Ranch project covers 40,363 acres in western Martin County. The site is dominated by poorly drained flatwoods soils, which are saturated for much of the wet season. Historically, this area was a flatwoods matrix, interspersed with depression marshes and wet prairies. With the exception of the four northern sections that drain to Canal-23, the entire site drains slowly to the southeast to the South Fork of the St. Lucie River. Over the past 30 years, the project area has undergone a change in land use from native range grazing to improved pasture, sod farms, and row crops. Most of the understory has been cleared and planted in non-native pasture grasses. Most of the depression marshes remain; however, most of the wet prairies have been drained and the extreme western boundary. There is good species diversity and many large trees remain.

Restoration of Allapattah Flats will play a key role in the effort to reduce flows from C-23 into the St. Lucie Estuary. Regional attenuation facilities, or Water Preserve Areas, are proposed which would store discharges into the St. Lucie Estuary. After acquisition, about 8,000 acres of the project adjacent to C-23 would be converted to a reservoir to provide approximately 32,000 acre-feet of water storage. Estimates indicate that this would reduce wet season stormwater flows into the estuary by 39%. It is estimated that an additional 14% reduction in discharge to the estuary could be achieved by not draining the property. Completely eliminating stormwater discharges is not possible; however, significant reductions could probably be made by blocking existing drainage ditches.

The Florida Fresh Water Fish and Wildlife Commission would be the lead manager for the non-reservoir areas. The District will take the lead on all hydrologic restoration efforts.

Cost: Project size 40,363. 21,865 acres have been acquired at a cost of $63,023,838
Land Acquisition: 18,498 acres remain to be acquired.

Project Schedule:
Start Date: 1997
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
State*	18,836.23		
Local	15,323.384		
Federal	28,864.224		
Total	**63,023.838**	**TBD**	**TBD**
Adjusted Total**	**0.371558**		

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
** A portion of the acres and costs on this project overlaps with Project ID 1101 in Goal 1. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Atlantic Ridge Ecosystem**
Project ID: 2101
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 16,283 Acres Acquired

Project Synopsis: The project area is located in southern Martin County, between I-95 and U.S. 1. The project area includes approximately 16,002 acres, which is extremely diverse ecologically. It contains large areas of forested sloughs and high quality flatwoods, as well as one of the largest remaining islands of coastal scrub. The current land use is mostly cattle grazing on unimproved pasture with intense agriculture and residential development occurring around the edges of the project area. However, the project also contains extensive wetland and upland systems. Currently, none of this project is in public ownership.

The purpose of this project is to conserve and protect the high quality habitats and to protect water quality of the South Fork of the St. Lucie River and the North Fork of the Loxahatchee River. The project area forms the headwaters to these rivers and the extensive wetland systems provide a source of groundwater base flow to both rivers. This project will conserve and protect significant habitat for endangered and threatened species such as the Florida scrub jay, the Florida sandhill crane, and the Florida scrub lizard. The area is extremely important for aquifer recharge and water supply to the coastal portion of Martin County.

Cost: Total: Project size 16,283. 5,905 acres have been acquired at a cost of $41,597,324
Project Development
Land Acquisition: 10,378 acres remaining to be acquired.

Project Schedule:
Start Date: 1995
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
State*	35,094.095		
Local	6,503.229		
Total	**41,597.324**	**TBD**	**TBD**
Adjusted Total**	**7,655.751**		

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
247.34 acres plus 100 acres of the Atlantic Ridge Ecosystem and South Fork of the St. Lucie projects respectively, are currently being managed as part of Halpatiokee Park (Martin County).
** A portion of the acres and costs on this project overlaps with Project ID 1101 in Goal 1. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Belle Meade**
Project ID: 2104
Lead Agency: Florida Forever
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 28,810 Acres acquired

Project Synopsis: This area of 28,810 acres includes some of the most extensive examples of mature old-growth hydric pine flatwoods in southwest Florida not within other CARL projects. The hydrology of the hydric pine flatwoods and dwarf cypress communities within the project is relatively intact. Three archaeological sites have been recorded within the project boundaries, and additional sites may be present. The area is vulnerable to changes in the timing and amount of water flowing through it. Residential and commercial development spreading from Naples threatens it.

Cost: Project size 28,810 acres. 19,152 acres have been acquired at a cost of $39,412,158
Land Acquisition: 9,658 acres remaining to be acquired.

Project Schedule:
Start Date: 1993
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	39,412.158		
Tribal			
Local			
Other			
Total	**39,412.158**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Big Bend Swamp/Holopaw Ranch**
Project ID: 2105
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 59,132 Acres acquired

Project Synopsis: Many kinds of wildlife in the expanses of palmetto prairies, pine flatwoods, and cypress swamps in Osceola County. The Big Bend Swamp project will acquire certain rights from landowners to maintain a link of natural lands between the Bull Creek and Three Lakes Wildlife Management Area, and help the ensure survival of caracara, red-cockaded woodpeckers, sandhill cranes, and other wildlife that require these large natural areas.

Cost: Project size is 59,132** acres. 4,151 acres have been acquired at a cost of $6,829,000.
Land Acquisition: 54,981 acres remaining to be acquired.

Project Schedule:
Start Date: 2000
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	6,829		TBD
Tribal			
Local			
Other			
Total	**6,829**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Biscayne Coastal Wetlands**
Project ID: 2106
Lead Agency: South Florida Water Management District, Miami-Dade County and Florida Communities Trust
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 1,995 Acres

Project Synopsis: The Biscayne Coastal Wetlands are divided into three units that total 1,995 acres. The units lie east of L-31E canal, and adjacent to other protected lands acquired as part of Biscayne National Park and Homestead Bayfront Park. All are a mixture of red, black and white mangroves. The three units appear to be in good condition and relatively exotic-free, except along the western edge and along mosquito ditches, where there are Brazilian Pepper and Australian Pine. Acquisition of these areas would add another layer of protection to Biscayne National Park and provide opportunities for a better distribution of fresh water from L-31E. Some of the properties in this land acquisition project are necessary for the Biscayne Bay Coastal Wetlands-Phase 1, CERP Project.

Cost: Project size is 1,995 acres. 1,456 acres acquired at a cost of $19,559,500.
Land Acquisition: 539 acres remaining to be acquired.

Project Schedule:
Start Date: 1998
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Through 2012	**Balance to Complete**	**Total***
Federal			
State*	18,980.5		
Tribal			
Local	579		
Other			
Total	**19,559.5**		**TBD**
Adjusted Total	**0.240,985**		

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
** A portion of the acres and costs on this project overlaps with Project ID 1116 in Goal 1. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: **Bombing Range Ridge**
Project ID: 2107
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 41,465 Acres acquired

Project Synopsis: Public acquisition of the 41,465 acre Bombing Range Ridge project will conserve and protect significant habitat for native species and endangered and threatened species. Additionally, public acquisition will provide areas, including recreational trails for natural resource based recreation.

Cost: Project size 41,465 acres with 9,031 acquired at a cost of $20,352,608.
Land Acquisition: 32,434 acres remaining to be acquired

Project Schedule:
Start Date: 1998
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	20,352.608		
Tribal			
Local			
Other			
Total	**20,352.608**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Caloosahatchee Ecoscape**
Project ID: 2108
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 18,497 acres acquired

Project Synopsis: The project encompasses a mosaic of wet prairie, cypress basin and dome swamp, mesic flatwoods, wet flatwoods, depressional marshes and scrub. Clearing and drainage from improved pasture development or farming have impacted the majority of the natural communities on the site. Despite the disturbed plant communities, the project provides important habitat for a variety of listed wildlife species. Most of the land is within the Barron Water Control District and canals have altered the natural hydrology to the extent that no significant natural water resources remain. Eleven archaeological sites are known from the project area; some with material dated to the archaic period.

Cost: Project size 18,497 acres. 3,180 acres acquired at a cost of $1,948,038
Land Acquisition: 15,317 acres remaining to be acquired

Project Schedule:
Start Date: 1998
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	$1,948.038		
Tribal			
Local			
Other			
Total	**1,948.038**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Project Name: **Catfish Creek**
Project ID: 2109
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 13,198 Acres acquired

Project Synopsis: Catfish Creek is a divers natural area extending over high scrub ridges, interspersed with lakes, next to the pristine shore of Lake Pierce. Natural communities include sandhill, scrub, scrubby flatwoods, mesic flatwoods, xeric hammock, bottomland hardwood forest, basin swamp, sandhill upland lake, wet flatwoods, blackwater stream, seepage slopes, and floodplain swamp, all are in excellent condition. The tract harbors at least 18 state listed rare plant and animal species. Rare or endangered animals include the bald eagle, wood stork, gopher tortoise, and scrub jay.

Cost: Total: Project size 13,198 acres. 4,422 acres have been acquired at a cost of $9,444,266
Land Acquisition: 8,777 acres remain to be acquired.

Project Schedule:
Start Date: 1990
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	$9,444.266		
Tribal			
Local			
Other			
Total	**$9,444.266**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Charlotte Harbor Estuary/Flatwoods/Cape Haze**
Project ID: 2111
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 12,305 Acres acquired

Project Synopsis: The project area, located northwest of Fort Myers in Charlotte and Lee Counties, includes 12,305 acres containing the largest and highest quality slash-pine flatwoods left in Southwest Florida. The area contains pockets of old growth that provide habitat for red-cockaded woodpeckers, black bears, and bald eagles, and an occasional Florida panther ranges in the area. Additionally, the tract provides habitat for rare plant communities. Several drainages flow through these flatwoods into the Charlotte Harbor Aquatic Preserve.

Cost: Project size 12,305**. 10,631 acres acquired at a cost of $17,781,504.
Land Acquisition: 1,674 acres remaining to be acquired

Project Schedule:
Start Date: 1986
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	17,174.089		
Tribal			
Local	607.415		
Other			
Total	**17,781.504**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Corkscrew Regional Ecosystem Watershed (CREW)**
Project ID: 2112
Lead Agency: Florida Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 73,365 Acres

Project Synopsis: CREW covers 73,365 acres in Lee and Collier counties and is located at the top of the western Big Cypress watershed. It conveys surface water to private, state, and federally protected natural areas, including Corkscrew Swamp Sanctuary, Florida Panther National Wildlife Refuge, and the Everglades National Park. The area supports populations of at least two species of rare and endangered orchids and includes an unusual stand of dwarf bald cypress. Land management will be carried out the SFWMD and the Florida Fish and Wildlife Commission under contract with the SFWMD.

Hydrologic restoration of CREW will restore and protect important habitat for the Florida panther and black bear and will protect the quality of water delivered to Corkscrew Swamp Sanctuary, Florida Panther National Wildlife Refuge, ENP, and Estero Bay. NOTE: Lee County has agreed to cost share this project by purchasing properties equaling the $10,000,000 appropriated. These properties have been turned over to SFWMD for management.

Cost: Project size is 73,365 acres of which 29,616 have been acquired for a cost of $83,949,310.
Land Acquisition: 43,749 acres remaining to be acquired.

Project Schedule:
Start Date: 1991
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal	5,414.629		
State*	33,052.500		
Tribal			
Local	45,482.181		
Other			
Total	**83,949.310**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This total includes Critical CREW project lands.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Coupon Bight/Key Deer/Big Pine Key**
Project ID: 2114
Lead Agency: Florida Department of Environmental Protection
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 3,373 Acres acquired

Project Synopsis: The project encompasses virtually all of the undeveloped land between the Coupon Bight Aquatic Preserve and the National Key Deer Refuge on Big Pine Key. It includes the only significant sources of freshwater in the lower Keys which are critical to the survival of the endangered Key Deer. The Pine Rocklands are the best remaining anywhere. The project is habitat for 24 FNAI special plant species and 41 FNAI listed animal species.

Cost: Project size 3,373 acres. 1,558 acres have been acquired at a cost of $30,650,827.
Land Acquisition: 1,815 acres remaining to be acquired

Project Schedule:
Start Date: 1985
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	30,650.827		
Tribal			
Local			
Other			
Total	**30,650.827**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Restoration Program: Habitat and Species
Project Name: **Cypress Creek/Loxahatchee**
Project ID: 2172
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 4,374 Acres

Project Synopsis: Cypress Creek/Loxahatchee project is located in southern Martin and northern Palm Beach Counties, near lands recently acquired in Pal-Mar, and adjacent to Jonathan Dickinson State Park. It is a mixture of land uses and community types. Nearly 3,000 acres are mostly undisturbed natural area, containing a mixture of pine flatwoods, cypress swamps, depression marshes, and wet prairies. This area forms the headwaters of Cypress Creek, which drains to the Northwest Fork of the Loxahatchee River. The remainder of the site is cleared and drained for intense agriculture, including row crops and citrus.

Cost: Project size is 4,374 acres of which 4,184 have been acquired at a cost of $64,630,767.
Land Acquisition: 190 acres remaining to be acquired.

Project Schedule:
Start Date: November 2002
Finish Date: Until completed

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to Complete	Total
Federal			
State**	35,407.660		
Tribal			
Local	29,223.107		
Other			
Total	**64,630.767**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **Cypress Creek/Trail Ridge Land Acquisition**
Project ID: 2115
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 31,999 Acres

Project Synopsis: Cypress Creek/Trail Ridge is in southwestern St. Lucie County. The project gets its name from a large forested wetland system that once extended along the entire eastern edge of the Orlando Ridge south of Indian River County, through Allapattah Flats, and drained into the South Fork St. Lucie River. The Cypress Creek portion is also a CARL project.

Cost: Project size is 32,639 acres of which 5,169 have been acquired at a cost of $25,027,417. Land Acquisition: 27,470 acres remaining to be acquired.

Project Schedule:
Start Date: 1997
Finish Date: Upon Completion

Detailed Project Budget Information (1000s)

	Thru 2012	Balance to Complete	Total
Federal			
State*	20,349.615		
Tribal			
Local	4,677.802		
Other			
Total	**25,027.417**	**TBD**	**TBD**

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **Devil's Garden**
Project ID: 2183
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 82,508 acres acquired

Project Synopsis: The Devil's Garden project is located in Hendry and Collier Counties, and is approximately 82,508 acres. This vast project is being proposed to fill a gap in a corridor that will provide a large landscape for the federally endangered Florida panther. There are numerous records of panther use of the property for several years as well as numerous other rare and threatened plants and animals.

Cost: Total: 82,508 acres needed.
Land Acquisition: 82,508 acres remaining to be acquired

Project Schedule:
Start Date: 2002
Finish Date: When completed

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State	0		
Tribal			
Local			
Other			
Total	**0**	**TBD**	**TBD**

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **East Coast Buffer- Natural Lands**
Project ID: 2117
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District/U.S. Department of the Interior
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 48,108 Acres

Project Synopsis: The East Coast Buffer/Water Preserve Areas project involves acquisition of land located along the eastern side of the Everglades Protection Area in western Palm Beach, Broward, and Miami-Dade Counties. Most of the lands in this project area are undeveloped and include a considerable amount of wetland habitat. Current land uses include very low intensity development, pastureland, and limestone mining. The original East Coast Buffer footprint was based on a land suitability analysis which selected lands primarily on the basis of those needed for controlling seepage from the Everglades.

In addition, these lands are needed to implements several components of the Everglades Restoration Plan developed under the C&SF Project Comprehensive Review Study (CERP). The overall purposes of the CERP projects are to: (1) hold more water in the system by controlling seepage from the Everglades; (2) capture, store, and clean up excess stormwater currently lost to tide; (3) provide a buffer between the urban area and the Everglades; and (4) protect and conserve wetlands and habitat values outside the remaining Everglades. Restoration benefits include improved water supply for restoring hydropatterns of the Everglades, improved water quality and preservation of wetland habitat.

The project acres under the Florida Forever/SOR program are directed toward the purchase of natural lands acquired for their conservation, preservation value --high quality flood plains, wetlands and uplands that continue providing recreation, water resource protection, and wildlife habitat for future generations. Acres used or to be used for construction of facilities, such as STAs, reservoirs, and impoundments for Critical Restoration Projects (CRP) and Comprehensive Everglades Restoration Plan (CERP) initiatives have been removed from the Natural Lands project boundary.

Cost: Project size is 48,108 acres of which 15,099 have been acquired at a cost of $140,372.676.
Land Acquisition: 33,009 acres remaining to be acquired.

Project Schedule: Start Date: 1994
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total
Federal	66,169.330		
State*	70,069.346		
Local	4,134		
Total	**140,372.676**	**TBD**	**TBD**
Adjusted Total	**75,604.803**		

This project is no longer on the Florida Forever –BOT list (66,809 acres). The total federal grant for the East Coast Buffer/ Water Preserve Area was $72,614,143.
*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
** A portion of the acres and costs on this project overlaps with Project ID 1101 in Goal 1. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Estero Bay**
Project ID: 2118
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 14,358 Acres acquired

Project Synopsis: Much of the Estero Bay Project is comprised of wetlands fronting Estero Bay (mangrove swamp, salt marsh, and salt flats). These communities provide nutrients to the Bay, contributing substantially to its biological productivity. The Bay, one of the most productive estuaries in the State, supports a diversity of wildlife, including the federally endangered bald eagle. These communities provide an important nutrient for the Bay, thus contributing to biological productivity. The wetlands are in a natural condition and help maintain high quality of water in the Estero Bay Aquatic Preserve. The project also includes the largest remaining block of rosemary scrub in southwest Florida. Several archaeological sites attributed to the Calusa Indians and their prehistoric ancestors are known to be within the project area. The project is threatened by the rapid residential development in the area.

Cost: Project size 14,358 acres. 9,392 acres have been acquired at a cost of $69,418,260.
Land Acquisition: 4,966 acres to be acquired

Project Schedule:
Start Date: 1985
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	59,220.290		
Tribal			
Local	10,197.970		
Other			
Total	**69,418.260**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name **Fakahatchee Strand**
Project ID: 2120
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 80,332 Acres acquired

Project Synopsis: Fakahatchee Strand is located in Collier County. Of the subtropical swamps in South Florida, Fakahatchee Strand is perhaps the most significant, being the richest in orchids and other rare tropical plants. It is the most critical to the survival of the Florida panther, and the most important for the mangrove swamps of the Ten Thousand Islands. The project area is probably the best example of the strand swamp found in the United States. It is linked hydrologically to the Everglades system and is important to the estuarine ecosystem of the Ten Thousand Islands.

Cost: Project size 80,332. 62,897 acres have been acquired at a cost of $25,278.263
Land Acquisition: 17,435 acres remaining to be acquired

Project Schedule:
Start Date: 1980
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	25,278.263		
Tribal			
Local			
Other			
Total	25,278.263		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Project Name: **Fisheating Creek Ecosystem**
Project ID: 2121
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 176,876 Acres Acquired

Project Synopsis: Fisheating Creek, the only free-flowing tributary to Lake Okeechobee, is an extensive riverine swamp flowing through Glades County and emptying into the Lake. The total project area is 176,876 acres. Currently, none of this acreage is in public ownership. The project area contains relatively undisturbed upland and wetland habitats that serve as habitat for the endangered Florida Panther and a number of threatened species, including the Florida black bear, the bald eagle, the Florida scrub jay, and the Florida sandhill crane. The federally listed wood stork and state listed white ibis are known to use the area.

This acquisition will preserve the water quality and critical habitat of this large watershed. Additionally, the acquisition will provide both hydrologic and water quality benefits for Lake Okeechobee, located downstream. When states in Lake Okeechobee are high, Fisheating Creek serves as an important feeding area for wading birds, which typically use the lake marshes. Restoration requirements would be minimal if any, as most of the property remains in a natural state.

Cost: Project size 176,876 acres. 59,910 acres have been acquired at a cost of $101,928,563.
Land Acquisition: 116,966 remaining to be acquired

Project Schedule:
Start Date: 1999
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	Balance to complete	Total
Federal			
State*	$101,928.5		
Tribal			
Local			
Other			
Total	**$101,928.5**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
Breakdown of Fisheating Creek total acres acquired is 59,910.07 - 9,879.80 fee, 50,030.27 conservation easement

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Project Name: **Florida Keys Ecosystem**
Project ID: 2122
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 13,632 Acres acquired

Project Synopsis: This project, in conjunction with the Complete National Key Deer Refuge proposal, includes the remaining 15,336 acres of tropical hardwood hammocks and pine rocklands of significant size and quality remaining in the Florida Keys from southern Key Largo to Sugarloaf Key.

Cost: Project size 13,632 acres. 3,070 acres have been acquired at a cost of $94,995,304.
Land Acquisition: 10,562 acres remaining to be acquired

Project Schedule:
Start Date: 1992
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	94,995.304		
Tribal			
Local			
Other			
Total	**94,995.304**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Half Circle L Ranch**
Project ID: 2186
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1.

Measurable Output(s): 11,269 Acres acquired

Project Synopsis: Located in Collier & Hendry Counties the project is approximately 11,269 acres. There are two owners and sponsored by Turrell and Associates. The project is proposed for fee simple acquisition. FNAI ranks the biological conservation priority for the project as medium high. The project is located within primary habitat zones for the Florida panther and the Florida Black bear, and compliments ongoing conservation efforts in the region.

Cost: Total: 11,269 acres needed.
Land Acquisition: 11,269 acres remaining to be acquired.

Project Schedule:
Start Date: 2003
Finish Date: when completed

Detailed Project Budget Information (1000s)

	2012	**Balance to complete**	**Total**
Federal			
State	0		
Tribal			
Local			
Other			
Total	**0**	**TBD**	**TBD**

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Indian River Lagoon Blueway****
Project ID: 2124
Lead Agency: Department of Environmental Protection and South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 2,044 Acres Acquired

Project Synopsis: This project consists of wetlands, dominated by red and black mangroves, with a few freshwater wetlands.

This acquisition is part of a larger effort by several counties in both the SFWMD and St. Johns River WMD to protect, preserve and restore the Indian River Lagoon. These lands represent the only two undeveloped parcels along the Indian River in St. Lucie County that are not in public ownership. Mosquito control impoundments are present on both tracts. Public ownership of these parcels would allow installation of operable water control structures that allow flushing of the mosquito control impoundments during most of the year. This flushing will provide an important source of mangrove detrital matter, which is critical to the health of the estuary. Public ownership will also prevent aerial applications of chemical pesticides for mosquito control.

In 1997, protection was expanded to include lands in Martin County as well.

Cost: Project size 2,044 acres. 1,134 acres have been acquired by the state at a cost of $41,887,018.
Land Acquisition: 910 acres remaining to be acquired

Project Schedule:
Start Date: 1998
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total
Federal	$3,332.074		
State*	$35,655.760		
Tribal			
Local	$2,899.184		
Other			
Total	**$41,887.018**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project name: **Juno Hills/Dunes**
Project ID: 2125
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 590 Acres acquired

Project Synopsis: This 590-acre site in Palm Beach County contains one of the largest and best remaining examples of the now rare coastal scrub. The extremely rare four-petal pawpaw, known only from a few sites in the Southeast Florida coastal scrub, and at least three other rare species of scrub plants occur in the Juno Hills project. Such rare animals as the scrub jay, scrub lizard, gopher tortoise, and red widow spider also inhabit the scrub here. Endangered sea turtles nest on the Atlantic beach/dune portion of the property. A remnant portion of coastal hammock is located west of the dune system. Scrubby slash pine flatwoods, disturbed basin swamps, and estuarine tidal swamps cover parts of the project area.

Cost: Project size 590 acres. 576 acres have been acquired at a cost of $41,892,718.
Land Acquisition: 14 acres remaining to be acquired

Project Schedule:
Start Date: 1994
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	15,023.556		
Tribal			
Local	26,869.162		
Other			
Total	**41,892.718**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Jupiter Ridge**
Project ID: 2176
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 280 Acres acquired

Project Synopsis: The Jupiter Ridge Natural Area is one of the best remaining examples of the Florida Scrub ecosystem in Palm Beach County. Less than 2% of the historic Florida scrub still exists in the county, making preservation of this endangered natural community extremely important. This 287-acre natural area is located in the Town of Jupiter. It is bordered on the north by commercial development, on the east by U.S. Highway 1, on the west by the Intracoastal Waterway, and on the south by the Bluffs residential development. Small areas of scrubby flatwoods, mangrove swamp and freshwater wetland ecosystems also are present. These diverse habitats support many threatened and endangered species.

Cost: Project size is 280 acres, of which 271 has been acquired for a cost of $23,099,950
Land Acquisition: 9 acres remaining to be acquired.

Project Schedule:
Start Date: 1991
Finish Date: TBD.

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	$11,047.600		$11,047
Tribal			
Local	$12,052.350		$12,052
Other			
Total	**$23,099.950**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Kissimmee-St. Johns Connector****
Project ID: 2126
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 9,463 Acres acquired

Project Synopsis: Encompassing the watersheds of the Kissimmee and St. Johns Rivers, the Kissimmee-St. Johns Connector project will provide an approximately 9,463 acre hydrological and habitat connection. Though most of the area has been farmed and ranched for years many of the natural communities are in fair condition. Portions of the project provide habitat for Florida sandhill crane, crested caracara, hand ferns and numerous other plants and animals. The project is proposed primarily as a less-than-fee simple acquisition.

The project lies in northeastern Okeechobee and southwestern Indian River counties. It is contiguous with the Ordway-Whittell Kissimmee Prairie Sanctuary (OWKPS) to the west and the Fort Drum Marsh Conservation Area to the east. Kissimmee Prairie Preserve State Park lies immediately to the west of the OWKPS.

Cost: Project size: The project consists of approximately 9,463 acres.
Land Acquisition: 9,463 acres remaining to be acquired.

Project Schedule:
Start Date: 2001
End Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State			
Total	**$0**	**TBD**	**TBD**

***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Restoration Program: Hydrological Restoration
Project Name: **Kissimmee River (Lower Basin) Land Acquisition**
Project ID: 2127
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 75,617 Acres

Project Synopsis: The Lower Basin project includes those lands in the historic river floodplain and along the C-38 canal in Pools B, C and D; Pool A, Chandler Slough, and Istokpoga Canal Basin; all of which are components of the Kissimmee River Restoration Project.

Cost: Project size is 75,617 acres of which 72,024 acres have been acquired for a cost of $175,285,978. Land Acquisition: 3,593 acres remaining to be acquired.

P**roject Schedule:**
Start Date: 1985
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total***
Federal			
State**	175,285.978		
Tribal			
Local			
Other			
Total	175,285.978	**TBD**	**TBD**

**Total includes lands for several components of the Kissimmee River Restoration project.*
***State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Restoration Program: Hydrological Restoration
Project Name: **Kissimmee River (Upper Basin) Land Acquisition (a/k/a Kissimmee Chain of Lakes)**
Project ID: 2128
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): 38,591 Acres

Project Synopsis: In the early 1990s it was determined that not enough water would be available in the upper chain of lakes to provide year round base flow for the restored Kissimmee River. As a result the scope of the Kissimmee River Restoration project includes the acquisition of land around the shoreline of the Kissimmee Chain of Lakes between elevations 52.5′ and 54.0′. This land is needed to support the KRR Headwaters Revitalization Regulation Schedule, which will raise the seasonal high stage in Lakes Kissimmee, Hatchineha and Cypress 1.5′ to 54.0′ NGVD. This project is completed.

Cost: Project size is 38,591 acres of which 35,412 has been acquired for a cost of $85,971,014. Land Acquisition: 3,179 acres remaining to be acquired.

Project Schedule:
Start Date: 1990
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total*
Federal			
State**	85,971.014		TBD
Tribal			
Local			
Other			
Total	85,971.014		**TBD**

**The total includes Kissimmee River Restoration Project Lands.*
***State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project name: **Lake Wales Ridge Ecosystem/ Henscratch Ranch****
Project ID: 2129
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 14,310 Acres acquired

Project Synopsis: The proposed refuge was authorized in November 1992 and would comprise 16,096 acres in Osceola and Polk Counties. The area forms the headwaters boundary between the Kissimmee River basin and the Peace River basin. It is the oldest terrestrial ecosystem in the southeast region of the US, and is probably the most threatened ecosystem in South Florida due to citrus conversion, residential housing construction, and commercial development. It supports 24 species of endangered, threatened, and candidate plant species as well as four threatened or endangered animal species.

Cost: Project size 14,310 acres. 10,555 acres acquired at a cost of $32,786,399.
Land Acquisition: 3,755 acres remaining to be acquired.

Project Schedule:
Start Date: 1992
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	7,120		
State*	25,666.399		
Tribal			
Local			
Other			
Total	**32,786.399**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***The SFWMD Henscratch Ranch project falls within the boundary of the Lake Wales Ridge project. Acres acquired and dollars spent are included in the reported Lake Wales Ridge numbers.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Loxahatchee Slough Land Acquisition**
Project ID: 2132
Lead Agency: South Florida Water Management District/Palm Beach County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 13,099 Acres

Project Synopsis: The Loxahatchee Slough Project is located in Palm Beach County and covers approximately 13,099 acres. It contains a mixture of habitat types, including pine flatwoods, cypress forest, and wet prairie. The present land use is native range. These lands are adjacent to the Loxahatchee Slough Corridor, an area that has been pledged for protection by the current landowner. Palm Beach County will lead the land management effort for this project and holds title to land.

The purpose of this project is to provide additional wetland and upland buffer to the Loxahatchee Slough Corridor and to preserve critical foraging and nesting sites for wildlife in an area that is undergoing rapid urban development. This system is important for storing surface water runoff and providing groundwater base flow to Canal 18 and the Loxahatchee River. The slough, which is the initial headwaters of the Loxahatchee River, can also spill over to the south and contribute to the Everglades watershed under certain hydrologic conditions.

Cost: Project size is 13,099 acres. 12,984 acres acquired for $74,447,218.
Land Acquisition: 115 acres remaining to be acquired.

Project Schedule:
Start Date: 1996
Finish Date: Upon Completion

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal			
State*	45,283.1		45,283.1
Tribal			
Local	29,164.118		29,164.118
Other			
Total	**74,447.218**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project name: **Miami Dade County Archipelago**
Project ID: 2134
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 884 Acres acquired

Project Synopsis: This project includes 884 acres in Miami-Dade County and contains some of the most outstanding examples of rockland hammock that remain in Miami-Dade County, as well as the best remaining examples of the highly endangered pine rockland natural community outside of Everglades National Park. The Miami Rockridge Pinelands sites located within the County's urban development boundary are considered upland and developable. All sites are zoned residential, agricultural, or general use. The trees and endemics are also sensitive to adjacent development and agricultural activities.

Cost: Project size 884 acres. 535 acres have been acquired at a cost of $23,717,314.
Land Acquisition: 349 acres remaining to be acquired

Project Schedule:
Start Date: 1994
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	11,717.314		
Tribal			
Local	12,000		
Other			
Total	**23,717.314**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Model Lands Basin Acquisition**
Project ID: 2135
Lead Agency: South Florida Water Management District and Miami-Dade County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: **Primary**: 2.A.1

Measurable Output(s): Target 54,458 acres

Project Synopsis: The Model Lands project is located in Miami-Dade County and encompasses the lands between US 1 and Biscayne National Park. The project area of 54,458 acres includes a variety of habitats, both freshwater and estuarine. Lands within the project were identified in the Restudy as necessary for treatment of stormwater from the north and L-31E Canal prior to releasing it to tide or into other project lands to the south. Most of the project lands will be included in the Biscayne Bay Coastal Wetland and C-111 North Spreader Canal, CERP projects. The SFWMD and Miami-Dade County partner in the acquisition and management of lands for the project. The northern portions of the project and the areas near canals, roads, and other areas of disturbance are heavily infested with Australian Pine and Brazilian Pepper. The majority of the project area is undisturbed fresh and saltwater wetlands. These lands form a contiguous habitat corridor with Everglades National Park, Southern Glades SOR project, Biscayne National Park, Crocodile Lakes National Wildlife Refuge, and John Pennekamp State Park.

Cost: Project size is 54,458 acres. 16,892 acres acquired at a cost of $43,854,181.
Land Acquisition: 37,566 acres remaining to be acquired.

Project Schedule:
Start Date: 1994
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	9,,217.4		
Tribal			
Local	34,636.781		
Other			
Total	**43,854.181**	**TBD**	**TBD**
Adjusted Total	**1,413.273**		

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
** A portion of the acres and costs on this project overlaps with Project ID 1416 and 2310. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **North Fork St. Lucie River**
Project ID: 2138
Lead Agency: Florida Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever/Save Our Rivers (SOR)/CERP

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 3,714 Acres Acquired

Project Synopsis: This 3,714-acre project includes a stretch of the North Fork approximately 6 miles long, extending from the White City bridge to Canal 24. This project will extend the boundary of the existing publicly owned St. Lucie River Aquatic preserve. More than 80 percent of the project area is comprised of wetlands within the river floodplain. In addition to the river floodplain, this project includes 175 acres of high quality uplands habitat such as high hammock, pine flatwoods, and sand pine scrub.

The purpose of this project is to preserve the floodplain habitat and to protect the water quality of the St. Lucie River from the rapidly encroaching urban development. Floodplain wetlands help decrease current velocities in the river, thereby attenuating flood waters. This action also facilitates recharge of the surficial aquifer and filters out nutrients, pollutants and suspended solids. This stretch of the river is classified as an Outstanding Florida Water. Boating, fishing and canoeing are actively pursued on this part of the river.

Cost: Project size 3,714 acres. 1,784 acres have been acquired at a cost of $5,567,581.
Land Acquisition: 1,930 acres remaining to be acquired

Project Schedule:
Start Date: 1988
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total
Federal			
State*	4,471.692		
Tribal			
Local	1,095.889		
Other			
Total	**5,567.581**	**TBD**	**TBD**

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Hyperlink: http://www.dep.state.fl.us/stland/oes/carlmain.htm

Program Name: Land Acquisition
Project Name: **North Key Largo Hammocks**
Project ID: 2139
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 5,415 Acres acquired

Project Synopsis: The hammocks of north Key Largo form the largest stand of West Indian tropical forest in the United States. This rapidly disappearing forest, which is called Rockland forest, supports a wide diversity of rare plant and animal species. Degraded water quality is becoming an increasing issue in Florida Bay and the Florida Keys, as natural lands are converted to residential housing and commercial development. The project area has over 10 miles of shoreline that directly influences the adjacent waters of John Pennekamp Coral Reef State Park. As in other parts of the Keys, development seriously threatens this area.

Cost: Project size 5,415 acres. 3,576 acres have been acquired at a cost of $84,087,154.
Land Acquisition: 1,839 acres to be acquired

Project Schedule:
Start Date: 1983
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	84,087.154		
Tribal			
Local			
Other			
Total	**84,087.154**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Hyperlink: http://www.dep.state.fl.us/stland/oes/carlmain.htm

Program Name: Land Acquisition
Project Name: **Okaloacoochee Slough**
Project ID: 2141
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 35,201 Acres

Project Synopsis: This site contains more than 35,201 acres in Hendry and Collier Counties. It is a major tributary to Fakahatchee Strand and Big Cypress National Preserve. It is dominated by a central slough, consisting of sawgrass marshes and wet prairies, with fringes of live oak/cabbage palm hydric hammocks. Most of the pines have been logged, but otherwise the site is pristine. Okaloacoochee Slough is critical habitat for the Florida panther.

Some exotic treatment is needed to control minor infestations of Brazilian pepper and melaleuca. Hydrologically, the property remains undisturbed.

Cost: Project size is 35,201 acres. 34,985 acres have been acquired at a cost of $20,570,673.
Land Acquisition: 216 acres remaining to be acquired.

Project Schedule:
Start Date: 1996
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	20,570.673		
Tribal			
Local			
Other			
Total	**20,570.673**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Okeechobee Battlefield**
Project ID: 2142
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 211 Acres acquired

Project Synopsis: The Okeechobee Battlefield project represents a portion of one of the last battles of the Second Seminole Indian war. The 211-acre project consists of improved pasture and freshwater marsh, and provides the backdrop for a yearly reenactment of the battle. The site is home to bald eagles, and offers potential habitat for the crested caracara and wood stork. The evaluation team visited the project on September 24, 2001.

The project is situated adjacent to U.S. Highway 441/98 along the northeastern rim of Lake Okeechobee, approximately five miles southeast of the town of Okeechobee in southern Okeechobee County. There are no adjacent or close by conservation lands in the FNAI database, however South Florida Water Management District lands Paradise Run and Kissimmee River are approximately 8 and 12 miles to the west, respectively. St. Lucie County's Bluefield Ranch and St. Lucie Pinelands are approximately 8.5 miles to the east, and 12 miles to the northeast, respectively.

Cost: Project size is 211 acres. 145 acres have been acquired at a cost of $3,217,250
Land Acquisition: 66 acres remaining to be acquired.

Project Schedule:
Start Date: 2001
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal			
State*	3,217.250		
Total	**3,217.250**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Osceola Pine Savannas**
Project ID: 2143
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 6,357 Acres acquired

Project Synopsis: The project covers an area of old beach ridges and intervening swales, with high-quality, longleaf pine flatwoods interrupted by cypress strands, cypress domes, and wet prairies. There are also extensive dry prairies and patches of oak or sand pine scrub, all of which are natural communities of the Kissimmee Prairie. Six FNAI-listed animals occur on the site, including sandhill crane, wood storks, and crested caracara.

Cost: Project size 6,357** acres. 1,333 acres have been acquired at a cost of $310,000
Land Acquisition: 5,024 acres remaining to be acquired.

Project Schedule:
Start Date: 1995
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	310		
Tribal			
Local			
Other			
Total	**310**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Pal-Mar**
Project ID: 2144
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)/CERP

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 39,146 Acres Acquired

Project Synopsis: Pal-Mar is located in Palm Beach and Martin Counties, east of the J.W. Corbett Wildlife Management Area and west of Jonathan Dickinson State Park. The total project encompasses 35,760 acres, including some of the highest quality pine flatwoods in southern Florida in an ecotone between pine flatwoods and the treeless Everglades. It also includes high quality prairie and savanna habitat.

The primary purpose of this project is to conserve and protect environmentally unique lands that contain native, relatively unaltered flora and fauna. Acquisition of this project will form an extensive wildlife corridor connecting Jonathan Dickinson State Park, Pal-Mar, J.W. Corbett Wildlife Management Area, and DuPuis Reserve. By protecting native flatwoods, prairies, and marshes, this project will protect critical habitat for at least four endangered bird species, including the Florida sandhill crane and Everglades snail kite, and for the endangered Florida panther.

Cost: Total: Project size 39,146 acres. 26,825 acres have been acquired at a cost of $96,031,854.
Project Development
Land Acquisition: 12,321 acres remaining to be acquired
Implementation
Operations and Maintenance

Project Schedule:
Start Date: 1992
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total
Federal	3,650.931		
State*	67,920.505		
Tribal			
Local	24,460.418		
Other			
Total	96,031.854		**TBD**
Adjusted Total	95,810.036		

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
** A portion of the acres and costs on this project overlaps with Project ID 1101 in Goal 1. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Panther Glades**
Project ID: 2145
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 60,007 acres acquired

Project Synopsis: The area consists of a landscape mosaic of forested uplands interspersed among forested wetland communities. The ecosystem encompassed by the project is a large landscape and watershed in south-central Hendry County that includes portions of both the Big Cypress and Kissimmee Billy Strand. The Panther Glades project is important to many wildlife species, particularly those that require extensive areas of habitat to maintain viable populations.

Cost: Total: Project size 60,007. 21,724 acres have been acquired at a cost of $75,049,836.
Land Acquisition: 38,283 acres remaining to be acquired

Project Schedule:
Start Date: 2001
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	75,049.836		
Tribal			
Local			
Other			
Total	**75,049.836**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Paradise Run Land Acquisition**
Project ID: 2146
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 3,841 Acres

Project Synopsis: This acre project lies west of canal C-38, between Water Control Structure S-65E and Lake Okeechobee in Glades and Okeechobee Counties. Current land use is predominantly improved pasture and cattle grazing but agricultural activities in the area are intensifying as exemplified by new, nearby row crops (potatoes), sod extraction, and citrus. The remnant river run and adjacent wetlands remain largely intact but have no continuous water flow; hence water quality (especially dissolved oxygen) has become poor and organics have accumulated deeply in the remnant river run. This area consistently has greater wading bird and waterfowl use than most any area of the Kissimmee River. Its close proximity to Lake Okeechobee puts it in foraging flight distance of the large wading bird rookeries. Restoration would be fairly simple because the remnant river run and wetlands are largely intact, and water could gravity flow from Pool E (elevation 21 feet msl) one-half mile to Paradise Run (elevation 16 feet msl). The C-38 canal would be bypassed.

Cost: Project size 3,841 acres. 3,447 acres have been acquired at a cost of $4,908,582
Land Acquisition: 395 acres remaining to be acquired

Project Schedule:
Start Date: 1998
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	$4,908.582		
Tribal			
Local			
Other			
Total	**$4,908.582**		**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Restoration Program: Hydrological Restoration, Habitat and Species
Project Name: **Lake Marion Creek and Reedy Creek/Lake Hatchineha Watershed**
Project ID: 2147
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 43,322 Acres

Project Synopsis: This 43,322-acre project is located at the headwaters of the Kissimmee-Okeechobee-Everglades ecosystem in Polk and Osceola Counties. The project area includes a substantial portion of Reedy Creek and Lake Marion Creek drainage basins. The land contains large expanses of endangered scrub, mesic and wet flatwoods, hydric hammock, and floodplain forest, including habitat for several threatened and endangered plants and animals. The SFWMD in partnership with Polk County has acquired 12,915 acres. SFWMD is the lead land manager.

The primary purpose of this project is to preserve this watershed which is a critical link in the restoration of the Kissimmee-Lake Okeechobee-Everglades ecosystem. Reedy Creek is the headwater drainage for Lake Russel and Cypress Lake. Peak Discharges from major storm events are modified and stored within the swamp and provide year-round base flow to these downstream lakes. The Lake Marion Creek portion of the project is of critical importance to the recharge of the Floridan Aquifer. Lake Marion serves as the headwaters to lake Marion Creek, which combines with Snell and Horse Creeks to provide a constant supply of high-quality water to Lake Hatchineha, which in turn discharges to Lake Kissimmee, and eventually the Kissimmee River and Lake Okeechobee. All three of these water bodies are primary components of the SFWMD's water management system.

Cost: Total: Project size 43,322 acres of which 12,907 have been acquired for $12,339,666.
Land Acquisition: 30,415 acres remaining to be acquired.

Project Schedule:
Start Date: 1996
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to Complete	Total
Federal			
State	11,503.617		
Tribal			
Local	836.049		
Other			
Total	**12,339.666**	**TBD**	**TBD**

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Restoration Program: Hydrological Restoration, Water Quality, Habitat and Species,
Project Name: **Pine Island Slough Ecosystem**
Project ID: 2186
Lead Agency: Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 21,583 Acres

Project Synopsis: The Pine Island Slough Ecosystem project consists of approximately 49,583 acres in Osceola and Indian River Counties, Florida. About 21,583 acres are within the South Florida Ecosystem boundary. This landscape - intact ecological upland and wetland habitat - is reminiscent of the kind of landscape that once dominated Central Florida in pre-European settlement times. It is contiguous with the Kissimmee Prairie Preserve State Park, which is noted for its high quality resource values, and the project's acquisition would allow for the protection of and management of additional high ecological quality habitats in an area of Florida with significant vertebrate wildlife, hydrological values and other important natural resource attributes.

Cost: Total: Project size 21,583*.
Land Acquisition: 21,583 acres remain to be acquired.

Project Schedule:
Start Date: TBD
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State	0		
Tribal			
Local			
Total	**0**	**TBD**	**TBD**

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Pineland Site Complex**
Project ID: 2148
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 206 Acres acquired

Project Synopsis: This internationally significant archaeological site was inhabited by the Calusa for over a thousand years, and includes substantial midden mounds, a burial mound, remnants of an Indian-engineered canal, and buried deposits containing organic remains. Natural habitats within the project area include tidal saltern, a tidal creek, intertidal shoreline, and a large tract of mangrove wetland. Ponds on the site are important to white ibis, egrets, herons, and wood stork.

Cost: Project size 206 acres. 57 acres have been acquired at a cost of $1,751,874
Land Acquisition: 149 acres to be acquired

Project Schedule:
Start Date: 1996
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	1,355		
Tribal			
Local	396.874		
Other			
Total	**1,751.874**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Ranch Reserve**
Project ID: 2178
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 2,217Acres acquired

Project Synopsis: The project consists of four cattle ranches on the Osceola Plain west of and above the St. Johns River marshes. Mesic flatwoods interrupted by depression marshes cover about 40 percent of the project area. Swamps and hammocks make up much of the remaining natural communities. At least 24 FNAI-listed animals are known or reported from the project, including red-cockaded woodpeckers and one of the best populations of sandhill cranes in Florida.

Cost: Project size: 2,217** acres. 67 acres have been acquired at a cost of $39,286
Land Acquisition: 2,150 acres remaining to be acquired

Project Schedule:
Start Date: 1997
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	39.286		
Tribal			
Local			
Other			
Total	**39.286**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Rookery Bay**
Project ID: 2149
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2 - Restore and Enhance the Natural System

Measurable Output(s): 18,721 acres acquired

Project Synopsis: This project consists of 18,721 acres in Collier County and provides an outstanding example of a subtropical estuarine system. Its mangroves shelter important nesting colonies of water birds, and feed and protect many aquatic animals, which are the foundation of a commercial and sport fishery. The natural communities associated with the estuary are relatively undisturbed and range from mangrove and marsh to flatwoods and maritime hammock. As part of the national estuarine research reserve system, Rookery Bay is representative of the West Indian biogeographic type. The area is believed to have good potential for archaeological investigations. The area is threatened by dredging and filling associated with the rapid development of the area.

Cost: Project size 18,721 acres. 18,636 acres have been acquired at a cost of $49,583,833.
Land Acquisition: 85 acres remaining to be acquired

Project Schedule:
Start Date: 1980
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal	$3,500		
State*	$46,083.833		
Tribal			
Local			
Other			
Total	**$49,583.833**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Rotenberger-Holey land Tract**
Project ID: 2150
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 79,170 Acres acquired

Project Synopsis: The Rotenberger/Holey Lands were historically an integral part of the Everglades hydrological system. The natural communities of the project consisted of shallow sawgrass marshes with tree islands interspersed. Much of the area has been disturbed. Restoration of the area is important to the restoration of the water quality and quantity to the Everglades.

Cost: Project size 79,170 acres. 70,833 acres have been acquired at a cost of $20,114,395.
Land Acquisition: 8,337 acres remaining to be acquired

Project Schedule:
Start Date: 1984
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal			
State*	20,114.395		
Tribal			
Local			
Other			
Total	**20,114.395**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Shingle Creek**
Project ID: 2151
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 7,702 Acres

Project Synopsis: Shingle Creek Swamp is located in southern Orange and northern Osceola counties. It is a major receiving body for stormwater runoff from areas south and southwest of Orlando. The Orange County portion of the swamp is more than 1.5 miles wide, and is dominated by Cypress, Loblolly Bay, and Red Maple. Shingle Creek itself was channelized in the 1920s and it borders the eastern edge of the swamp. Most to the floodplain in Osceola County is intact, but adjacent uplands, which historically were wiregrass/longleaf pine-dominated systems, have been cleared and planted as improved pasture. As mitigation for the Orlando Beltway Southern Connector, a hydrologic restoration plan was implemented in 1995, which equalizes water levels and sheetflow across the Orange County portion of Shingle Creek Swamp. Osceola County in partnership with SFWMD has acquired an additional 194 acres within the project, granting the District a conservation easement for funding $2,666,174 of the land acquisition cost.

Cost: Project size 7,704. 2,698 acres have been acquired at a cost of $4,365,170.
Land Acquisition: 5,006 acres remaining to be acquired

Project Schedule:
Start Date: 1987
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to Complete	Total
Federal			
State	4,365.170		
Tribal			
Local			
Total	4,365.170	**TBD**	**TBD**

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **Six Mile Cypress**
Project ID: 2152
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 2,193 Acres

Project Synopsis: Six Mile Cypress Slough is located in Lee County southeast of the City of Fort Myers. It extendgs from State Road 82 southwesterly for approximately nine miles to Ten Mile Canal. The Slough averages 1,500 feet in width, and consists of Cypress swamps, interspersed with numerous open ponds. It is ringed with pine flatwoods, transitional hardwoods, wet prairies, and stands of Melaleuca. The total project size is 1,966 acres.

Cost: Project size 2,193. 854 acres have been acquired at a cost of $36,909,895.
Land Acquisition: 1,339 acres remaining to be acquired

Project Schedule:
Start Date: 1987
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to Complete	Total
Federal			
State*	2,097.521		
Tribal			
Local	34,812.374		
Other			
Total	**36,909.895**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **South Savannas**
Project ID: 2154
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 6,046 Acres Acquired

Project Synopsis: The Savannas forms a chain of marshes and lakes that separate the inland pine flatwoods from the coastal scrub on the Atlantic Ridge in St. Lucie and Martin Counties. The State has acquired most of the lands within the project through the CARL program. The District in partnership with Martin County acquired ownership of a single 77-acre tract and transferred title to the property to the State of Florida in 1999. It is now and will continue to be managed by the Department of Environmental Protection as the Savannas Preserve.

Cost: Project size: 6,046 acres which 5,182 acres have been acquired at a cost of $20,902,290.
Land Acquisition: 864 acres remaining to be acquired.

Project Schedule:
Start Date: 1981
Finish Date: Upon completion

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to Complete	Total
Federal			
State*	19,902.290		
Tribal			
Local	1,000		
Other			
Total	**20,902.290**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Southern Glades – Natural Lands**
Project ID: 2155
Lead Agency: South Florida Water Management District and Miami-Dade County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: **Primary:** 2.A.1

Measurable Output(s): Target 34,093 Acres

Project Synopsis: This 34,093-acre project is located adjacent to the C-111 Canal, between U.S. 1 and Everglades National Park. The project land is dominated by Everglades sawgrass marsh and tropical hardwood hammock. Land management will be carried out by the SFWMD and Fish and Wildlife Conservation Commission and the land is currently open for public use. This land is needed for the C-111 Canal project and C-111 Spreader Canal CERP project. These projects will benefit the flow of water into Everglades National Park and Northeast Florida Bay.

The project acres under the Florida Forever/SOR program are directed toward the purchase of natural lands acquired for their conservation, preservation value --high quality flood plains, wetlands and uplands that continue providing recreation, water resource protection, and wildlife habitat for future generations. Acres used or to be used for construction of facilities, such as STAs, reservoirs, and impoundments for Critical Restoration Projects (CRP) and Comprehensive Everglades Restoration Plan (CERP) initiatives have been removed from the Natural Lands project boundary.

Cost: Project size: 34,093 acres. 31,834 acres have been acquired at a cost of $15,285,127.
Land Acquisition: 2,259 acres remaining to be acquired

Project Schedule:
Start Date: 1964
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal			
State*	12,662.332		
Tribal			
Local	2,622.795		
Other			
Total	**15,285.127**	**TBD**	**TBD**
Adjusted Total	**7,268.193**		

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
** A portion of the acres and costs on this project overlaps with Project ID 2310. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project name: **Southern Golden Gate Estates (Save Our Everglades)- Picayune Strand**
Project ID: 2156
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 55,051 Acres acquired

Project Synopsis: The Southern Golden Gate Estates (SGGE) encompasses an approximately 94 square mile area of sensitive environmental landscape in South Central Collier County. It is an important surface water storage and aquifer recharge area with a unique ecology of cypress, wet and dry prairie, pine flatwoods and hardwood hammock swamp communities; and includes three flowways that contribute freshwater input to the Ten Thousand Island estuary of the western Everglades watershed. The area supports a diversity of wildlife, including at least a dozen endangered and threatened vertebrates as well as a large variety of rare orchids and other air plants. The area is linked hydrologically to the Everglades ecosystem and contains remnants of two large cypress strands, the Lucky Lake and Picayune Strands. The rapid urbanization of southwest Florida is posing a continuous and increasing threat to the wildlife habitat and maintenance of water quality within SGGE. Acquisition of lands within SGGE will preserve large pieces of the South Florida ecosystem. Ultimately, this will contribute to the formation of a continuous public conservation area extending across South Florida from the Gulf Coast to approximately 10 miles from the Atlantic Ocean, protecting the Everglades ecosystem from the encroachment of residential, commercial, and industrial developments.

Cost: Project size 55,051 acres. 54,246 acres have been acquired at a cost of $134,634,146.
Land Acquisition: 805 acres remaining to be acquired.

Project Schedule:
Start Date: 1984
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal	38,084.965		
State*	96,549.181		
Tribal			
Local			
Other			
Total	134,634.146		**TBD**
Adjusted Total	0.353,704		

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
** A portion of the acres and costs on this project overlaps with Project ID 2307. The adjusted total compensates for this overlap by allocating the appropriate costs to this project.

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Ten Mile Creek-Natural Lands**
Project ID: 2180
Lead Agency: Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 240 Acres Acquired

Project Synopsis:
The ten mile creek natural areas are those areas of the 10 Mile Creek project that are outside of the levee footprint of the reservoir. These areas include small pockets of hammock vegetation along 10 Mile Creek, an oxbow island north of the reservoir, and the Gordy Road Recreation Area (managed by St. Lucie County under a 50 year lease) east of the 10 Mile Creek STAs.

Cost: Project size 240. 184 acres have been acquired at a cost of $2,042,586.
Land Acquisition: 56 acres remain to be acquired.

Project Schedule:
Start Date: 1998
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
State*	1,792.586		
Local	250		
Federal			
Total	2,042.586	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Tiger Cattle Company Ranch**
Project ID: 2182
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 2,230 Acres

Project Synopsis: The proposal is comprised of two large, impressive, basin marshes (making up approximately 20 percent of the site's landcover), along with scattered depression marshes, dry prairie, mesic flatwoods, and mesic hammock and remnant upland natural communities, imbedded in a matrix of extensive areas of improved pasture (approximately 50 percent). The basin marshes are oriented northsouth through the middle third of the site and most of the remaining natural areas occur adjacent to these marshes. Improved pastures make up most of the eastern and western thirds of the property. A network of relatively shallow ditches/canals and roads have altered hydrology to some extent. Currently, family and friends utilize the land for recreation and wildlife viewing. There is no hunting lease on the property. While the largest marsh and some of the flatwoods have burned recently, prescribed burning apparently is not used on a regular basis.

Acquiring the conservation easement over the Tiger Cattle Company Ranch fulfills Florida Forever goals of increasing the number of acres protected with alternatives to fee-simple acquisition; increasing the number of acres of preserved Strategic Habitat Conservation Areas; creating significant landscape linkages by helping connect the preserved lands of the Kissimmee Prairie Preserve State Park, the Kissimmee-St. Johns River Connector Florida Forever project and the Pine Island Slough Florida Forever project; and protecting 733 acres of surface-water protection.

Cost: Project size 2,230 acres.
Land Acquisition: 2,230 acres remaining to be acquired

Project Schedule:
Start Date: 2009
Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
State*			
Local			
Federal			
Total	**0**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Restoration Program: Habitat and Species
Project Name: **Triple Diamond**
Project ID: 2186
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 7,991 Acres

Project Synopsis: The acquisition of this project would preserve significant dry prairie, important in the long-term protection of this endemic natural community and the rare species that it supports, as well as provide recreational and research opportunities. Additionally, preserving this intact and well-managed landscape would for the protection and management of thousands of acres of additional high quality habitats in an area of Florida known for its rare vertebrate wildlife, globally imperiled natural communities, and significant hydro- logical values. This project is bordered on the north by the Kissimmee River Prairie Preserve State Park. Other public lands in the near vicinity include Avon Park Air Force Range, Bombing Range Ridge, and the Kissimmee River to the west and Fort Drum Marsh Conservation Area and Blue Cypress Conservation Area to the east. The Kissimmee-St. Johns River Connector Florida Forever Project is also located within 7 miles to the east of the property. Triple Diamond, along with existing conservation lands, would contribute to a large, contiguous landscape-sized protection area of more than 200,000 acres.

Cost: Project size 7,991 acres.
Land Acquisition: 7,991 acres remaining to be acquired

Project Schedule:
Start Date: 1995
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	Thru 2012	Balance to complete	Total
Federal			
State*			
Tribal			
Local**			
Other			
Total	**0**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
**Dollars contributed by Polk County

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Restoration Program: Habitat and Species
Project Name: **Twelve Mile Slough**
Project ID: 2158
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 15,835Acres

Project Synopsis: This site contains 15,835 acres in Hendry County and is tributary to the much larger and regionally significant Okaloacoochee Slough. It contains a mosaic of uplands and wetlands, as well as improved pasture areas which appear to be reverting to native range. Based on a 1993 FGFWFC report, this single-owner tract provides habitat for the endangered Florida panther. Significant restoration on the site is necessary to correct overdrainage of the wetland communities.

Restoration and protection is important because the Twelve Mile Slough is a headwater tributary to Okaloacoochee Slough, which supplies a major source of water for Fakahatchee Strand State Preserve and Big Cypress National Preserve. Surface water storage in the numerous wetlands provides for ground-water recharge of the underlying surficial aquifer and provides surface water supply to the Caloosahatchee River.

Cost: Project size: 15,835 acres. 7,796 acres have been acquired at a cost of $11,000,000
Land Acquisition: 8,039 acres remaining to be acquired

Project Schedule:
Start Date: 1998
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal			
State*	11,000		
Tribal			
Local			
Other			
Total	**11,000**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Restoration Program: Habitat and Species
Project Name: **Water Conservation Areas 2 and 3**
Project ID: 2160
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 709,618 Acres of outstanding fee interests

Project Synopsis: The WCAs encompass approximately 709,618 acres in Broward, Dade, and Palm Beach counties in which the SFWMD holds a combination of fee and easement interests. The SOR project is designed to complete the public acquisition of the outstanding fee interests in the project area. Land management is carried out by the Florida Fish and Wildlife Commission and the U.S. Fish and Wildlife Service, under contract to the SFWMD.

The general purpose of these lands is to store floodwater from developed areas adjacent to the WCAs for later use during the dry season. Releases of water from the WCA's during the dry seasonal and, particularly during drought conditions are considered vital to the maintenance of adequate water levels in the coastal canals, wellfields, and Everglades national Park and for the prevention of saltwater intrusion.

Cost: Project size 709,618 acres*. 688,041 acres have been acquired at a cost of $9,606,104.
Land Acquisition: 21,576 acres remaining to be acquired

Project Schedule:
Start Date: 1948
Finish Date: Upon Completion

Detailed Project Budget Information (1000s)

	Thru 2012	Balance to complete	Total
Federal			
State*	9,606.104		
Tribal			
Local			
Other			
Total	9,606.104	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects. The total project size of the WCA's is 867,000 acres. Which encompasses WCA's 1, 2 and 3. WCA 1 is reported as the State/SFWMD acquired acres under the ARM Loxahatchee National Wildlife Refuge entry.*

Contact: Wanda Caffie-Simpson, wsimpso@sfwmd.gov

Program Name: Land Acquisition
Project Name: **Florida Communities Trust lands, State Park Lands and State Wildlife Mgmt Areas**
Project ID: 2184
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 256,139 Acres Acquired

Project Synopsis: The Florida Communities Trust administers two state land acquisition grant programs that provide funding to local governments and eligible non-profit organizations to acquire parks, open space, greenways and projects supporting Florida's seafood harvesting and aquaculture industries. The source of funding for Florida Communities Trust comes from Florida Forever proceeds. Florida Communities Trust assists communities in strengthening local comprehensive plans through the competitive criteria in two grant programs, the Parks and Open Space Florida Forever Grant Program and the Stan Mayfield Working Waterfronts Florida Forever Grant Program.

The Parks and Open Space Florida Forever grant program assists the Department of Community Affairs in helping communities meet the challenges of growth, supporting viable community development and protecting natural resources and open space. The program receives 21 percent, or $63 million of the total $300 million Florida Forever appropriation.

The creation of the Stan Mayfield Working Waterfronts Florida Forever grant program by the 2008 Florida Legislature acknowledges the importance of the traditional seafood harvesting and aquaculture industries in Florida. The program receives 2.5 percent, or $7.5 million of the total $300 million Florida Forever appropriation.

Florida Communities Trust projects play a significant role in improving the quality of life of Florida's residents. The local and regional parks funded by the Trust's Parks and Open Space grant program also help to promote economic growth and revitalization in local communities through nature based tourism. To learn more about Florida's industries and how Florida Communities Trust fits into the state's economic fabric, please visit the Enterprise Florida website.

Cost: Project size is 256,139 acres. 243,326 acres have been acquired at a cost of $652,602,332. Land Acquisition: 12,813 acres remaining to be acquired.

Detailed Project Budget Information (1000s)

	Thru 2012	**Balance to complete**	**Total**
Federal	8,745.402		
State*	357,100.298		
Tribal			
Local	286,756.632		
Other			
Total	**652,602.332**	**TBD**	**TBD**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **A.R. M. Loxahatchee National Wildlife Refuge (includes WCA 1)**
Project Number: 2161
Lead Agency: U.S. Fish and Wildlife Service
Authority: Migratory Bird Conservation Act of 1929

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 147,392 Acres

Project Synopsis: The Arthur R. Marshall Loxahatchee NWR was established in 1951 through an agreement between the South Florida Water Management District and the U.S. Fish and Wildlife Service under the Migratory Bird Conservation Act of 1929. Acquisition is for the purposes of providing buffer to the refuge, Everglades habitats, water recharge and storage, and for habitat protection. Increasing population growth is rapidly changing the landscape, converting farmland to residential neighborhoods. Acquisition support both refuge wildlife management goals as well as CERP restoration goals.

Cost: Total project size 147,392* acres. 146,504 acres have been acquired at a cost of $119,000. Land Acquisition: 2,550 acres remaining to be acquired.

Project Schedule:
Start Date: 1955
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	119,000		
SFWMD			
Total	**119,000**	**30,000**	**30,119**

*The total size of the ARM Loxahatchee NWR is 145,567. 141,324 of these acres are state owned and leased to the USFWS for management. The State owned acres are Water Conservation Area

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project name: **Big Cypress National Preserve Addition**
Project ID: 2163
Lead Agency: National Park Service
Authority: Public Law 100-301
Funding Source:

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 146,117 acres

Project Synopsis: On April 29, 1988, Public Law 100-301 established the Big Cypress National Preserve (BCNP) Addition. At that time, I-75 was being designed in such a way as to improve the natural water flow to Everglades National Park, which had been disrupted by State Road 84 (commonly known as Alligator Alley). This provided an opportunity to enhance protection of Everglades National Park, to promote protection of the endangered Florida panther, and to provide for public recreational use and enjoyment of public lands by expanding the BCNP to include those lands adjacent to Interstate 75 in Collier County north and east of the Preserve, west of the Broward County line, and south of the Hendry County line.
The purpose of the Federal acquisition is to provide significant public benefits by limiting development pressures on lands which are important both in terms of fish and wildlife habitat supporting endangered species and of wetlands which are the headwaters of the Preserve. Additionally public ownership of the lands adjacent to the Preserve would enhance the protection of the Everglades National Park while providing recreational opportunities and other public uses currently offered by the Big Cypress.
The Act provided for expansion of the Big Cypress by 146,117 acres, of which approximately 32,557 acres have been acquired by the State of Florida. The authorizing legislation allows the Secretary of the Interior to purchase lands within the preserve boundaries and stipulates that no improved property, as defined by the Act, nor oil and gas rights, shall be acquired without the consent of the owner, unless that property is subject to, or threatened with, uses which are, or would be, detrimental to the purposes of the Preserve. The NPS will acquire the remaining private lands, excluding qualifying exempt property, using fair market value appraisals, consistent with the enabling Act.

Cost: Project size 146,117 acres. 144,461 acres have been acquired at a cost of $75,206,737.
Land Acquisition: 1,656 acres remaining to be acquired.

Project Schedule:
Start Date: 1989
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	51,820		
State*	23,386.737		
Total	**75,206.737**	**2,507**	**77,713.737**

All acquisitions will be consistent with authorizing Big Cypress Legislation.
*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
**State acres are Florida's donation to Federal Government.

Hyperlink: N/A
Contact: Brian Coleman

Program Name: Land Acquisition
Project Name: **Big Cypress National Preserve**
Project ID: 2164
Lead Agency: National Park Service
Authority: Public Law 93-440

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 829 acres

Project Synopsis: On October 11, 1974, Public Law 93-440 established the Big Cypress National Preserve in order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed. The total size of the original Preserve is 574,449 acres. The State of Florida donated 186,340 acres to establish the Big Cypress. The Federal government has acquired all but 845 acres of the remaining 388,109 acres in the original Preserve boundaries. The authorizing legislation allows the Secretary of the Interior to purchase lands within the Preserve boundaries and stipulates that no improved property, as defined in the Act, nor oil and gas rights, shall be acquired without the consent of the owner, unless that property is subject to, or threatened with, uses which are, or would be, detrimental to the purposes of the Preserve.

The 179 privately owned tracts are scattered throughout the Preserve. The National Park Service will acquire those tracts, excluding qualifying exempt property, using fair market value appraisals consistent with the Act.

Cost: Project size 574,449 acres. 573,614 acres have been acquired at a cost of $222,155,000
Land Acquisition: 829 acres remaining to be acquired.

Project Schedule:
Start Date: 1974
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	180,622		
State*	41,533		
Total	**222,155**	**21,877**	**244,000**

All Acquisitions will be consistent with authorizing Big Cypress Legislation.
*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
**State acres are Florida's donation to Federal Government.
Hyperlink: N/A
Contact: Brian Coleman

Program Name: Land Acquisition
Project Name: **Biscayne National Park**
Project ID: 2165
Lead Agency: National Park Service
Authority: Public Law 96-287
Funding Source:

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 172,971 acres

Project Synopsis: This project includes acquisition of three Ragged Keys (326 acres), one tract of submerged lands only (20 acres) and two on-shore tracts (36 acres) in Biscayne National Park. The Ragged Keys are five islands immediately adjacent to the most popular use area in the park, Boca Chita Key. Two islands were acquired through 1999. Two of the three islands remaining to be acquired are natural habitat on the islands and in the surrounding shallows. Least terns nest on land and endangered sea turtles nest on the shoreline. Both nesting sites are greatly disturbed by overflow public use of the area and developers for resort and recreational facilities have repeatedly targeted the islands. A total of 382 acres remains to be acquired.

Cost: **P**roject size 172,971 acres. 170,977 acres have been acquired at a cost of $31,851,000.
Land Acquisition: 1,994 acres remaining to be acquired

Project Schedule:
Start Date: 1968
Finish Date: Open

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	31,851		
SFWMD			
Total	**31,851**	**1,848**	**33,699**

**State acres are Florida's donation to Federal Government.

Hyperlink: N/A
Contact: Brian Coleman

Program Name: Land Acquisition
Project name: **Crocodile Lake National Wildlife Refuge**
Project Number: 2166
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 7,100 acres

Project Synopsis: Crocodile Lake National Wildlife Refuge was established on April 2, 1980 to preserve mangrove wetlands, tropical West Indian hardwood hammocks and open water areas on Key Largo, which are critical feeding and nesting habitat for the endangered American crocodile. The Refuge is within the designated Critical Habitat for the species and contains one-third of all crocodile nests found in Florida. The Refuge consists of about 5,300 acres of mangrove swamp, 1,200 acres of upland hardwood hammock, and 300 acres of open water. The uplands are vegetated with the last remaining remnants of unspoiled West Indian Hardwoods in the United States. The Refuge is inhabited by a number of other endangered or threatened species, most notably the eastern indigo snake, the bald eagle, the Key Largo woodrat, the Key Largo cottonmouse, and the Schaus swallowtail butterfly. The major threat to this habitat is conversion of the uplands to residential or commercial developments. The crocodile has little tolerance to human activities. Wetlands areas are less threatened, but severe alteration and damage has occurred.

Cost: **P**roject size 7,100 acres. 6,702 acres have been acquired at a cost of $13,093,000
Land Acquisition 398 acres remaining to be acquired

Project Schedule:
Start Date: 1979
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	13,093		
SFWMD			
Total	13,093	**1,226**	**14,319**

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project Name: **Everglades and Dry Tortugas National Parks**
Project ID: 2184
Lead Agency: US Department of the Interior
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 1,463,779 Acres Acquired

Project Synopsis: In 1928 landscape architect Ernest Coe began a concentrated effort to designate a "Tropical Everglades National Park." His persistence paid off when he and others persuaded Congress to designate the Everglades as a national park in 1934. It took park supporters another 13 years to acquire land and secure funding. In 1947, Marjory Stoneman Douglas would publish *The Everglades: River of Grass*, a work that would come to greatly influence the public perception of the oft-misunderstood region. That same year, Everglades National Park officially opened, marking the first large-scale attempt to protect the area's unique biology. Today, the park comprises a vast wetland wilderness unlike any other in the world.

National Park Service conservation of marine resources in south Florida began when Fort Jefferson National Monument was established in 1935 to include the surrounding water, submerged land, and a series of keys. In 1992 it was redesignated Dry Tortugas National Park and its purposes expanded. The park now protects significant nesting areas for seabirds, habitat for endangered and threatened sea turtles, and sensitive portions of the Florida Keys coral reef ecosystem.

The creation of these national park system units has underscored both the need for and the public interest in preserving south Florida ecosystem resources. The presence of numerous national wildlife refuges and marine sanctuaries as well as state, local, and private protected areas are also evidence of this support. Yet, even though much of the region has been set aside, the ecosystem remains threatened. Combating nutrient-rich (nitrate-contaminated) water, interrupted hydrology, decreased water supply, exotic plants, and mercury contamination cannot be done successfully at the park level alone. Instead, combined and integrated efforts at the federal, state, county, and local levels are necessary.

Cost: Project size is 1,463,779. 1,463,318 acres have been acquired at a cost of $24,000,000. Land Acquisition: 461 acres remaining to be acquired.

Project Schedule:
Start Date: 1947
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	22,000		
SFWMD	2,000		
Total	24,000	TBD	TBD

Hyperlink: N/A
Contact: Brian Coleman

Program Name: Land Acquisition
Project Name: **Everglades National Park Expansion**
Project ID: 2167
Lead Agency: National Park Service
Authority: Everglades National Park Protection and Expansion Act of 1989 (Public Law 101-229)
Funding Source:

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 109,504 acres

Project Synopsis: In 1989, Congress authorized the addition to Everglades National Park involving approximately 109,504 acres of an area known as Northeast Shark Slough and the East Everglades. The act also directed the Army Corps of Engineers to modify water management structures to allow the sheetflow of water and extend the hydroperiod to more closely resemble the historic Everglades. The East Everglades Addition is necessary to limit further losses suffered by the Park due to habitat destruction outside former boundaries and to restore natural water-flow patterns that are critical to the ecological integrity and long-term viability of Park resources. The acquisition of the East Everglades Addition lands and completion of the Modified Water Deliveries to Everglades National Park project are the most significant efforts underway to restore water deliveries to Shark Slough, the principal watershed in the Park. These hydrologic improvements are crucial to restoring ecosystem productivity in the southern Everglades and maintaining adequate freshwater inflow to the downstream estuaries along the Gulf of Mexico and Florida Bay.

Cost: **P**roject size 109,504 acres. 108,799 acres have been acquired at a cost of $97,678,000
Land Acquisition: 705 acres remaining to be acquired

Project Schedule:
Start Date: 1990
Finish Date**: TBD**

Detailed Project Budget Information ($1,000)

	Thru 2012	**Balance to complete**	**Total**
Federal	81,406		
State*	16,272		
Total	**97,678**	**12,219**	**109,897**

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.
**State acres are Florida's donation to Federal Government.
Hyperlink: N/A
Contact: Brian Coleman

Program Name: Land Acquisition
Project name: **Florida Panther National Wildlife Refuge (includes Ten Thousand Islands refuge)***
Project Number: 2169
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973 (Florida Panther); P.L. 100-696 (Ten Thousand Islands)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 61,573 acres

Project Synopsis: The Florida panther is one of the most endangered mammals in the Nation, with less than 80 individuals inhabiting the Big Cypress-Everglades region. The target lands are valuable for flood water retention, water purification, and aquifer recharge, while providing high quality habitat for a wide variety of flora and fauna in addition to the panther. Most of the area is relatively inaccessible and is one the few remaining retreats for the Florida black bear. The area is diverse and interesting botanically containing rare orchids, large oaks, cypress, maples, cabbage palms and a diversity of tropical trees which form a dense canopy. The increasing human population in South Florida with its consequent urban expansion is jeopardizing the area's ecological integrity. Thus essential habitat for the survival of the Florida panther is being threatened by conversion for agricultural projects, residential development, oil field activities, lumbering and road construction. A preliminary project proposal has been developed for expansion of the Florida Panther Refuge. The ecosystem within the target boundary is absolutely essential to the survival of the Florida panther.

Cost: Project size 61,573 acres. 61,563 acres have been acquired at a cost of $10,682,000
Land Acquisition : 10 acres remaining to be acquired.

Project Schedule:
Start Date: 1989
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	10,233		
SFWMD	449		
Total	**10,682**	**10**	**10,692**

*Acres and expenditures reported for the Florida Panther NWR also includes parcels acquired in the Cape Romano/Ten Thousand Islands NWR.

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project name: **Florida Keys National Wildlife Refuge (includes National Key Deer, Great White Heron, Key West refuges**
Project Number: 2168
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act (Key Deer), Executive Order 7993 (Great White Heron), Executive Order 923 (Key West)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 415,433 acres*

Project Synopsis: Acquisitions are to protect and maintain habitat extensively used by the endangered key deer. Preservation of the major habitats for this deer through acquisition contributes to the overall faunal diversity of Florida. Negotiations have been successful and with the availability of funding, acquisition of about 500 acres (30 willing sellers) within the refuge boundary would be possible. No Name and Big Pine Keys are the two most extensively used keys in the deer's range. Other rare, endangered and 'special emphasis' species are also found here. The greatest threat to key deer habitat is habitat modifications by land clearing. Residential development is rapidly proceeding as demand increases for the dwindling supply of acreage that will support construction. Unfortunately, this same land is prime deer habitat. An observable consequence of the residential development of these lands is the incidence of deer kills by vehicle traffic. An expansion of the Refuge to acquire a system of no-development corridors assure the continued existence of habitat for deer movement throughout the island.

Cost: Project size 415,433 acres. 410,880 acres have been acquired at a cost of $32,669,000. Land Acquisition: 5,433 acres remaining to be acquired.

Project Schedule:
Start Date: 1960
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	32,669		
SFWMD			
Total	**32,669**	**27,765**	**60,434**

*Acres and expenditures reported for the Florida Keys NWR also includes parcels acquired in the National Key Deer Refuge, Great White Heron NWR and Key West NWR. Ownership of lands in the Key West NWR have never been under private ownership. They have been transferred between federal agencies.

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project name: **Hobe Sound National Wildlife Refuge**
Project Number: 2170
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 1,130 Acres

Project Synopsis: Hobe Sound National Wildlife Refuge was established in 1969 and presently includes 1,027 acres of coastal sand dunes, mangrove and sand pine-scrub habitat. The primary objective of the refuge is to maintain habitat for some of the most productive nesting areas of the endangered leatherback, green and threatened loggerhead sea turtles. Hobe Sound provides habitat and protection to eight plan and animal species listed as federal threatened or endangered. The South Florida Ecosystem Plan highlights the importance of beaches to sea turtles. One of the Plan's objectives is to prevent the further decline of candidate, threatened, and endangered species and prevent further degradation of their habitats. This project is supported by the State and local governments, the public and conservation groups, with no know opposition. There are many willing sellers of high priority habitat. Nonprofit conservation groups are involved in this project.

Cost: Total project size 1,130 acres. 1,035 acres have been acquired at a cost of $135,000
Land Acquisition: 95 acres remaining to be acquired.

Project Schedule:
Start Date: 1968
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	135		
SFWMD			
Total	**135**	**5,800**	**5,935**

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project name: **J.N. "Ding" Darling National Wildlife Refuge (includes Caloosahatchee, Island Bay, Matlacha Pass & Pine Island refuges**
Project Number: 2171
Lead Agency: U.S. Fish and Wildlife Service
Authority: Migratory Bird Conservation Act; Executive Order 3299; Executive Order 943

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 10,255 acres

Project Synopsis: The J.N. "Ding" Darling National Wildlife Refuge was established in 1945 and is located in Lee County, Florida on Sanibel Island. The island is 12 miles long and is fringed with mangrove trees, shallow bays and white sandy beaches. Tourism and seasonal residential development threatened to envelop the islands private lands until a growth plan was instituted. Caloosahatchee NWR is located in Fort Myers and acquisition of lands here is necessary for the protection of the endangered West Indian Manatee. Island Bay NWR is located in the Cape Haze area of Charlotte County and includes portions of three islands. All wetlands are protected by Federal or State ownership. Matlacha Pass NWR's acquisition boundary includes all islands, wetlands and uplands lying south of the north boundary line of Township 44 South, crossing the Caloosahatchee River and running southerly and easterly to Bunch Beach. Pine Island NWR generally lies between the western boundary of Pine Island and the Coastal Islands of Cayo Costs, North Captiva and Sanibel.

Cost: **P**roject size 10,255 acres*. 7,588 acres have been acquired at a cost of $9,705,000
Land Acquisition: 2,667 acres remaining to be acquired.

Project Schedule:
Start Date: 1945
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	**Balance to complete**	**Total**
Federal	9,705		
SFWMD			
Total	**9,705**	**4,100**	**13,805**

*Acres and expenditures reported for the J. N. "Ding" Darling NWR also includes parcels acquired in the Caloosahatchee NWR, Matlacha Pass NWR and Pine Island NWR. Ownership of lands in the Caloosahatchee NWR and Matlacha Pass NWR have never been under private ownership. They have been transferred between federal agencies.

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: Land Acquisition
Project name: Lake Wales Ridge National Wildlife Refuge
Project Number: 2185
Lead Agency: U.S. Fish and Wildlife Service

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 3,384 acres

Project Synopsis: The Lake Wales Ridge NWR is managed as part of the Pelican Island NWR complex located about 80 miles away. The Refuge was established in 1994 as the first Refuge designated for the recovery of endangered and threatened plants. The Refuge contains 23 listed plants, at least four listed animals, and more than 40 endemic invertebrates. The Refuge is part of a network of scrub preserves owned by the state of Florida, The Nature Conservancy, Archbold Biological Station, two water management districts and Polk and Highland Counties.

The refuge is composed of four tracts within Polk and Highlands Counties. Because of the potential impact to the plants and animals, the refuge has not been opened to the public. However, this Refuge is an exciting place where researchers from Archbold Biological Station have conducted important ecological studies. Per acre, the Refuge has a very high density of listed species. The Snell Creek tract, located within the SFWMD, contains one of the last remaining tracts of undisturbed sandhill in northern Polk County.

Cost: Total project size 3,384 acres. 147 acres have been acquired at a cost of $268,000.
Land Acquisition : 3,237 acres remaining to be acquired.

Project Schedule:
Start Date: 1945
Finish Date: TBD

Detailed Project Budget Information ($1000)

	Thru 2012	Balance to complete	Total
Federal	268		
SFWMD			
Total	**268**	**TBD**	**TBD**

Contact: Susan C. Trokey, Realty Specialist FWS

Program Name: NOAA South Florida Program
Project Name: **South Florida Ecosystem Restoration Planning and Projects**
Project ID: 2200
Lead Agency: NOAA
Authority: Magnuson Stevens Fisheries Wildlife Conservation Act, Marine Mammal Protection Act. NMSA (16 U.S.C. §§ 1431 *et seq.*), FKNMSPA (PL 101-605), and Executive Order 13089 (Coral Reef Protection)
Funding Source:

Strategic Plan Goal(s) Addressed: Goal 2, Restore, Preserve, and Protect Natural Habitats and Species, Subgoal, 2A, Restore, Preserve, and Protect Natural Habitats; and 2B, Control Invasive Exotic Plant and Animal Species

Measurable Output(s): NOAA conducts several projects to support the South Florida Ecosystem Restoration. These projects involve (1) collection and analysis of physical, water quality and biological data as part of the CERP Monitoring and Assessment Plan, (2) development of physical and biological models of Florida Bay to evaluate CERP and climate change scenarios, (3) monitoring and assessment of selected indicator species in the ecosystem, including important commercial species and coral, (4) determination of marine mammal population health and status, (5) development and application of ecological models, and (5) analyses of species and community attributes in relation to freshwater inflow and salinity. NOAA scientists and managers are contributing members of several multi-agency groups addressing different aspects of South Florida Ecosystem Restoration, including, the Task Force, the Working Group, the Science Coordination Group, CERP RECOVER's Leadership Group, and RECOVER's Southern Coastal Systems subteam. NOAA publishes its South Florida research results in scientific journals, contributes to the South Florida Ecosystem Restoration Task Force Biennial Assessment Report and RECOVER's System Status Report, and presents scientific findings about South Florida at scientific symposia. With NOAA funding beginning in FY09, NOAA is conducting a goal-setting project (MARES) focused on the coastal marine ecosystem of three major geographic domains: the Southwest Florida Shelf, the Florida Keys and Dry Tortugas, and the Southeast Florida shelf. As part of this effort, NOAA hosted a series of consensus-building workshops to produce conceptual ecological models (CEMs), and to develop Quantitative Ecosystem Indicators (QEI). Goals and indicators are being refined based on input obtained from targeted briefings and stakeholder workshops. MARES has a website for communication among technical representatives and also to be used for outreach and education. NOAA joined with EPA and many contributors to produce the book "Tropical Connections" about South Florida's marine environment. NOAA is conducting monitoring projects in Florida Bay and Biscayne Bay. The Biscayne Bay project is collaborative with the National Park Service.

Project Synopsis: Ongoing program initiated in FY96 including research, monitoring and modeling components as well as a specific Education/Outreach Component. Includes three NOAA line organizations (NOS, NMFS and OAR) as well as Florida Sea Grant.

Cost: Total: FY09 $0.412M from NOAA
Project Development: $0.235M USACE

Project Schedule:
Start Date: 1997
Finish Date: Ongoing

Detailed Project Budget Information ($1,000s)

	Thru 2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Balance to complete**	**Total to Date**
Federal (NOAA)	38,440	1,663	2,018	1,895	1,895	429	412	ongoing	46,752
State	1,170	575	285	285	285			ongoing	2,600
Tribal									0
Local									0
Other (Corps)	2,471	1,474	1,278	1,540	1,540	1,540	240	ongoing	10,083
Total	**42,081**	**3,712**	**3,581**	**3,720**	**3,720**	**1,969**	**652**	**ongoing**	**59,435**

Hyperlink: N/A
Contact: Joan Browder 305-361-4270; Christopher Kelble 305-361-4330

Project Name: **C&SF: CERP Lakes Park Restoration (OPE)**
Project ID: 2302 (CERP Project WBS # 94)
Lead Agency: USACE / Lee County
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/County

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 40-acre marsh flowway, 11 acres of uplands, 9 acres of littoral zone

April 1999 Project Synopsis: Includes the construction of a 40-acre marsh/flow way in an abandoned rock mine, removal of exotic vegetation, and planting native vegetation on 11 acres of uplands and 9 acres of littoral zone. This feature is located in the Lee County Lakes Regional Park, upstream of Estero Bay.

Current Project Synopsis: The purpose of this feature is to enhance surface water runoff quality by creating a meandering flowway with shallow littoral zones to enhance pollution removal and oxygen content, removing aquatic and upland exotic infestation while allowing public access into upland areas of improved native habitat. The restoration will provide immediate habitat and water quality benefits at Lakes Park and improve downstream conditions in Hendry County and the Estero Bay Aquatic Preserve. The project adheres to the original concept described in the Restudy. In addition, water quality is being impacted by the growing number of birds using the area as a rookery.

Current Status: Federal efforts on this project are being discontinued. The South Florida Water Management District has advised that they will work with the non-federal sponsor (Lee County) to accomplish this project with non-federal resources to expedite design and construction outside of the CERP. Jacksonville District received a letter from Lee County requesting the project "close-out" process begin. Lee County, working with SFWMD, retrofitted two control structures to stop salt water intrusion and constructed detention areas to improve water quality along the eastern edge of the park, upstream of the control structures (Phase I and Phase II). Lee County has moved forward with the design and permitting for an additional treatment area consisting of a 40-acre filter marsh and flowway (Phase III): to address the offsite stormwater issues. Construction of the filter marsh and the flowway is anticipated to begin in FY2011.

Est. Cost: $ 6,567,000

Project Schedule: TBD by Sponsor

Detailed Project Budget Information (rounded):

Lakes Park Restoration	**Expenditures Thru 2011**	**FY**
USACE		$656,239
Lee County		$176,108
Total		**$832,347**

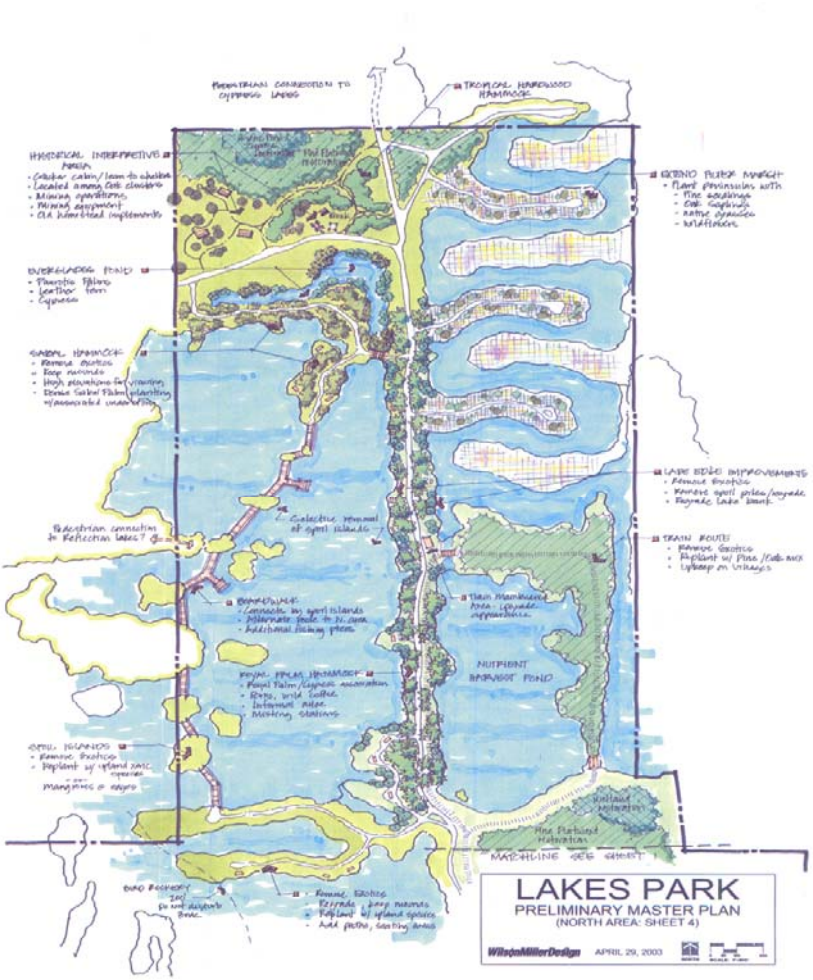
Hyperlink: http://www.evergladesplan.org/pm/projects/proj_94_lakes_park.aspx

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07. Additional information was summarized from the PMP (2005).

Additional Information: Lakes Park is located east of Cape Coral in Lee County, just west of Highway 41. Lee County has developed this area as a regional park with a bathing area along shores of mining pits developed as lakes. The pits capture runoff from the surrounding developed area (commercial, industrial, and residential), and county monitoring has indicated a decline in water quality in the lakes. The lakes are infested with hydrilla, and adjacent uplands and islands are covered with exotic plant species such as Australian pine and Brazilian pepper.

Adjacent to the developed area, the remaining natural habitat contains pine flatwoods with some cypress heads. This project is expected to restore surface water runoff quality by creating a meandering 40-acre flow way with shallow littoral zones and removing aquatic and upland exotic vegetation. The littoral zone will be harvested periodically to remove excess nutrients from the system. Exotic vegetation will be removed and replaced with native vegetation.


LAKES PARK
PRELIMINARY MASTER PLAN
(NORTH AREA: SHEET 4)
WilsonMillerDesign
APRIL 29, 2003

Project Name: **C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-111 Basin (OPE)**
Project ID: 2303 (CERP Project WBS # 92)
Lead Agency: USACE
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/Miami-Dade County

Strategic Plan Goal(s) Addressed: Primary: 2-A.3

Measurable Output(s): 50 acres pine rockland and tropical hardwood hammock improved

April 1999 Project Synopsis: Includes restoring south Florida slash pine and hardwood hammock species on a 200-foot wide strip ion each side of two miles of SR9336 from the C-111 Canal to the L-31W Borrow Canal (approximately 50 acres) and the establishment of 2, one-acre hammocks in low-lying areas on each side of the road located in Miami-Dade County.

Current Project Synopsis: The project is located in south Miami-Dade County, just east of Everglades National Park (ENP), along State Road 9336 in the area known as the Frog Pond. Eighty percent of the Frog Pond was used for agricultural purposes and farmers plowed the cap rock to create soil for tomato farming. The Frog Pond has since been purchased by the SFWMD as part of the C-111 (South Dade) project to restore the Taylor Slough portion of the Everglades. This project will provide some water quality treatment for runoff passing through the hammocks and demonstrate the techniques required to re-establish native conifer and tropical hardwood forests on land that has been rock plowed.

This project adheres to the original concept described in the Restudy.

Current Status: This project has not yet begun and is planned for the future.

Est. Cost: $ 802,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Restoration of Pineland and Hardwood	**Expenditures Thru 2011**	**FY**
USACE		$0
SFWMD		$0
Total		**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_92_rest_pineland.aspx

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Program Name: Infrastructure
Project Name: **A.R.M. Loxahatchee NWR Prescribed Fire Program**
Project ID: 2304

Lead Agency: USFWS A.R.M. Loxahatchee NWR

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Acres of habitat improved including contribution to the reduction of hazardous fuels, with a secondary benefit of invasive exotic plant reduction.

Seven prescribed fires were conducted totaling 26,000 acres. There were two wildfires on the Refuge totaling 10 acres during the reporting period.

Project Synopsis: Fire is a natural part of the Everglades ecosystem. Fire also can be used to help control been altered. A prescribe fire program will help to improve habitats by reducing fuel loads and mimicking natural fire frequencies and intensities where appropriate. The overall result will be an improvement in wildlife habitat on the refuge.

Cost:
Total:
Implementation $200,000
Operations and maintenance $200,000 (each year)

Project Schedule:
Start Date 2002
Finish Date: recurring

Detailed Project Budget Information (1000s)

	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**
Federal	170	176	175	170	225		916
State							
Tribal							
Local							
Other							
Total	**170**	**176**	**175**	**170**	**225**		**916**

Hyperlink: N/A
Contact: Rolf E. Olson, Rolf_Olson@fws.gov

Program Name: Infrastructure
Project Name: **Loxahatchee Impoundment Landscape Assessment (LILA)**
Project ID: 2305
Lead Agency: SFWMD / USFWS A.R.M. Loxahatchee NWR

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Reports outlining quantitative targets for CERP performance measures. Educational kiosk.

Project Synopsis: The objective of LILA is to support CERP by defining hydrologic regimes that sustain a healthy Everglades Ridge and Slough ecosystem and reduce uncertainty in predicting the ecosystem response. LILA will address the effects of water depth, hydro period, and flow rate on wading birds, tree islands, marsh plant communities, marsh fishes and invertebrates, and peat soils. In addition, LILA supports refuge and CERP public outreach by providing opportunities to observe ongoing investigations and results. It will provide educational opportunities through on-site demonstrations, kiosks as well as a forum for discussion of restoration designs.

Project Schedule:
Start Date: 2002
Finish Date**:** 2012

Detailed Project Budget Information (1000s)

	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**
Federal	50	10	13	10	0		2,083
State		471	308	655	390		4,357.5
Tribal							
Local							
Other							
Total	**50**	**481**	**321**	**665**	**390**		**6440.5**

***$1,900,000 is contribution of land 64 acres**

Hyperlink: N/A
Contact: Rolf E. Olson, Rolf_Olson@fws.gov

Project Name: **C&SF: CERP Acme Basin B Discharge (OPE)**
Project ID: 2306 (CERP Project WBS # 38)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 2-A.3 **Secondary:** 3-C.2

Measurable Output(s):
365-acre constructed upland/wetland mosaic improved
17,000 acre-feet (ac-ft) per year recaptured for reuse
1,000 acre-feet per year supplement to Lake Worth Drainage District municipal water supply
14,000 acre-feet per year of water conveyance to WCA-2, WCA-3, Everglades National Park, and Shark River Slough

April 1999 (Restudy) Project Synopsis: The concept includes construction of a wetland or chemical treatment area and a storage reservoir with a combined total storage capacity of 3,800 acre-feet located adjacent to the Loxahatchee National Wildlife Refuge in Palm Beach County. Stormwater runoff from Acme Basin "B" will be pumped into the wetland treatment area and then into the storage reservoir, until such time as the water can be discharged into the Loxahatchee National Wildlife Refuge if water quality treatment criteria is met, or into the one of two alternative locations: the Palm Beach County Agricultural Reserve Reservoir (VV) or the combination above-ground and in-ground reservoir area located adjacent to the L-8 Borrow Canal and north of the C-51 Canal (GGG).

Current Project Synopsis: Acme Basin B encompasses approximately 8,680 acres of low-density development with the primary land uses being rural residential lots and nurseries with a substantial presence of stables and other equestrian uses. The primary goal of the Acme Basin B Discharge project is to provide surface water to the refuge that would otherwise be routed through Basin A to C-51 and lost to tide.

In the time period between the Restudy and the start of the Acme Basin B Discharge Project Implementation Report (PIR), the land the Restudy had envisioned for a reservoir was sold to a developer. Thus, due to real estate cost increases, the project changed from an on-site water quality treatment project to a water conveyance project to an off-site water quality treatment area (STA 1E).

Current Status: The SFWMD has decided to work with local interests to expedite design and construction of the Acme Basin B Discharge project, outside the CERP.

Est. Cost: $ 24,241,000

Project Schedule:

2002	Planning begun.
TBD	Construction completed.

Detailed Project Budget Information (rounded):

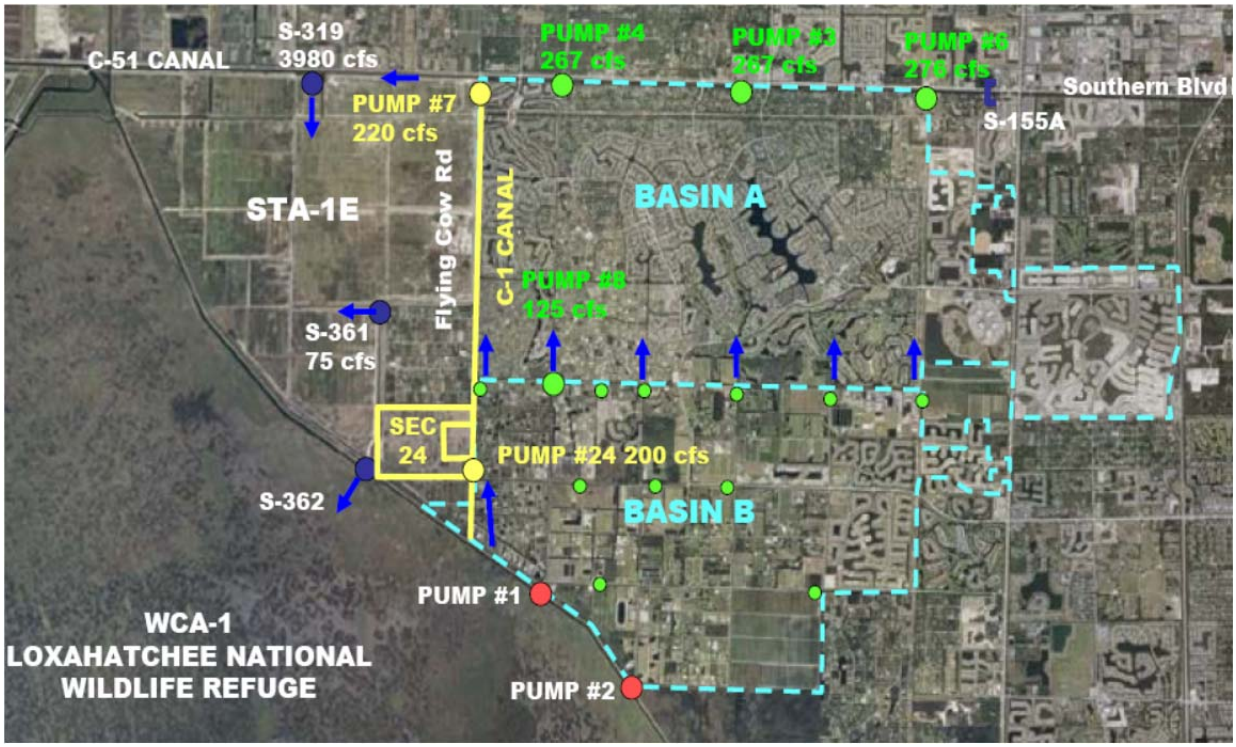
Acme Basin B Discharge	Expenditures Thru FY 2011
USACE	$2,238,400
SFWMD	$631,875
Total	$2,870,275

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_38_acme.cfm
https://my.sfwmd.gov/portal/page?_pageid=1855,2831593,1855_2830635&_dad=portal&_schema=PORTAL&navpage=abbd

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Additional Information:



Acme Basin B is one of two primary drainage basins within the Acme Improvement District (AID). The AID, a dependent district to the Village of Wellington, is located in central Palm Beach County, Township 43South and 44 South, Range 41 East. Acme Basin B boundaries generally follow Pierson Road to the north, Flying Cow Road to the west, the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge) to the southwest and south and Lake Worth Drainage District (LWDD) to the east.

Program Name: Infrastructure
Project Name: **Acme Basin B Discharge –** (Project is being implemented as part of the Long-Term Plan for Achieving Everglades Water Quality Goals)
Project ID: 2306A (CERP Project WBS# 38)
Lead Agency: SFWMD
Authority: Everglades Forever Act (EFA)
Funding Source: State – Long-Term Plan funding

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Improved surface water quality for Everglades Protection Area; 1,028 ac-ft water storage

Project Synopsis: This project redirects runoff from Acme Basin B from direct discharge into WCA-1 (Loxahatchee National Wildlife Refuge) into C-51 and the STA 1E, resulting in improved quality of the water flowing into WCA-1.

The SFWMD proceeded in advance of a PIR to improve Everglades water quality by diverting urban stormwater runoff from the Acme Basin B basin into the C-51 canal and then to STA-1E for treatment. The project includes construction of two new pump stations and improvements to the C-1 canal, which will increase conveyance capacity and connect to the C-51 canal.

All of this work and all funding for this work is part of the Long-Term Plan.

Current Status: Phase 1 has been completed and included construction of Pump Station #7 and C-1 canal conveyance improvements. The Phase 2 design of the Section 24 Impoundment and Pump Station #9 has been completed. SFWMD work is complete.

Total Estimated Project Cost: $41,621,545

Scheduled Construction Start Date: June 2006 (Phase 1)
Scheduled Project Completion Date: December 2007 (Phase 1)

Scheduled Construction Start Date: February 2009 (Phase 2)
Scheduled Project Completion Date: June 2010 (Phase 2)

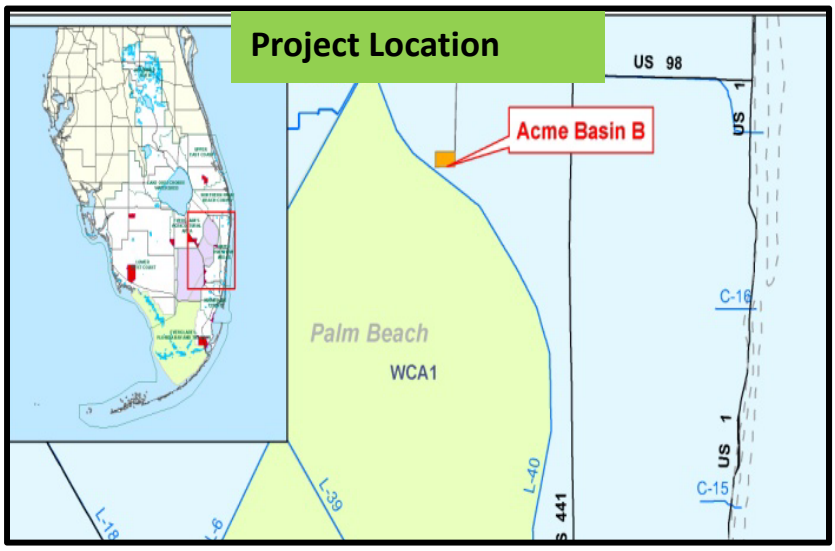
Actual Expenditures to date by SFWMD*:

	Thru 2007	**2008**	**2009**	**2010**	**2011**	**Total**
SFWMD	$11,089,625	$3,984,526	$5,388,306	$7,408,503	$115,000	$27,985,960

*Credit for expedited project work subject to inclusion in authorized Federal project. Amount estimated subject to credit once project is authorized, and authorization has been given to credit work accomplished prior to signing of a PCA.

Hyperlink:
http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/2011_sfer/v1/chapters/v1_ch8.pdf

Contact: Jorge A. Jaramillo, SFWMD



The Section 24 Impoundment shown above was part of Phase 2 of the Acme Basin B Discharge Expedited Project and was completed in June 2010.

Acme Basin B Phase I Pump Station #7 was completed in December 2007.

Project Name: **C&SF: CERP Picayune Strand Restoration**
(F/K/A *Southern Golden Gate Estates Hydrologic Restoration)*
Project ID: 2307 (CERP Project WBS # 30)
Lead Agency: USACE / SFWMD
Authority: WRDA 2007
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 55,000 acres wetlands restored

April 1999 (Restudy) Project Synopsis: Involves the restoration of natural water flow across 85 square miles in western Collier County that were drained in the early 1960s in anticipation of extensive residential development. This subsequent development dramatically altered the natural landscape, changing a healthy wetland ecosystem into a distressed environment. Implementation of the restoration plan would also improve the water quality of coastal estuaries by moderating the large salinity fluctuations caused by freshwater point discharge from the Faka-Union Canal at the Port of the Islands. The plan would also aid in protecting the City of Naples' eastern Golden Gate well field by improving groundwater recharge.

The project includes a combination of spreader basins, canal plugs, road removal, and pump stations located in the Western Basin and Big Cypress, south of I-75 and north of US 41 between the Belle Meade Area and the Fakahatchee Strand State Preserve in Collier County,.

Current Project Synopsis: The plan will restore and enhance over 55,000 acres of wetlands in the former Southern Golden Gate Estates, now Picayune Strand State Forest, and in adjacent natural areas and public lands by reducing over-drainage. Implementation of the restoration plan will also improve the water quality of coastal estuaries by moderating the large salinity fluctuations caused by the freshwater point discharge from the Faka Union Canal.

The project significantly increasing the size and improve major wetland ecosystems in adjacent lands including the Fakahatchee Strand State Preserve, Florida Panther National Wildlife Refuge, and Collier Seminole State Park; benefiting threatened and endangered species communities such as the Florida panther and the red cockaded woodpecker. In addition, the project provides public access and recreational opportunities. Features include a combination of spreader basins, tie-back levees, numerous canal plugs, miles of road removal, and several pump stations located in the Western Basin and Big Cypress, south of I-75 and north of US 41, between the Belle Meade Area and the Fakahatchee Strand State Preserve in Collier County.

In 2003, the state of Florida identified this effort as a state expedited project. A PIR was completed in 2004 and the Report of the Chief of Engineers was signed September 15, 2005. The Assistant Secretary of the Army (ASA) completed a review and referred the project to Congress by letter dated April 2, 2007 and it was authorized for construction in WRDA 2007 for $375,330,000, dependent upon appropriation funding from Congress.

Current Status: The initial phase of the project, plugging of the northern two miles of the Prairie Canal, was completed by South Florida Water Management District (SFWMD) and successfully reduced drainage of the adjacent Fakahatchee Strand State Preserve and restored habitat for threatened and endangered species as part of the early-start work.

Benefits are already being realized as native vegetation is quickly covering the plugged areas and very few nuisance or exotic plant species have been observed. Ospreys and wading birds have been observed foraging in the area as were beneficial surface water flows during the wet seasons.

In August 2009, the SFWMD Governing Board approved the Master Agreement, and Amendment 2 to the Design Agreement and addressed Land Valuation and Crediting Policy for CERP projects in general. The critical Project Partnership Agreement (PPA) for the Picayune Strand Restoration project to proceed was executed August 13, 2009.

The balance of construction, along with the remaining road removal efforts, is being implemented by the U.S. Army Corps of Engineers and was initiated with the October 2009 award of the Merritt Pump Station and Road Removal Contract. The cost for the first Federally funded CERP project component was $53 Million with $40M in American Recovery and Reinvestment Act (ARRA) funds.

Faka Union Pump Station & Road Removal contract was awarded in October 2010 for almost $79M and is the largest of the three Pump Stations planned for construction. The construction contract for the Miller Pump Station & Road Removal is currently under design by USACE and is scheduled to be awarded in FY 2013.

Hydraulic and Hydrologic (H&H) analysis for water level impact to the adjacent private lands has begun. Design of flood risk mitigation or "protection" features such is underway and the feature near Port of the Islands housing community will be awarded in 2013. The feature in the northwest area of the project to protect the private lands will be awarded in FY 2014 and the feature near 6-Ls Farm in the southwest area will be awarded in FY 2015.

Est. Cost: **$ 478,854,000**

Project Schedule:

2004	PIR completed
2006	Prairie Canal expedited state construction begun.
2009	Merritt USACE construction began.
2010	Faka-Union USACE construction begins.
2013	Merritt construction physically completed.
2014	Faka-Union construction physically completed.
2013	Miller construction begins.
2017	Miller construction physically completed.

Detailed Project Budget Information (rounded):

Picayune Strand	**Expenditures Thru FY 2011**
USACE	$104,672,000
SFWMD	$170,569,000
Total	$275,241,000

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_30_sgge.aspx
https://my.sfwmd.gov/portal/page?_pageid=1855,2831193,1855_2831931&_dad=portal&_schema=PORTAL&navpage=prjsgge

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Janet Starnes, Project Manager Principal, SFWMD
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011), including real estate per the PPA; and sponsor verified and recorded in kind credit through 4th quarter FY11. Additional information was summarized from the Final PIR and EIS (2004) and WRDA 2007 authorization.

Additional Information:

Summary of Changes	**Southern Golden Gate Estates Restoration Conceptual Source Report** (1996)	**Picayune Strand Restoration PIR** (November 2004)
Construction Cost	$ 15,500,000 (Oct 1999 Price Level)	$ 124,946,000 (Oct 2004 Price Level)
Real Estate Cost	$0 in main report; $134,400,000 in Appendix A, Plan Formulation	$193,043,000
Components	Non-specific/Conceptual Source report (1996 conceptual plan): Miller Pump Station 200 cfs Faka Union Pump Station 500 cfs Merritt Pump Station 160 cfs Prairie Canal Plugs 130 miles of roads removed. (No levees) (No culverts and levee ramps)	Miller Pump Station 1,250 cfs Faka Union Pump Station 2,630 cfs Merritt Pump Station 800 cfs Prairie Canal Plugs (same) 227 miles of roads removed. 5 ring levees for flood protection Culverts and levee ramps
Feature Siting	Non Specific/Conceptual	Criteria Used: Current Land Use, Topography, Hydrologic, and Ecological Connectivity
Amount of Land	Land between I-75, U.S. 41, Fakahatchee Strand, and Belle Meade area	59,294 acres between I-75, U.S. 41, Fakahatchee

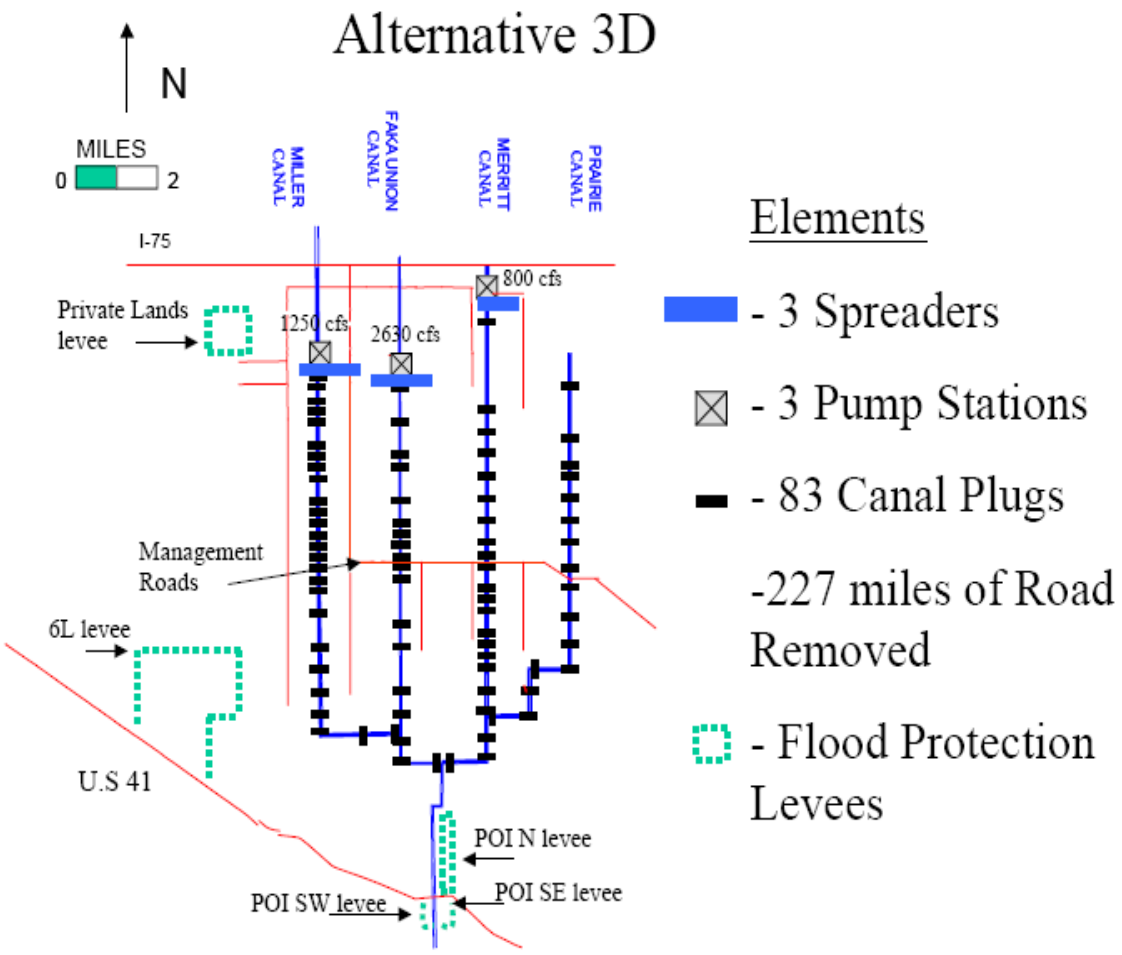

FIGURE 8 - 1 ALTERNATIVE 3D

Program Name: **C&SF: CERP Adaptive Assessment and Monitoring Program (AA&M)**
Project ID: 2308
Lead Agency: USACE / SFWMD
Authority: Design Agreement; WRDA 1996, WRDA 2000 *(Initially Authorized Project)*

Strategic Plan Goal(s) Addressed: supports 2-A.3

Measurable Output(s): System-wide/Regional Monitoring and Assessment Plan (MAP), Biennial System Status Report

April 1999 (Restudy) Project/Program Synopsis: A rigorous Adaptive Assessment and Monitoring (AA&M) program was included as an essential feature of the Plan and implementation of the AA&M program will ensure the Plan's overall success. New information about the natural system, that is learned from monitoring and from measuring responses to implementation of Plan components, can be used to increase the ultimate level of success of the overall restoration program. Specifically, AA&M utilizes a focused, system-wide/regional monitoring and assessment plan (MAP) to measure how well each component of the Plan accomplishes its goals and objectives. Data from monitoring is assessed and reported biennially in system status reports (SSRs), providing a status on the Everglades and South Florida ecosystem and information critical to refinement of the Plan as well as its individual components through adaptive management. AA&M was authorized along with the ten Initially Authorized Projects under WRDA 2000.

The AA&M program is rooted in science and includes not only comprehensive monitoring and assessment but development of conceptual models, performance measures, and scientific peer review.

Current Project/Program Synopsis: The AA&M Program is designed to provide system-wide and regional monitoring and assessment that ensures CERP goals and objectives will be met throughout implementation of the Plan. AA&M-related activities include: (1) implementing a system-wide monitoring and assessment plan (MAP) (2) conducting annual assessments by synthesizing MAP and CERP project data; developing and refining the conceptual ecological models; (3) developing performance measures; (4) developing and refining the conceptual ecological models; (5) coordinating peer reviews; and (6) resolving scientific/technical issues. The goal of the AA&M program is to increase the probability of restoration success by recognizing that modifications will be made the Plan and its components in the future; based upon new information garnered from the AA&M program.

The CERP is also being planned, implemented, and refined using the principles of adaptive management (AM). AM was mandated by the Water Resources Development Act of 2000 and the CERP Programmatic Regulations (2003). AM is an iterative and deliberate process of applying principles of scientific investigation to both design and implementation in order to better understand the ecosystem and reduce key uncertainties; AM seeks to continuously refine program/project design and operation. To address uncertainties, and to improve the performance of CERP, AM addresses the challenges inherent in predicting and restoring large-scale complex ecosystems by replacing dependencies on numerical models and traditional planning guidelines with using a "learning-by-doing" approach to decision-making.

This approach takes that learning and applies it to: (1) reducing uncertainties and guiding management decision-making; (2) transferring lessons from one project to another or among project phases in order to refine alternatives and enhance restoration success; (3) using physical models/field testing to test hypotheses and the outcomes of management decisions; and (4) incorporating flexibility and versatility into project design and implementation. AM for CERP recognizes that the future will be influenced by unanticipated internal and external events and that the Plan must be implemented with flexibility in mind.

Monitoring and Assessment Plan (MAP): The Monitoring and Assessment Plan (MAP) is the primary tool by which the RECOVER program will assess the performance of the Plan. Over a three-year period, a team of federal, state, tribal governments, local agencies and stakeholders, interest groups, and the public developed the MAP which was completed in 2004. The overarching goal for implementation of the MAP is to have a single, integrated, system-wide monitoring and assessment plan that will be used and supported by all participating agencies and tribal governments as the means of tracking and measuring the performance of the CERP. As the primary tool by which RECOVER assesses Plan performance, monitoring determines if ecosystem responses are desirable; if progress is being made toward Interim Goals and Interim Targets; and whether refinement of the Plan is needed.

System Status Report (SSR): The SSR, released in 2007, was the first comprehensive technical assessment of monitoring data developed by the RECOVER Assessment Team using data collected by the MAP. Because few CERP projects had been implemented at this time, the 2007 SSR provides estimates of pre-CERP conditions of ecosystem indicators monitored by the MAP, in conjunction with data from other sources. The SSR also identifies potential management actions that may be necessary to adjust CERP to achieve its goals and objectives. Data is assessed biennially to establish pre-CERP reference conditions and ultimately to determine whether the goals and objectives of the Plan are being met.

CERP AM Strategy and AM Integration Guide: An interagency team lead by RECOVER is defining CERP Adaptive Management (AM) including development of an overall strategy for integrating AM into CERP (CERP AM Strategy) and documentation about how and when AM should be used. Following release of the CERP AM Strategy in 2006, development of guidance was the next step in fully implementing the CERP AM program.

Current Status:

Monitoring and Assessment Plan (MAP): The 2012 RECOVER Monitoring and Assessment Plan (MAP) refined MAP 2004 (MAP, Part 1: Monitoring and Supporting Research); the MAP 2004 describes the monitoring components and supporting research of the MAP and briefly summarizes the assessment process.

The MAP 2012 utilizes the same conceptual ecological model approach and retains the MAP 2004 focus on long-term system-wide monitoring and assessment; it also incorporates adaptive management (AM) principles as well as flexibility to address project-level monitoring. The MAP 2012 provides a necessary update to the monitoring and assessment program in order to reflect refinements, including scientific information gathered over the past nine years. MAP 2012 incorporates lessons learned during development of the MAP, Part 2 (Assessment Strategy for the MAP) as well as the 2006 and 2007 System Status Reports (SSRs). These lessons learned include the organization of monitoring and assessment data via hypothesis clusters rather than single hypotheses, assessment across geographic module boundaries, and an emphasis on development of a comprehensive data management system in order to adequately assess and report on the results of system-wide MAP monitoring.

System Status Report (SSR): The 2012 SSR is a formal assessment of data generated from the MAP, Part 1 (Monitoring and Supporting Research). The focus of the 2009 SSR is two-fold: (1) provide an assessment of the pre-CERP status and trends of important ecosystem attributes; and (2) assess the validity of using a hypothesis-based approach to assess data at both the regional and system-wide scales. Because the variability in available data, estimates of the pre-CERP condition will vary among hypotheses and their associated performance measures and interim goals.

The 2009 SSR is formatted as an interactive web page accessible from www.evergladesplan.org. This web-based approach allows managers, stakeholders and scientists with many different interests and

degrees of technical expertise to easily find the information they want and need. Information is presented in a hierarchical way – users can access very general information about each assessment (i.e., general trends in wading birds), slightly more detailed information (i.e., location and number of wading bird nests in Big Cypress) or very detailed information (i.e., specific wading bird survey techniques by location). Key findings provide a high-level synthesis of the assessment.

Detailed information about each geographic MAP Module (e.g., Lake Okeechobee, Northern Estuaries, Greater Everglades and Southern Coastal Systems) uses the most recent scientific data and includes the validity of the hypothesis cluster concept, metrics and functional relationships, status and trends of key ecological indicators, management issues that communicate high priority areas of concern to the decision makers and managers; and uses hypothesis-based assessments to provide the scientific foundation for evaluating interim goals and applying adaptive management (AM).

CERP AM Strategy and AM Integration Guide: The draft CERP AM Guidance Manual underwent agency and public review and comment from mid-September to mid-October 2008. The Guide identifies the activities and processes needed to implement CERP AM at the project and program levels and identifies how these activities are integrated with the USACE Six-Step Planning Process, through implementation of nine (9) specific AM activities. The Guide also provides the rationale for, and importance of, the CERP AM Program and is designed to assist managers/decision-makers, scientists, and CERP PDTs understand and integrate AM into CERP planning, design, construction, operations, and maintenance.

Est. Cost: $ 167,112,000

Detailed Project Budget Information (rounded):

AA&M	**Expenditures Thru FY 2011**
USACE	$45,415,000
SFWMD	$41,071,000
Total	$86,486,000

Hyperlinks: http://www.evergladesplan.org/pm/recover/assess_team_ssr_2007.aspx
http://www.evergladesplan.org/pm/program_docs/adaptive_mgmt.aspx

http://www.evergladesplan.org/pm/pm_docs/adaptive_mgmt/091208_am_guid_manual_v2-_1.pdf

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999)* and WRDA 2000. Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and approved in kind credit through 4th quarter FY11. Additional information provided from the Monitoring and Assessment Plan (2011) and the RECOVER team.

Project Name: **C&SF: CERP Biscayne Bay Coastal Wetlands (FFF) (OPE)**
Project ID: 2309 (CERP Project WBS # 28)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 1,695 acres of restored wetlands
Saltwater wetlands, acres of lift = 1,242
Freshwater wetland, acres of lift = 453
Sensitivity analysis provides a range from 453 to 1,219, depending upon seepage rate used for the calculation. *(Lower number is used in the final CBEEM analysis).*

April 1999 (Restudy) Project Synopsis: Includes pump stations, spreader swales, stormwater treatment areas, flow ways, levees, culverts, and backfilling canals located in southeast Miami-Dade County and covers 13,600 acres from the Deering Estate at C-100C, south to the Florida Power and Light Turkey Point power plant, generally along L-31E. The component Biscayne Bay Coastal Canals as modeled in D-13R and the Critical Project on the L-31E Flowway Redistribution are smaller components of the Biscayne Bay Coastal Wetlands feature.

Current Project Synopsis: The proposed project will replace lost overland flow and partially compensate for the reduction in groundwater seepage by redistributing, through a spreader system, available surface water entering the area from regional canals. The goal is to improve the ecological health of Biscayne Bay (including freshwater wetlands, tidal creeks and near-shore habitat) by adjusting the quantity, quality, timing, and distribution of freshwater entering Biscayne Bay and Biscayne National Park. The primary means to accomplish this goal is through the redistribution of freshwater flow and the expansion and restoration of wetlands adjacent to southwestern Biscayne Bay (in Miami-Dade County) and to maintain sustainable biological communities. Potential sources of water will be identified and evaluated to determine their ability to provide the target flows.

The project will capture, treat, and redistribute freshwater runoff from the watershed into Biscayne Bay, creating more natural water deliveries, expanding spatial extent and connectivity of coastal wetlands, and providing improved recreational opportunities. The proposed changes for freshwater flow are expected to restore or enhance freshwater wetlands, tidal wetlands, and near shore bay habitat. Diversion of canal discharges into coastal wetlands is expected not only to reestablish productive nursery habitat all along the shoreline, but also to reduce the abrupt freshwater discharges that are physiologically stressful to fish and benthic invertebrates in the bay near canal outlets. Improving salinity distribution near the shoreline with sustained lower-than-seawater salinities in tidal wetlands can help to reestablish productive nursery habitat for shrimp and shellfish.

Reviews of the BBCW Adaptive Management Strategy, the Regional Evaluation, and the Monitoring Plan are complete and an alternative formulation briefing (AFB) was held December 2007.

In February 2008, it was decided to divide the project into <u>two</u> phases. Phase I consists of design and construction of *three* essential components: (1) Deering Estate Flowway; (2) Cutler Ridge Wetlands; and (3) L-31 East Flow Way to restore the quantity, quality, timing, and distribution of freshwater to the Biscayne Bay and estuary and the Biscayne National Park. Miami- Dade County has already constructed a portion of the proposed Deering Estate Flowway. Phase 2 is expected to address the remaining features of alternative 'O'.

The SFWMD has been advancing the design and construction of Phase 1 as a state expedited project.

Current Status: Civil Works Review Board on the final PIR/NEPA for Phase 1 was completed September 2011 and approval received December 2011. Dependent on the Chief of Engineers, the Assistant Secretary of the Army (CW) submission to Congress is expected in September 2012. The BCOE of the final plans and specs has been postponed until after Congressional authorization.

Est. Cost: $ 206,580,000 (Phase 1)
$ 269,231,000 (Phase 2)

Project Schedule:

2010	Phase 1 state expedited construction began.
2012	Phase 1 state expedited construction expected to be physically complete.
TBD	Phase 2

Detailed Project Budget Information (rounded):

Biscayne Bay Coastal Wetlands	**Expenditures Thru FY 2011**
USACE	$11,615,897
SFWMD	$10,649,382
Total	**$22,265,279**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_28_biscayne_bay.cfm

https://my.sfwmd.gov/portal/page?_pageid=1855,2830400,1855_2830186&_dad=portal&_schema=PORTAL&navpage=prjbisbay

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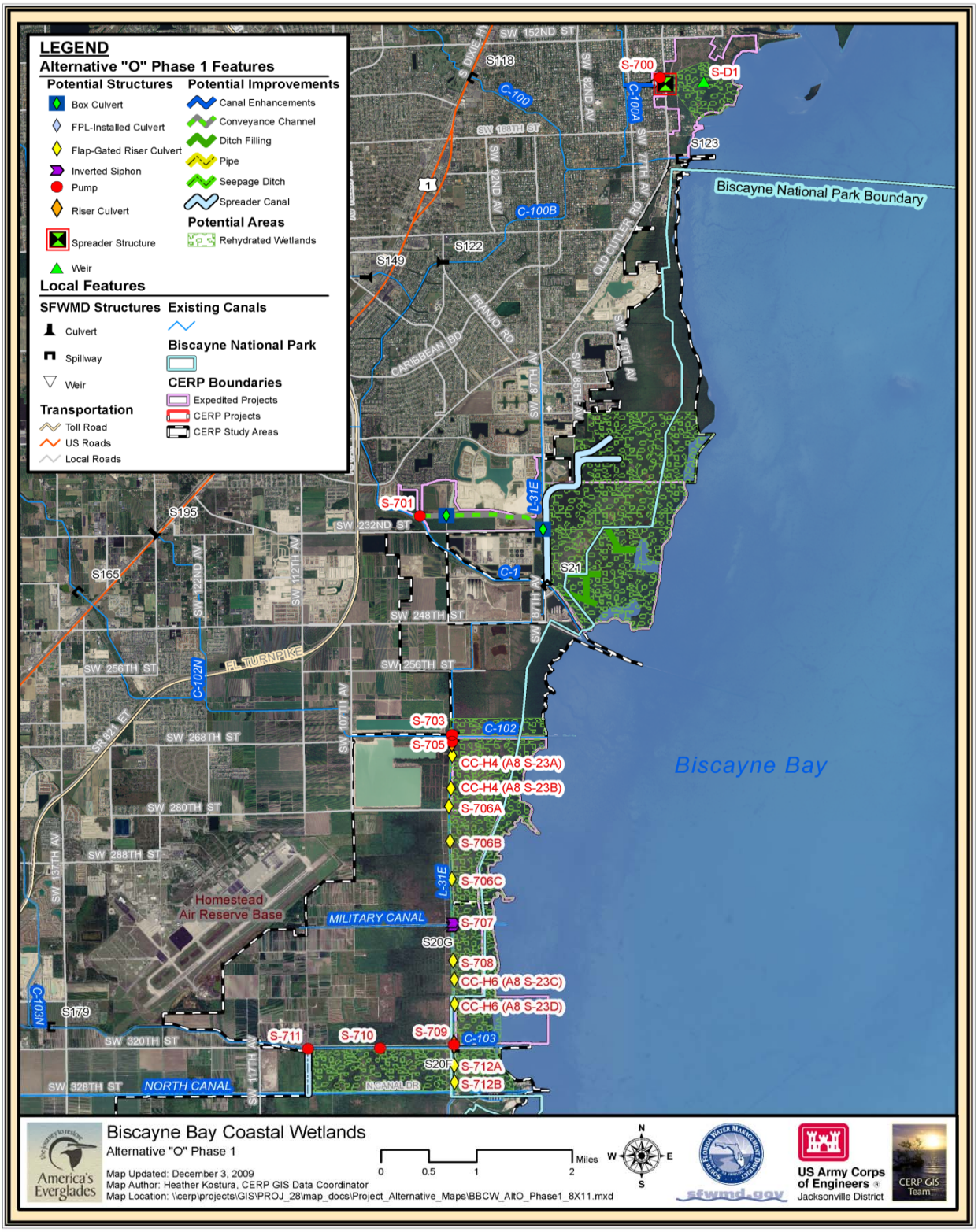
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (July, 2011) and sponsor verified and approved in kind credit through 2nd quarter FY11. Current status information summarized from draft PIR and AFB briefing documentation.


LEGEND
Alternative "O" Phase 1 Features
Potential Structures
Box Culvert
FPL-Installed Culvert
Flap-Gated Riser Culvert
Inverted Siphon
Pump
Riser Culvert
Spreader Structure
Weir
Potential Improvements
Canal Enhancements
Conveyance Channel
Ditch Filling
Pipe
Seepage Ditch
Spreader Canal
Potential Areas
Rehydrated Wetlands
Local Features
SFWMD Structures
Culvert
Spillway
Weir
Existing Canals
Biscayne National Park
CERP Boundaries
Expedited Projects
CERP Projects
CERP Study Areas
Transportation
Toll Road
US Roads
Local Roads
Biscayne Bay
Biscayne National Park Boundary
Homestead Air Reserve Base
MILITARY CANAL
NORTH CANAL
FL TURNPIKE
S-700
S-D1
S118
S123
S122
S149
S21
S165
S195
S-701
S-703
S-705
S-706A
S-706B
S-706C
S-707
S20G
S-708
S20F
S-709
S-710
S-711
S-712A
S-712B
CC-H4 (A8 S-23A)
CC-H4 (A8 S-23B)
CC-H6 (A8 S-23C)
CC-H6 (A8 S-23D)
C-100
C-100A
C-100B
C-1
C-102
C-102N
C-103
C-103N
L-31E
SW 152ND ST
SW 232ND ST
SW 248TH ST
SW 256TH ST
SW 268TH ST
SW 280TH ST
SW 288TH ST
SW 320TH ST
SW 328TH ST
Biscayne Bay Coastal Wetlands
Alternative "O" Phase 1
Map Updated: December 3, 2009
Map Author: Heather Kostura, CERP GIS Data Coordinator
Map Location: \\cerp\projects\GIS\PROJ_28\map_docs\Project_Alternative_Maps\BBCW_AltO_Phase1_8X11.mxd
Miles
0
0.5
1
2
America's Everglades
sfwmd.gov
US Army Corps of Engineers
Jacksonville District
CERP GIS Team

Program Name Infrastructure
Project Name: **C&SF: CERP - Biscayne Bay Coastal Wetlands Phase I (FFF) (OPE)**
Project ID: 2309A (Formerly project ID 1410A) (CERP Project WBS# 28) (PS# 100561)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Freshwater wetland, tidal wetland, near-shore habitat restoration, flood protection, recreation.

Project Synopsis: This SFWMD project is a component of a larger project that will expand and restore the wetlands adjacent to Biscayne Bay in Miami-Dade County, enhancing the ecological health of Biscayne National Park. It will restore natural water flows to Biscayne Bay and Everglades National Park and will improve salinity distribution near the shoreline, which will reestablish productive nursery habitats for shrimp, shell fish and near-shore habitat. This project consists of the design and construction of three components - Deering Estate Flow-way, Cutler Flow-way and L-31E Culverts. Project features include pump stations, canal extensions, conveyance canals, spreader canals, levees, culverts and man-made wetlands.

Current Status: Design is complete. Construction of the L-31E Culverts was completed in June 2010. Construction of the Deering Estate component was completed January 2012. Construction of the Cutler Flow-way component is projected to begin in FY13, subject to funding availability.

Total Estimated Project Cost: **$**43, 218,332 (includes design, land management and construction)

Scheduled Construction Start Date: FY09 (funding issues in FY08)
Scheduled Project Completion Date: FY16 (subject to funding availability for the Cutler Flow-way Component)

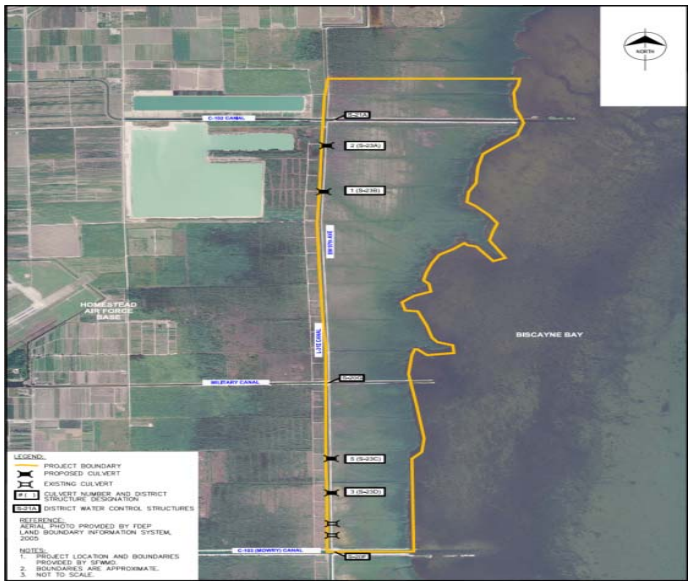
Actual Expenditures to date by SFWMD:**

	Thru 2007	**2008**	**2009**	**2010***	**2011 (as of 6/15/11)**	**2012 (7/11 – 6/12)**	**Total**
SFWMD	$7,493,990	$726,412	$ 65,243	$ 1,488,613	$1,960,522	$3,355,285	$15,090,065

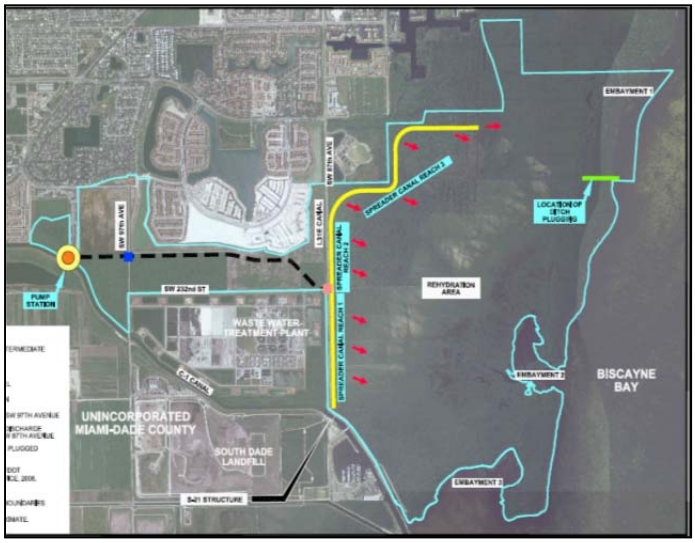
* Updated as of September 30, 2010.
** Credit for accelerated work subject to inclusion in authorized Federal project.

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/bisc_coastal_wtlnds_proj_update.pdf

Contact: Jorge Jaramillo



L-31E Culverts Component



Biscayne Bay Coastal Wetlands Phase I Cutler Flow-way Component

Deering Estate Features

Project Name: **C&SF: CERP C-111 Spreader Canal (WW)**
C-111 Spreader Canal - Western Project (PIR 1) and *Eastern Project (PIR 2)*
Project ID: 2310 (CERP Project WBS # 29)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Initially Authorized Project)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): Increased Flows to Florida Bay via Taylor Slough – acreage TBD
590-acre Frog Pond and Aerojet Canal detention areas (with pump stations)

April 1999 (Restudy) Project Synopsis: The purpose of the project is to reduce wet season flows in C-111, improve deliveries to Model Lands and Southern Glades and decrease potential flood risk in the lower south Miami-Dade area.

This is to be accomplished by constructing a spreader canal, to evenly distribute water currently lost to tide via the existing canal. Features include construction, removal or modifications of: levees, canals, pump stations, water control structures, and stormwater treatment area. The feature enhances the C&SF C-111 (South Dade) project initial design that pumps water from the C-111 Canals into a retention/detention zone. Pump station S-332E will be enlarged, the canal extended under U.S. Highway 1 and Card Sound Road, and the southern reach of the C-111 canal will be filled in and structures S-18C and S-197 will be removed.

Current Project Synopsis: C-111 N Spreader Canal (WW) is one of the initially authorized projects under WRDA 2000. Past dredging of the C-111 canal redirected water flows to the east, reducing flow through Taylor Slough into the northern Florida Bay impacting fisheries and ecology. A Project Management Plan (PMP) aimed to reduce water loss through the canal system and restore flows was initially approved in March 2002. As part of the Corps planning process, alternative plans were reviewed and this project will be implemented via <u>two</u> Project Implementation Reports (Western PIR and Eastern PIR).

Western PIR – The Western PIR plan includes a 590-acre Frog Pond detention area with a 225 cfs pump station, and an Aerojet Canal detention area with a 225 cfs pump station. Together these features will create a mound of groundwater to the south and west, which will prevent groundwater seepage out of Everglades National Park (ENP). Preventing seepage will improve the quantity, timing and distribution of water delivered to Florida Bay via Taylor Slough -- returning coastal zone salinity levels in western Florida Bay to levels as close as possible to pre-drainage scenario model runs by restoring upstream water levels in eastern Everglades National Park. Hydroperiods and hydropatterns within wetlands of the Southern Glades and Model Lands will be improved by construction of a new water control structure in the lower C-111 Canal, incremental operational changes at existing structure S-18C, changes in operations at the existing S-20 structure, construction of a plug at existing structure S-20A, and installation of ten earthen plugs in the C-110 Canal. This will also support historical vegetation patterns.

The Tentatively Selected Plan (TSP) for PIR 1 was recommended in October 2007. An Alternative Formulation Briefing was held in April 2008 and a Civil Works Review Board was held in December 2009. The Final PIR/EIS was published February 2011. A signed Chief's Report is scheduled for late FY11.

Eastern PIR – The Eastern PIR project will replace existing portions of the lower C-111 canal with a spreader canal to enhance sheetflow to Florida Bay, and help augment restoration efforts within the Southern Glades and Model Lands.

Current Status: The Draft integrated Project Implementation Report and Draft Environmental Impact Statement (DPIR/DEIS) for the Western PIR was published in the Federal Register on April 24, 2009. Library access and public comments or meetings took place thru June 23, 2009. The SFWMD designated the 'Western PIR' as a state expedited project and a 404 permit was issued to the SFWMD on October 14, 2009. Real estate updates, based on the Master Agreement and a non-Federal letter of support, were addressed. A Civil Works Review Board was held December 15, 2009, in Washington, D.C. and the Board approved the Final PIR for State and Agency review, contingent on resolving agricultural chemical issues associated with project lands. The Final PIR was published for State and Agency review in February 2011. Agricultural chemical issues associated with project lands were resolved by Assistant Secretary of the Army for Civil Works policy guidance dated September 14, 2011. The Chief's report for the Western PIR was executed January 30, 2012. A Signed Record of Decision (ROD) is expected by September 2012.

Along with the Western PIR efforts, an Integrated Design Documentation Report/Environmental Assessment (DDR/EA) was prepared for the C-111 Spreader Canal *Design Test*. This report received public comments between August and September, 2008. The design test survey and hydraulic design were completed and the scope of work for the test was completed in January, 2009 with a final document in July 2009. The contract for the design test was awarded and operation of the 2-year test began February 2010. The test consists of operating a small scale spreader canal and monitoring the effects on groundwater and surface water flows. Data will be used in the development and analysis of alternatives for the Eastern PIR and help to determine the location of that PIR's full-size spreader canal, minimizing impacts to private lands, and maximizing restoration results. Operation of the Design Test was concluded in September 2011 and a Technical Data Report was completed.

Est. Cost: $ 165,098,000

Project Schedule:

2010	Two year Design Test begun.
2012	Design Test disassembled.
2010	Western, construction begun
2012	Western, construction completed.
TBD	Eastern PIR

Detailed Project Budget Information (rounded):

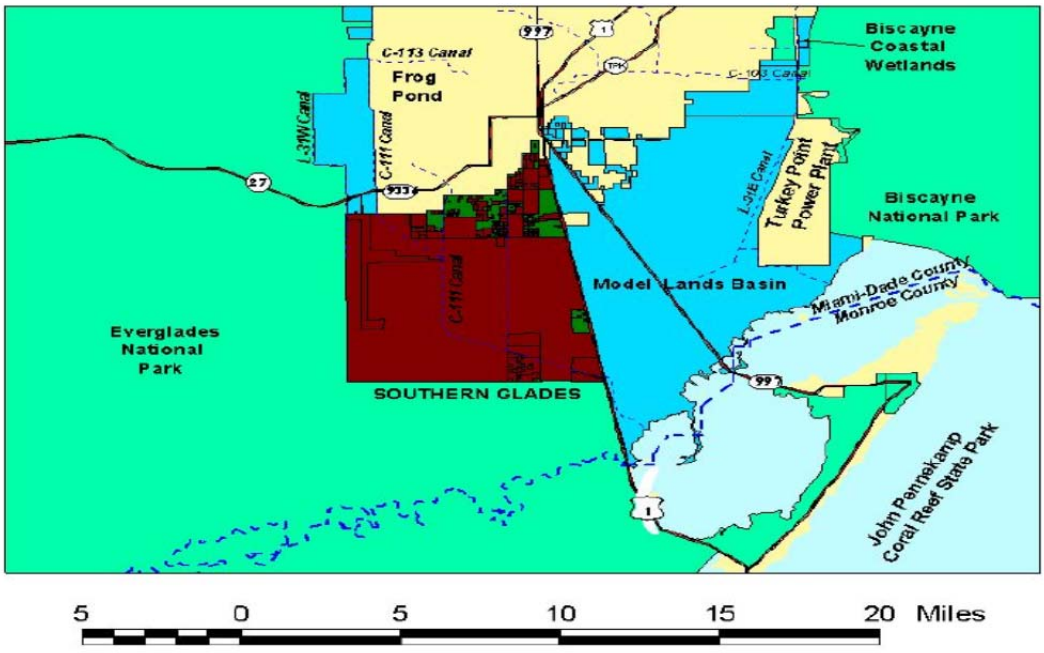
C-111 Spreader Canal	**Expenditures Thru FY 2011**
USACE	$12,268,873
SFWMD	$13,442,787
Total	**$25,711,661**

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_29_c111.cfm
https://my.sfwmd.gov/portal/page?_pageid=1855,2830405,1855_2830734&_dad=portal&_schema=PORTAL&navpage=prjc111

Contact: Tim Brown, Senior Project Manager, Programs & Project Management Division, USACE
Timothy.r.brown@usace.army.mil
Matthew Morrison, Project Manager, SFWMD
mjmorris@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and approved in kind credit through 4th quarter FY11. Other information is summarized from the PIR/EIS for the Western PIR published in the Federal Register on April 24, 2009.

Additional Information:



Program Name: Infrastructure
Project Name: **C&SF: CERP - C-111 Spreader Canal Western Project (WW)**
Project ID: 2310A (CERP Project # WBS 29)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: Primary: 1.B.1
Measurable Output(s): 3,200 acres of STA; Water quality enhancement feature, pump station, spreader canal, freshwater wetland, tidal wetland, near-shore habitat restoration, flood protection, and recreation.

Project Synopsis: This SFWMD-expedited project provides for ecosystem restoration of freshwater wetlands, tidal wetlands and near-shore habitat, maintenance of flood protection, and recreation opportunities. Located in Miami-Dade County, this project consists of the design and construction of three essential components - Frog Pond Impoundment, Pump Stations S-199 and S-200, and the Aerojet Canal Extension including the installation of earthen plugs at C-110 and L-31E Canals to enhance sheetflow across the restored area. Project features include pump stations, canal extensions, conveyance canals, spreader canals, levees, and culverts.

Current Status: Construction of the Frog Pond Impoundment was completed in May 2011 and the Aerojet Canal Extension and Pump Stations S-199 and S-200 were completed on December 15, 2011.

Total Estimated Project Cost: $46,822,983

Scheduled Construction Start Date: Jan. 2010
Scheduled Project Completion Date: Dec. 2011

Actual Expenditures to date by SFWMD*:

	Thru 2007	2008	2009	2010*	2011 (as of 6/15/11)	2012 7/11-6/12	Total
SFWMD	$ 4,360,259	$1,802,382	$2,646,028	$17,018,735	$10,024,159	$3,094,880	$38,946,435

* Updated to reflect actual expenditures as of end of fiscal year.

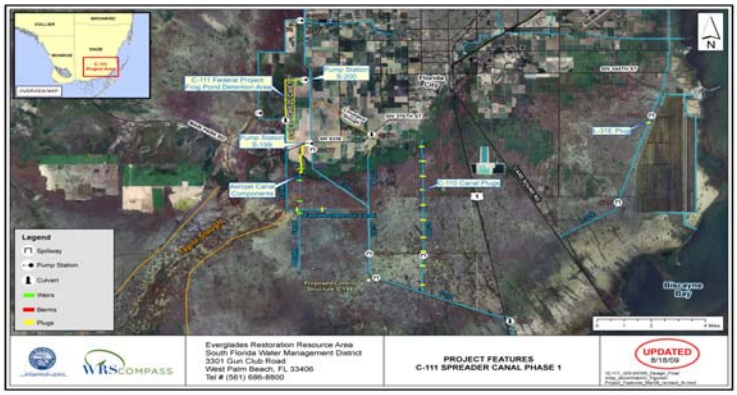
Real Estate Acquisition:**

Acres	Cost
33.000	$10,175,057

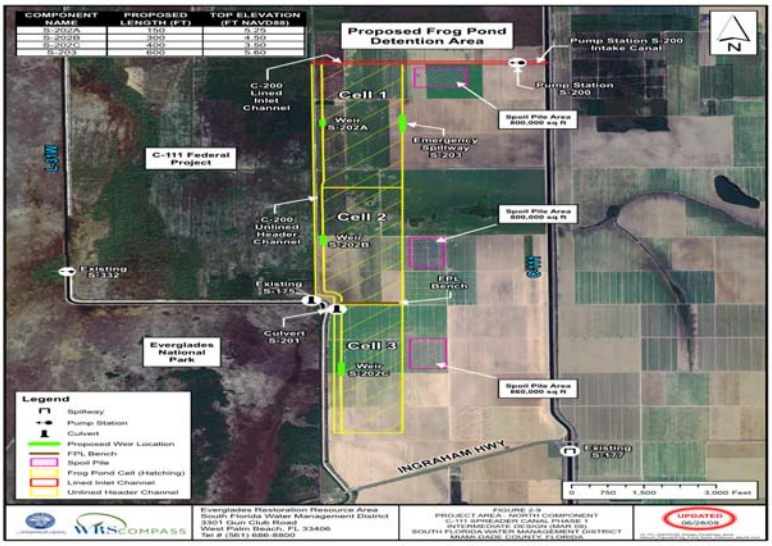
*Credit for expedited work subject to inclusion in authorized Federal project.
**Amount estimated subject to credit once project is authorized and authorization has been given to credit work accomplished prior to signing of a PCA.

Hyperlink:
http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/jtf_s197.pdf

Contact: Jorge Jaramillo



C-111 Spreader Canal Western Project Map



Frog Pond and Pump Station S-200

Aerojet Canal Extension and Pump Station S-199 (four photos)

Project Name: C&SF: CERP **Strazzulla Wetlands (OPE)**
Project ID: 2312
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): An increase of 3,335 acres of habitat extent and connectivity

April 1999 (Restudy) Project Synopsis: Water control structures and the acquisition of 3,335 acres located in Palm Beach County. Expanding wetlands will act as a buffer between higher water stages to the west and lands to the east that must be drained.

Current Project Synopsis: The purpose of this feature is to provide a hydrological and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide habitat connectivity for species that require large un-fragmented tracts of land for survival.

WRDA 2000 dictated that the Federal share for land acquisition in the Loxahatchee National Wildlife Refuge, including the Strazzulla tract, should be funded through the budget of the Department of the Interior. The project adheres to the original concept outlined in the Restudy.

Current Status: Portions of this project are currently being pursued under a different program. Please see Project ID 2300.

Est. Cost: $67,390,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Strazzulla Wetlands	**Expenditures Thru FY 2010**
USACE	$355,000
SFWMD	$143,000
Total	**$498,000**

Contact: Karen Tippett, Program Execution Branch, Everglades Division, USACE
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Project Name: C&SF: CERP **Winsberg Farm Wetlands Restoration (OPE)**
Project ID: 2313
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3 **Secondary:** 3.C.2

Measurable Output(s): 114 acres of improved wetlands

April 1999 (Restudy) Project Synopsis: The Winsberg Farm wetlands project was included in the Restudy as an "Other Project Element". Projects in the "Other Project Element" category were determined to be consistent with Restudy planning objectives and have a Federal interest, but were too small in scale to evaluate from a system-wide perspective. The original concept for this feature includes the construction of a 175-acre wetland east of Loxahatchee Wildlife Preserve in Palm Beach County using water that would normally be lost to deep well injection or any future beneficial use.

Current Project Synopsis: The project involves restoration of approximately 114 acres of wetlands on former agricultural lands. Wetlands would reduce the amount of treated wastewater coming from the Palm Beach County's Water Utilities District (PBCWUD) Southern Region Water Reclamation Facility (SRWRF) lost to deep injection wells by further treating and recycling the water. Treated wastewater will instead be reused to recharge the local aquifer system, create a new ecologically significant wildlife habitat and extend the function of the nearby Wakodahatchee Wetland. The initial configuration would include a Phase 1 design and construction with approximately 72 acres of wetlands created in the western half of the project. The remaining 42 acres of the project on the eastern half , considered Phase 2, would work similarly. As a result of the 2003 real estate purchase agreement (175 acres) between PBCWUD, the non-federal sponsor and the Winsberg family, PBCWUD completed construction of Phase 1 in 2004. This included 72 acres of wetlands, plus a parking lot, visitor center, and recreational access features and was completed without Federal funds. The local sponsor refers to this portion of the project as "Green Cay Wetlands".

A draft PIR was completed in February 2008 and released for public and agency comment. In the summer of 2008, PBCWUD made a desicsion to discontinue development of the remainder of the project identified in the Plan.

Current Status: Portions of this project were pursued under a different program. Please see Project ID 2301.

Est. Cost: $16,736,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Winsberg Farm Wetlands	Expenditures Thru FY 2009
USACE	$1,856,000
SFWMD	$1,978,000
Total	**$3,834,000**

Contact: Karen Tippett, Program Execution Branch, Everglades Division, USACE
Karen.S.Tippett@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Program Name: South Florida Ecological Services Office, Threatened and Endangered Species Program
Project Name: **South Florida Multi-Species Recovery Plan**
Project ID: 2402
Lead Agency: USFWS
Authority: Endangered Species Act of 1973 (16 U.S.C. 1531-1543)
Funding Source: No specific funding source, part of base funding for agency/organizations and further incorporated into agency/organization budgets to extent practical

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Number of species delisted, number of species reclassified to threatened, number of species status stable or improving

Project Synopsis: A Multi-Species Recovery Plan (MSRP) for the threatened and endangered species of south Florida was completed in May 1999. This document was prepared to fulfill a major element of the South Florida Ecosystem Restoration Initiative. It contains information on the biology, ecology, status, trends, management, and recovery actions for 67 federally listed species that occur in south Florida, as well as the ecology and restoration needs of 23 natural communities in this region. Implementation of the MSRP is underway through the work of the Service and their many Federal, State, and non-governmental partners. The MSRP implementation schedule was completed in 2007. The implementation schedule prioritizes recovery actions in the MSRP, as well as providing time and cost estimates for those actions. Participants to complete those actions are identified. Additionally, in April 2012, the Service published a final rule listing the Miami blue butterfly as endangered. This brings the full number of federally listed species in south Florida to 68. The South Florida Ecological Services Office has the lead responsibility for 44 of these species. In Fiscal Year 2011, 11 species were considered to have a status of "stable"; these included Florida panther, Key deer, Key Largo cotton mouse, rice rat, American crocodile, Everglade snail kite, Avon Park harebells, Beach jacquemontia, Garber's spurge, Key tree cactus, and Florida ziziphus. A total of 21 species had a status of "uncertain" and 12 species were considered to have a status of "declining".

The Service is working with partners to initiate, continue, or complete recovery actions in the MSRP for a multitude of species. Research, monitoring, and/or habitat restoration are being conducted for the following species: Florida panther, Key deer, Key Largo cotton mouse, Key Largo woodrat, Lower Keys marsh rabbit, southeastern beach mouse, West Indian manatee, Audubon's crested caracara, Cape Sable seaside sparrow, Everglade snail kite, Florida grasshopper sparrow, Florida scrub jay, piping plover, red-cockaded woodpecker, wood stork, American crocodile, eastern indigo snake, blue-tailed mole skink, sand skink, Schaus swallowtail butterfly, crenulate lead-plant, Florida bonamia, deltoid spurge, pygmy fringe-tree, pigeon wings, Avon Park harebells, Garret's mint, scrub mint, Lakela's mint, scrub blazingstar, papery whitlow-wort, Key tree cactus, Lewton's polygala, tiny polygala, wireweed, sandlace, scrub plum, Florida perforate cladonia, snakeroot, Garber's spurge, Highlands scrub hypericum, Carter's mustard, short-leaved rosemary, four-petal pawpaw, beach jacquemontia, fragrant prickly-apple, and Florida ziziphus.

Current Status:

Cost: Total: $386,112,000 (does not include all amounts for habitat acquisition, management, or restoration because those tasks are expressed as costs per acre and could not be determined at this time)

Project Schedule:
Start Date: 1999
Finish Date: TBD

Estimated Cost of Recovery
Includes the estimated cost of accomplishing all recovery actions in the MSRP. These costs were calculated as totals per community for the multiple species that occur within each community. Costs for land acquisition, management, and restoration will be more accurately determined as the MSRP is implemented.

Detailed Project Budget Information (in thousands)

	FY 2005-2007	FY 2008	FY 2009	FY 2010	FY 2011	Balance to complete	Total
Federal	$11,567.5[a]	$2,370.8 [a]	$2,806.3 [a]	$2,388.9 [a]	2,335.6 [a]	$372,173.7[b]	
State							
Tribal							
Local							
Other							
Total	**$11,567.5a**	**$2,370.8 [a]**	**$2,806.3 [a]**	$2,388.9 [a]	2,335.6 [a]	**$372,173.7[b]**	**$386,112[c]**

[a]Amounts obtained from the South Florida Ecological Services Office's recovery expenditures report to Congress

[b]Total is rough estimate based upon the 1999 South Florida Multi-Species Recovery Plan and the precise amount of dollars has not been updated recently

[c]Does not include all amounts for habitat acquisition, management, or restoration because those tasks are expressed as costs per acre and could not be determined at this time

Contact: Dana Hartley

Project Name: **WCA 2A Regulation Schedule Review**
Project ID: 2403
Lead Agency: USACE
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Revised Schedule

Project Synopsis: The purpose of the project is to evaluate the feasibility of modifying operational standards for WCA 2A to benefit its fish and wildlife resources, without adversely impacting the area's ability to satisfy its flood control and water supply purposes.

Current Status: The study can be implemented with existing operational and maintenance authority. It will be conducted in coordination with Everglades Rain-Driven Operations and can be funded through ongoing Operations and Maintenance appropriations for the USACE.

Est. Cost: TBD

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Budget information is unavailable, as project has not begun.

Hyperlinks*:* http://www.saj.usace.army.mil/h2o/reports/r-wca2.html
http://www.saj.usace.army.mil/h2o/reports/r-sitrep.html

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
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Project Name: **C&SF**: **Manatee Pass Gates**
(Construction of Modifications to the C&SF Project features for the Protection of Manatees)
Project ID: 2404
Lead Agency: USACE / SFWMD
Authority: ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, 15 November 1996; EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, revised 30 November 2001; the Marine Mammal Protection Act of 1972; the Endangered Species Act of 1973 (as Amended) and the approved water control plans and manuals for the Central and Southern Florida Project; Section 203 Flood Control Act (1948) and Section 203 of the Flood Control Act (1958) addresses cost-sharing.
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Structural modifications and operational changes for species protection

Project History: The West Indian manatee is provided protection under the Endangered Species Act of 1973, making it against the law to "harm, harass, kill" etc. any of these animals. After boats, the "operations of spillways and locks are cited as the second leading cause of human related manatee mortalities". Protection of the manatees at water control structures is a part of the long range recovery goals of the Florida Manatee Recovery Plan required by the Marine Mammal Protection Act (1972), to maintain "the health and stability of the marine ecosystem" and to determine and maintain manatee numbers at "optimum sustainable population" in the southeastern United States.

In the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) section 4.9.1.5 of the Restudy, the Manatee Protection Project is described as follows: "The West Indian manatee (*Trichechus manatus*) is listed as a federally endangered species and is one of the most endangered species in Florida. As a response to recent manatee mortality trends associated with water control structures, this project will provide operational changes and implement the installation of a manatee protection system at seven sector gates at navigational locks near Lake Okeechobee. The beneficial outcome of this project will be the reduction of risk, injury, and mortality of the manatee. The seven sector gates include S-193 at Okeechobee and S-310 at Clewiston on Lake Okeechobee; St. Lucie Lock and Port Mayaca Lock on the St. Lucie Canal; and Moore Haven Lock, Ortona Lock, and W. P. Franklin Lock on the Caloosahatchee River.

The mechanism proposed uses hydro acoustic and pressure sensitive devices that immediately stop the gates when an object is detected between the closing gates. These systems transmit an alarm and signal to stop the gate movement when a manatee is detected. When an object or manatee activates the gate sensors, the gate will stop and open approximately six inches to release a manatee. As a result, a manatee will be able to travel between the open gates. Once the gate opens, the operator can fully close the gate, unless an object remains between the gates. The opening process will repeat the cycle as the sensors are activated again. Due to these structural modifications, manatees will be at a significantly less risk as they encounter locks with sector gate.

Current Project Synopsis: The purpose of this project is to develop and install Manatee Protection Devices on vertical lift gates and sector gates at specific navigation and flood control structures.

The project consists of alternative structural modifications to 23 existing water control structures and locks in the C&SF Project to reduce or eliminate manatee mortalities, associated with their operation. The project is being implemented in two phases; the first phase addresses the addition of pressure sensitive devices at water control structures.

The second phase includes acoustic devices at selected sector gate water control structures. These devices reverse the gate closure if a foreign object is detected.

Operation, maintenance, repair, replacement, and rehabilitation responsibilities for each structure differ between Non-Federal and Federal sponsors based on their location. A Project Cooperation Agreement (PCA) for Phase 2 was signed in January, 2005 for the following six sector gates: Moore Haven Lock (S-77), Ortona Lock (S-78), W.P Franklin Lock (S-79), Taylor Creek Lock (S-193), Port Mayaca Lock (S-308B), and S-310.

Current Status:
Construction activities are still in progress for Phase 2. Installation of acoustic devices and operator training has been completed at Ortona Lock (S-78), W.P. Franklin Lock (S-79), Taylor Creek Lock (S-193), St. Lucie Lock (S-80), and Port Mayaca Lock (S-308B). Installation of the manatee protection system (MPS) at Moore Haven Lock (S-77) has been partially completed in FY 2011 and will be completed in FY 2012;. Installation of acoustic device and operator training for St. Lucie Lock (S-80) is completed. As of May 2010, due to a high number of reported manatee deaths at Moore Haven Lock (S-77) and none reported at S-310, a modification to the final task order (Option Year 3), for Phase 2, was awarded for MPS at Moore Haven Lock (S-77) in January 2010, in lieu of S-310. Completion of the MPS at Moore Haven Lock (S-77) is expected by September 2012. A separate contract is proposed to complete the MPS at S-310, located near Clewiston (between HHD and L-9). This award has been delayed due to changing conditions (Lake Okeechobee operations are such that the gate is rarely operated) and will be revisited once Lake Okeechobee operations are such that S-310 will be operated more regularly.

Three separate companies build, waterproof and install the MPS equipment required for the locks. There have been numerous construction delays prolonging completion of the lock sensor systems and delaying the construction close out activities.

Est. Cost: $ 16,750,000
(Different cost-sharing parameters exist for each gate, based on modification requests and PCA)

Project Schedule:
2001 Start
2012 Finished

Detailed Project Budget Information (rounded):

Manatee Pass Gates	Expenditures Thru FY 2011
USACE	$14,280,000
SFWMD	$2,100,000
Total	$16,380,000

Hyperlink: http://www.saj.usace.army.mil/pd/manatee1.htm
http://www.evergladesplan.org/pm/pm_docs/prog_regulations/som/v1_app_b.pdf

Contact: Alan Bruns, Project Manager, Everglades Division, USACE
Alan.Bruns@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999).* Current status information was provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Program Name: South Florida Water Management District Invasive Species Management
Project Name: **Invasive Exotic Plant Control in Terrestrial and Aquatic Natural Systems**
Project ID: 2502
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Implementation of invasive species management plans as a coordinated program, including inter-agency collaboration; reduction of total acreage for all priority invasive plant species; attainment of maintenance control for invasive exotic plants such as hydrilla, water hyacinth, water lettuce, melaleuca, Brazilian pepper, Australian pine, and Old World climbing fern.

Project Synopsis:
The SFWMD continues to coordinate with other agencies to implement the melaleuca management plan for South Florida. After several decades of management, large stands of melaleuca persist primarily on private lands. Populations have declined greatly on all public conservation lands within the Everglades Protection Area with the greatest remaining population found in the Arthur Marshall Loxahatchee National Wildlife Refuge. The decline has been achieved via aerial and ground-based herbicide applications in addition to successful establishment of several biological control agents. In all areas, patrols continue to manage new seedling plants. Maintenance control has also been achieved for melaleuca within many acquisition areas in the East Coast Everglades Buffer Area, the Florida Keys, Lake Okeechobee, and most natural areas in the Treasure Coast and Kissimmee River regions.

Old World climbing fern remains problematic on many SFWMD-managed lands. The SFWMD continues to search for and remove outlier populations of Old World climbing fern in WCA-3A and WCA-3B tree islands. Unfortunately, there is no active ground-based monitoring program in place to detect the spread of this species during the initial stage of establishment. Recent aerial mapping efforts confirm that dense stands of Old World climbing fern are common throughout the central Kissimmee River basin and the Arthur Marshall Loxahatchee National Wildlife Refuge. Continued implementation of control programs, consistent with the Old World climbing fern management plan, as well as continued progress with management-related research and biological control initiatives are necessary to reverse the expansion of this highly invasive plant.

The SFWMD continues to maintain water lettuce and water hyacinth at maintenance control levels in most natural water bodies under its jurisdiction. Other species, including hydrilla, West Indian marsh grass, torpedograss, limpograss, and Wright's nut rush remain problematic in the Kissimmee Chain of Lakes region. The SFWMD is increasing control efforts for these species in collaboration with FDEP. The SFWMD also continues to focus on regionally-problematic species such as downy rose myrtle (pinelands in northeastern region), shoebutton ardisia (eastern Everglades), and South American water grass (Lake Okeechobee).

Current Status: Regional, coordinated efforts have yielded an Everglades Protection Area with few significant melaleuca infestations. Much of the remaining dense populations are now found on private lands. The melaleuca biocontrol agents that have been established in Florida are exerting strong inhibitive pressure on the tree. SFWMD continues to focus on removal of Old World climbing fern and Brazilian pepper throughout the Water Conservation Areas and other SFWMD-managed conservation lands.

Project Schedule:
Start Date: 2007
Finish Date: TBD

Detailed Project Budget Information ($1000) / Expenditures to Date

	2007	2008	2009	2010	2011	2012	Total
Federal	135*						**135**
SFWMD**	10,862	9,038	6,723	7,161	9,182	5,201	**48,167**
Local							
Total	**10,997**	**9,038**	**6,723**	**7,161**	**9,182**	**5,201**	**48,302**

*USDA grant funds (TAME)
**SFWMD: Expenditures to date per fiscal year

Contact: LeRoy Rodgers, SFWMD

Vegetation management contractors hand clear shoebutton ardisia from a former sawgrass marsh in the southeastern Everglades.

Old World climbing fern aggressively overtakes entire tree islands in the Everglades. Once established, this invasive vine displaces plant communities, reduces wildlife habitat and alters ecosystem functions.

A branch of melaleuca exhibits herbivory and gall formation from two established biological control agents--the melaleuca weevil and melaleuca midge. Biological control of melaleuca is significantly reducing the invasive potential of melaleuca in South Florida. (photo: LeRoy Rodgers, SFWMD)

Program Name: South Florida Water Management District Invasive Species Management
Project Name: **Invasive Species Research and Information Exchange**
Project ID: 2503
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Development of new management approaches for invasive plants through applied research and information exchange between cooperators; development of management plans for priority invasive species; educational outreach to the general public on invasive species prevention.

Project Synopsis: The SFWMD continues to conduct and fund research programs in herbicide development, management techniques, and biological control of priority invasive plants and animals. Herbicide evaluations are improving the chemical control efficacy for downy rose myrtle, hydrilla, shoebutton Ardisia, South American water grass, and cattail. The SFWMD also collaborates with other agencies on education and outreach. Recent programs include the distribution of invasive animal identification booklets and information booths at several public outreach events.

There is still a large gap in acquiring sufficient funding to implement the multi-species control program with multi-agency integration. However, some success has been achieved through collaboration with Cooperative Invasive Species Management Areas (CISMA), particularly the Everglades and Treasure Coast CISMAs. The Everglades CISMA has achieved many successes in improving implementation of regional control strategies, including early detection and rapid response activities. For example, collaborative efforts to reduce localized populations of the mile-a-minute weed, sacred ibis, and Asian black mangrove have been very successful. The Everglades CISMA initiated efforts to respond to newly discovered populations of Argentine black & white tegus, northern African pythons, and most recently, Oustalet's chameleon.

Current Status: Development and refinement of control tools for invasive species has recently focused on herbicides for cattail, Brazilian pepper, shoebutton Ardisia, downy rosemyrtle, and limpograss. The District continues to fund biological control research institutions for melaleuca, Old World climbing fern and Brazilian pepper. The SFWMD expends $425,000 annually toward development of biological control agents for these three invasive species. The U.S. Department of Agriculture Agricultural Research Service (USDA-ARS) is implementing a successful biocontrol program for melaleuca and is seeing recent success with a new agent for Old World climbing fern. Surveys for viable control agents for Brazilian pepper continue, but no established control agents are exerting control on Brazilian pepper.

In close collaboration with the National Park Service (NPS), the SFWMD continues its invasive species monitoring program for the Everglades Protection Area. Using aerial and ground-based techniques, the SFWMD and the NPS are collecting operationally useful spatial data for priority invasive plant species. There is now detailed information of major infestations throughout the entire 2.4 million-acre Everglades region.

The SFWMD also conducts and funds research programs in herbicide development, management techniques, and biological control of priority invasive plants and animals. Recent improvements with herbicide controls and successful biological controls are positively impacting management programs. The SFWMD and other agencies continue to lack effective control tools for many priority invasive animals, although some progress is being made on giant constrictor snake trapping and monitoring. A pilot project recently evaluated the feasibility of using detection dogs to locate pythons along canals and levees and in fallow fields. Field test scenarios using live and bagged pythons resulted in 91 percent detection by dogs. The use of detection dogs is recommended for canal and levee searches as well as rapid response efforts when a constrictor has been sighted.

Cost: Total
Project Development: N/A
Land Acquisition: N/A

Project Schedule:
Start Date: 2007
Finish Date: TBD

Detailed Project Budget Information ($1000) / Expenditures to Date

	2007	2008	2009	2010	2011	2012	Total
SFWMD*	110	160	156	206	307	207	1,146

*SFWMD: Expenditures to date per fiscal year. The SFWMD also funds several biological control programs with USDA/ARS, which are identified on their project sheets.

Contact: LeRoy Rodgers, SFWMD

Program Name: Invasive Exotic Species Management
Project Name: **Develop and Implement a FWS Invasive Species Strike Team (ISST)**
Project ID: 2504
Lead Agency: U.S. Fish and Wildlife Service (USFWS)
Funding Source: Federal
Goal(s) Addressed: 2.B.1

Measurable Output(s): Project acres treated including Early Detection Rapid Response (EDRR) projects, gross area surveyed, actual infested acres treated, cost per acre, herbicide amounts utilized, prioritized lists of invasive plants and animals, modify or enhanced control methods, funding totals, invasive exotic plant species targeted, inventory and monitoring methodologies for invasive plants and animals, treatment effectiveness, assessment and evaluation.

Project Synopsis: Secure and appropriate Congressional funding to develop and implement a highly mobile FWS Invasive Species Strike Team (2-member) to rapidly respond to, and control incipient or newly established infestations (EDRR) of highly invasive exotic species (plants and animals) occurring on National Wildlife Refuges (NWRs) in Florida. The Region 4 Invasive Species Strike Team (R4 ISST) will provide administration, funding and oversight support for projects involving control and treatment of moderate and dense infestations of invasive exotic plants utilizing highly specialized and experienced exotic plant contractors on SE and Florida NWRs. In addition, the R4 ISST will provide technical assistance to Florida and SE NWR refuge managers and staff concerning invasive species identification, control and management, and lastly, will represent the interest of the FWS on associated invasive species task forces or working groups, i.e., Noxious Exotic Weed Task Team, Florida Invasive Animal Task Team and regional Cooperative Invasive Species Management Areas (CISMA) established throughout peninsular Florida.

Current Status: The FWS Invasive Species Strike Team was implemented and became operational as of October 1, 2004 (FY05), and will continue operations for purposes for which established assuming recurring Congressional cyclical funding allocations are received. The FWS ISST works collaboratively with all other local, county, state and federal agencies, and NGOs concerning invasive species management in the Everglades and throughout Florida. Measurable output information identified above is updated regularly in both ECOSTEMS and WEEDAR exotic tracking databases.

Estimated Cost: ≥$10 million

Project Schedule:
Start Date: October 1, 2004
Finish Date: N/A

Detailed Project Budget Information ($1000s)

	Thru 2008	2009	2010	2011	2012	2013	Balance to complete	Total
Federal	2,890	978	1,200	[2]739	[1]494	[1]494	N/A	6,795
State								
Tribal								
Local								
Other								
Total	**2,890**	**978**	**1,200**	**739**	**494**	**494**	**N/A**	**6,795**

[1]FWS ISST base allocation ; [2]Tentative base allocation

Contact: William G. Thomas, Jr. Region 4 Invasive Species Strike Team Leader, USFWS, William_G_Thomas@fws.gov

Additional Information: As of June 2011, the FWS R4 ISST was operating devoid of the Assistant Strike Team Leader position leaving the Strike Team Leader as the sole position comprising the team. Due to budget shortfalls, no effort will be made to fill this critical position which will have impacts on the ability of the R4 ISST to participate in refuge EDRR projects, and regional multi-agency invasive-related CISMA events. Regardless of this short-coming, the R4 ISST Leader continues to secure available refuge staff to complete EDRR invasive plant projects on Florida NWRs, and participates in CISMA invasive workdays when available.

The Fiscal Year 2012 budget for the R4 ISST was approximately $494,000 – this includes salary for the leader and assistant positions. From this budget, the R4 ISST provided $235,000 for invasive plant removal contracts – a 50% reduction from FY 2011. A total of five projects were funded on Florida NWRs and one in Alabama. As of June 2012, the R4 ISST has completed 10 EDRR projects on two NWRs comprising 26 gross acres covered and two infested acres treated.

The R4 ISST is working in collaboration with J.N. "Ding" Darling NWR staff on a feral hog EDRR project on Patricio Island (112 acres) – Pine Island NWR. Since January 2011, 24 feral hogs have been removed (four visits) via the use of firearms under the direct supervision of local (Lee County Sheriff's Office), state (Florida Fish and Wildlife Conservation Commission) and federal refuge law enforcement officers. Refuge law enforcement officers have dispatched nearly 75% of the feral hogs following the initial multi-agency team effort. As of June 2012, monitoring indicates only a few hogs remain.

Figure 1. R4 ISST Assistant Szydlo poses with boar pig post-mortem.

The R4 ISST has traditionally participated in three CISMAs encompassing the southern half of Florida: Southwest Florida-CISMA, Everglades-CISMA and the Treasure Coast-CISMA. Participation ranges from and includes monthly invasive plant or animal surveys, removal workdays, and serving on various sub-committees and rapid response teams. To date, the R4 ISST has participated in the two scheduled SW FL-CISMA invasive plant workdays covering 26 gross acres and treating five infested acres. Monthly participation in other CISMA events has been limited due to the loss of the Strike Team Assistant position.

Figure 2. Agency personnel and Peace River Audubon Society members at SW FL-CISMA Pennington Park invasive species workday on April 4, 2012.

Project Name: **C&SF: CERP Melaleuca Eradication and Other Exotic Plants (OPE)**
Project ID: 2505 (CERP Project WBS # 95)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 2-B.1
Measurable Output(s): Increase effectiveness of biological control technologies

April 1999 Project Synopsis: Includes: (1) upgrading and retrofitting the current quarantine facility in Gainesville, and (2) large-scale rearing of approved biological control organisms for release at multiple sites within the south Florida ecosystem. The purpose of this feature is to increase the effectiveness of biological control technologies to manage Melaleuca and other invasive exotic species.

Current Project Synopsis: The primary benefits of this project include preventing the expansion of invasive exotic plant species into natural areas, and reducing coverage and density of invasive exotic species. Secondary benefits include promoting the re-establishment of native plants, restoring native habitat for native bird and wildlife species, and reducing stressors on rare, threatened and endangered species.

The Design Agreement between the USACE and the SFWMD was amended 29 July 2004 to include the Melaleuca and Other Exotic Plants–Implement Biological Controls project. The Project Management Plan was approved in 2005 and work began on a PIR focused on the mass rearing and controlled release of biological agents to control Melaleuca, Brazilian pepper, Australian pine, and Old World Climbing Fern throughout South Florida.

The preferred alternative for Melaleuca and Australian pine control is inoculate all test areas with approved bio-control agents and to construct a mass rearing annex. This alternative involves releasing insects at a few locations within each project site containing the target invasive plants, and relies on natural dispersal by the insects for full coverage.

The preferred alternative to control Brazilian pepper and Old World climbing fern is inundate all test areas with approved bio-control agents from a constructed mass rearing annex. The invasive plants are inundated with insects, which will be released at many more sites in the project area.

Current Status: An Adaptive Management Strategy was developed in coordination with RECOVER. A draft PIR was submitted to HQ for policy review and concurrent public review in 2008. External review and public workshops were held in February 2009. NEPA requirements were wrapped up and the final PIR/EA was sent to HQ in January, 2010. As an "other program element" in the CERP, this project was authorized by the Secretary of the Army under the WRDA 2000 Programmatic Authority without additional congressional authorization. The Secretary of the Army approved the PIR on June 23, 2010 and the PPA was executed in July 2010. With 2010 ARRA funding for the annex facility in Davie, development of Plans and Specifications for a Design-Build contract was initiated in September 2010. The contract was awarded for construction in August 2011.

Est. Cost: $ 4,400,000

Project Schedule: Sept 2012 – Construction Complete
Sept 2012 – Transfer Project to SFWMD
Oct 2012 thru Sept 2038 – Operations and Maintenance Phase

Detailed Project Budget Information (rounded):

Melaleuca	Expenditures Thru FY 2011
USACE	$2,481,000
SFWMD	$184,000
Total	**$2,665,000**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_95_melaleuca.aspx

Contact: Kim Vitek, Project Manager, Everglades Division, USACE
Kimberly.A.Vitek@usace.army.mil

Jennifer Leeds, Project Manager, SFWMD
jleeds@sfwmd.gov

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2011 dollars. Actual expenditures include all federal expenditures through FY11 (Sept, 2011) and sponsor verified and recorded in kind credit through 4th quarter FY11.

Additional Information: Melaleuca trees, (*Melaleuca quinquenervia*), known as punk trees or paper bark tea trees, are native to Australia. There, melaleuca is planted in parks, valued by beekeepers, and is attractive to birds and bats. Because of development, Melaleuca trees in some parts of Australia are the subject of conservation efforts. In the Everglades, however, Melaleuca is a pest, where the trees grow into immense forests, virtually eliminating all other vegetation becoming a "river of trees", a completely alien habitat to the plants and animals that have evolved to live in the glades. Melaleuca grows in terrestrial as well as in completely aquatic situations. During the 50 years since its introduction, Melaleuca has taken over hundreds of thousands of acres of Everglades producing huge quantities of seeds, which become small trees. Herbicides are proving to be somewhat effective, but purposely-set management fires (and lightning-started fires) apparently help spread the seeds and trees. Recently, biological control insects have been released against Melaleuca, but it will take time before bio-control results are known. *SOURCE: University of Florida/IFAS Center for Aquatic Plants*.

Program Name: Exotic Vegetation Management Program
Project Name: **Everglades National Park Exotic Vegetation Management**
Project ID: 2506 (Formerly Project ID 2604)
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Acres infested with Exotic Plants

Project Synopsis: Everglades National Park encompasses 1.5 million acres of which 1.3 million is designated as the only subtropical wilderness in the continental United States. Non-native (exotic) plants are a significant threat to the native plant communities of Everglades National Park. Approximately 1,000 plant species have been recorded in the park. Of these, over 220 species are non-native. Systematic treatments address 10 to 15 species. The most commonly targeted exotics are: Brazilian pepper (*Schinus terebinthifolius*, Melaleuca (*Melaleuca quinquenervia),* Australian pine (*Casuarina equisetifolia)*, Lather leaf *(Colubrina asiatica*), and Old World climbing fern (*Lygodium microphyllum)*. Exotic vegetation is estimated to affect approximately 200,000-250,000 acres of the park.

Over the last 20 years, funds provided by Federal, State and County agencies, such as the National Park Service's South Florida Natural Resources Center, National Park Service's Florida and Caribbean Exotic Plant Management Team, Florida Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, the South Florida Water Management District, the Army Corps of Engineers, and the Miami-Dade County Department of Environmental Resource Management, have helped to treat exotic vegetation in Everglades National Park.

Current Status: Although contractors, volunteers, interns, and park staff were able to treat exotic vegetation in all districts of Everglades National Park, invasive exotic plant problems still occur in the East Everglades, Gulf Coast, Flamingo, and Key Largo Districts of Everglades National Park. For example, *Lygodium* is established in the sparsely wooded coastal marsh areas along the western coast in both the Gulf Coast and Flamingo Districts. *Lygodium* was first recognized in the Park in 1999. Treatment efforts have been effectively treating large dense stands, but the plant continues to expand its range within Everglades National Park.

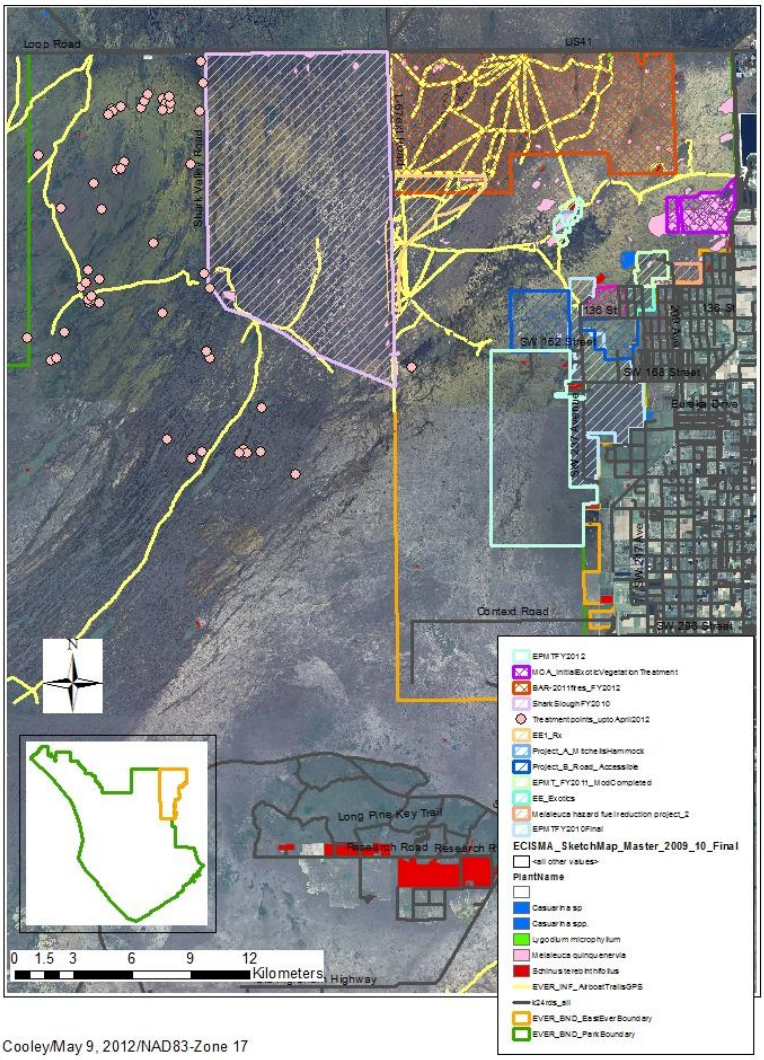
In terms of sheer magnitude Brazilian pepper is the most widespread. Brazilian pepper is particularly abundant along the fringes of the mangroves. In some instances there are individual stands of Brazilian pepper that cover 4,000 to 6,000 acres and are comparable in size and density to those that occur in the Hole-In-The-Donut. A cost effective strategy for systematically removing Brazilian pepper from the park has not been identified. Treatment of this plant is done sporadically as a part of broader exotics projects and in discreet areas that have been identified as resource management priorities.

Although a great amount of progress has been made in the East Everglades Expansion Area treating melaleuca and Australian pine, there is still a great need for finishing the remaining initial treatment (~1,650 acres) and re-treatment. Re-treatment efforts are very important in order to continue the progress already achieved. Funding for re-treatment efforts are not guaranteed because there are no dedicated funds for this activity. However, retreatment funds are crucially important in order to insure restoration success. Table 1 presents funding sources and acres of exotic vegetation treated between July 2011 and April 2012.

Table 1. Summary of agencies providing funding for exotic vegetation treatment projects in Everglades National Park during the period of July, 2011-April, 2012. (Note that not all projects were completed in FY2012, many are on-going at time of this report).

Project Location	Funding Source	Gross Infested Acres Treated	Canopy Acres Treated	Costs
East Everglades District Contracted-FY2011	NPS-SFNRC	805	24	$49,103 Completed January, 2012
East Everglades District Contracted-FY2011	NPS-FLCEPMT	4,252	680	$217,000 Completed April, 2012
East Everglades District (Fire and Aviation Projects)	ENPFIRE (Hazard Fuel)	On-going	On-going	NPS Fire Funding On-going
East Everglades District Initial treatment (Contracted FY2012)	MOA with Miami-Dade	On-going (~600)	On-going (~96)	$166,673 Started May 2012
East Everglades District Re-treatment (Contracted FY2012)	BAR	On-going (~700)	On-going (~112)	$100,000 Planned to start in June/July 2012
East Everglades District Spot spray project	FLCEPMT	On-going (~3,200)	On-going (~32)	~$12,000 Planned to start in May/June, 2012
Shark Slough (West of Tram Road)	FLCEPMT-SFNRC-EVMP	~2,800 (as of April 2012)	~28	Included with in-house budget
In-house work -Interns, VIP, and NPS staff	SFNRC-EVMP	~212 (as of April 2012)	~35 (as of April 2012)	$38,246
East Everglades District (South of Chekika)	FLCEPMT	On-going (10,000)	On-going (100)	$100,000 Planned to start later in FY2012
Total treated July 2011-April 2012		**8,069**	**767**	

Funding Sources
Burned Area Rehabilitation (BAR)
Everglades National Park Fire Management (ENPFIRE)
Exotic Vegetation Management Program (EVMP)
Memorandum of Agreement with Miami-Dade County (MOA with Miami-Dade)
National Park Service's Florida and Caribbean Exotic Plant Management Team (NPS-FLCEPMT)
National Park Service-South Florida Natural Resource Center (NPS-SFNRC)



Hillary Cooley/May 9, 2012/NAD83-Zone 17

Figure 1: Areas treated in East Everglades and Shark Slough between July 2011 and April 2012.

Cost:. See table above

Project Schedule:

Start Date: 2002
Finish Date: To be determined

Detailed Project Budget Information:
See Table 1 above.
Hyperlink: http://www.nps.gov/ever/naturescience/exoticvegprogram.htm
Contact: Hillary Cooley

Program Name: Invasive Exotic Species Management
Project Name: **Hole-in-the-Donut**
Project ID: 2507 (Formerly Project ID 2606)
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: **Primary**: 2.B.1 **Secondary:** 2.A.3

Measurable Output(s): Acres infested with Brazilian pepper

Project Synopsis: This project will restore approximately 6,300 acres of wetlands within Everglades National Park by removing Brazilian pepper, an invasive exotic plant species, and the disturbed substrate to limestone bedrock. Invasive exotic plants are one of the greatest long-term threats to the Everglades ecosystem. As a result of this project, approximately 6,300 acres will be restored to natural wetlands within the park as mitigation for development projects in other areas of Dade County. The amount of restoration accomplished in the **Hole-in-the-Donut** during any one year is dependent on the amount of mitigation activity occurring in Dade County. A vast seed source with the potential to invade and disturb other areas of the Everglades will be eradicated.

Current Status: In FY 2011, 189 acres of Brazilian pepper were eradicated at a cost of $1,508,875.29. To date 4414 acres of the **Hole-in-the-Donut** have been restored. During FY2011, very few development projects in Miami-Dade requested mitigation from the **Hole-in-the-Donut,** consequently there were insufficient funds with which to conduct restoration in FY 2012. However, over the course of FY12, the **Hole-in-the-Donut** has received sufficient mitigation funds to permit restoration activities to occur in FY13. At this time, it is hoped to be able to restore approximately 250 acres at an estimated cost of $3,768,294.00

Cost:
Estimated Total: $123,750,000

Project Schedule:
Restoration Start Date: 1994
Estimated Restoration Finish Date**:** 2020
Estimated Stewardship Start Date: 2021
Estimated Stewardship Finish Date: 2071

Detailed Project Budget Information ($1,000)

	Expenditures FY 2011 (revised)	**Expenditures Estimated FY 2012**	**Total**
Total	**58,104**	**58,721**	**123,750**

Hyperlink: N/A
Point of Contact: Everglades CFO

Program Name: Invasive Exotic Species Management
Project Name: **Aquatic and Upland Invasive Plant Management**
Project ID: 2508
Lead Agency: Florida Fish and Wildlife Conservation Commission
Authority: Chapter 369, F.S.
Funding Source: Invasive Plant Control Trust Fund

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Acres of upland and aquatic invasive plants controlled[1]

Acres Controlled:	
Aquatics Program	27,471
Uplands Program	91,081

Project Synopsis: The Fish and Wildlife Conservation Commission is the lead agency in Florida responsible for coordinating and funding two statewide programs controlling invasive aquatic and upland plants on public conservation lands and waterways throughout the state. The aquatic plant management program designs, funds, coordinates, and contracts invasive non-native aquatic plant control efforts in Florida's 1.25 million acres of public waters. The upland plant management program coordinates and funds invasive plant removal projects on 11 million acres of public conservation lands, which include federal, state, and local government owned lands.

Current Status: It is difficult if not impossible to eradicate invasive plants once they have become established. Therefore, it is unrealistic to characterize invasive plant management as a restoration activity. It is more accurately described as management that is necessary in perpetuity. FWC strives to manage, on a continuous basis, invasive aquatic plants in public water bodies and invasive upland plants on public conservation lands within the SFWMD region at levels that support and promote healthy populations of native plants for the benefit of fish, wildlife and people.

Cost:	TBD
Total (operations and maintenance) [1]:	
Aquatics Program	$8,920,350
Uplands Program	$5,186,997

Project Schedule:
Start Date: annual
Finish Date: continuous

Detailed Project Budget Information (1000s):

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Federal	400.0	795.5	944.0	676.9	675.2	800.0	800.0	483.1	800.0
State	20,536.9[2]	28,038.3[2]	22,122.8[2]	29,747.7[2]	38,434.6[2]	38,434.6[2]	34,591.1[2]	20,549.6	14,107.3
Tribal	0	0	0	0	0	0	0	0	0
Local	54.3	255.7	129.0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
Total	**20,991.3**	**29,089.5**	**23,195.8**	**30,424.6**	**39,109.8**	**39234.6**	**34,591.1**	**21,032.7**	**14,907.3**

[1]Within the 16-county SFWMD region during the previous state fiscal year
[2]Includes $1 million match from SFWMD for melaleuca control

Hyperlink: http://www.myfwc.com/wildlifehabitats/invasive-plants/
Contact: William E. Caton

Program Name: Invasive Exotic Species Management
Project Name: **Exotic Species Removal**
Project ID: 2509 (Formerly Project ID 2605)
Lead Agency: Seminole Tribe of Florida/BIA
Authority: Tribal Resolution

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Eradication and control of exotic species.

Project Synopsis:
Control growth of exotic species on the Big Cypress and Brighton reservations.

Current Status:

Complete.

Cost:
Total $988,000
Project Development
Land Acquisition
Implementation
Operations and maintenance

Project Schedule:
Start Date: 1998
Finish Date: 2012

Detailed Project Budget Information (1000s)

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Balance to complete**	**Total**
Federal	30	60	30	30	30	10	10	10	10	.5	0	213.5	434
State													0
Tribal	20	70	70	70	70	2	2	2	10	1.5	450	-213.5	554
Total	**50**	**130**	**100**	**100**	**100**	**12**	**12**	**12**	**20**	**2.0**	**450**	**0**	**988**

Hyperlink: N/A

Contact: Craig Tepper, Director
Environmental Resource Management Department
Seminole Tribe of Florida

Project Name: **Casuarina Biological Control Agents**
Project ID: 2601
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.3

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Casuarina* spp. (Australian pine) on the South Florida habitat. Most effective agents tend to be discovered in that portion of the invasive species' native range that genetically corresponds most closely to the plant populations being targeted for control. However, several species of *Casuarina* have each been imported into Florida multiple times. Recently completed genetic analysis has confirmed the presence of three species, as well as at least one (and possibly two) hybrids. Preliminary surveys in Australia show that hundreds of species attack these *Casuarinas* species, but funding for host range trials has suffered during the recent economic downturn. Ultimately, this project consists of releasing and redistributing biological control agents that have been approved through the federal regulatory process for use against Australian pine in the United States.

Cost: Total:
Project Development:
Land Acquisition: $0 – long term lease with University of Florida
Implementation:
Operations and maintenance: not yet included in budget

Project Schedule:
Start Date: 2004
First Agent released: 2012
Finish Date: TBD

Detailed Project Budget Information

	2011	Balance to complete	Total
Federal			
State			
Tribal			
Local			
Other			
Total			**TBD**

Point of Contact: Ted Center, Ted.Center@ars.usda.gov

Project Name: **Melaleuca Biological Control Agents**
Project ID: 2602
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.3

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Melaleuca quinquenervia* on the South Florida habitat. Thus far four insects have been released, three of which have established persistent populations in Florida. Reductions in reproductive output and seedling survival at select sites has demonstrated the value of this approach. This project consists of the redistribution of existing agents, as well as the release and redistribution of additional agents as they are approved through the federal regulatory process for use against Melaleuca in the United States.

Cost: Total:
Project Development:
Land Acquisition: $0 – long term lease with University of Florida
Implementation:
Operations and maintenance: not yet included in budget

Project Schedule:
Start Date: 1986
First Agent released: 1997
Second Agent released: 2003
Third Agent released: 2006
Fourth Agent released: 2008
Fifth Agent released: 2011
Sixth Agent released: 2014
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	2011	Balance to complete	Total
Federal			
State			
Tribal			
Local			
Other			
Total			**TBD**

Point of Contact: Ted Center, Ted.Center@ars.usda.gov

Project Name: **Lygodium Biological Control Agents**
Project ID: 2603
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.1

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Lygodium microphyllum* (Old World climbing fern) on the South Florida habitat. Thus far three agents have been released against *Lygodium* in south Florida, two of which have established persistent populations at a very limited number of sites.This project consists of distributing existing agents throughout the south Florida landscape, as well as releasing and redistributing additional biological control agents as they are approved through the federal regulatory process for use against the Old World climbing fern in the United States.

Cost: Total:
Project Development:
Land Acquisition: $0 – long term lease with University of Florida
Implementation:
Operations and maintenance: not yet included in budget

Project Schedule:
Start Date: 1996
First Agent released: 2005
Second Agent released: 2008
Third Agent released: 2008
Fourth Agent released: 2011
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	2011	Balance to complete	Total
Federal			
State			
Tribal			
Local			
Other			
Total			**TBD**

Point of Contact: Ted Center, Ted.Center@ars.usda.gov

Program Name: Invasive Exotic Species Management
Project Name: **Eradication of the Giant Gambian Pouched Rat**
Project ID: 2700
Lead Agency: FDACS, FWC
Cooperating Agencies: FWC, SFWMD, USDA-WS, USFWS
Funding Source: Federal/State

Goal(s) Addressed: 2.B.3

Measurable Output(s): Number of GPR harvested, GPR movements and home range, development of attractants, bait deployment stations and effective baits, susceptibility to baits, and effectiveness of attractants, baits and bait delivery systems

Project Synopsis: In February 2006, a pilot eradication project was initiated on Crawl Key where Giant Gambian pouched rats (GPR) were documented in 2005. In June 2006, USDA–APHIS Wildlife Services (USDA-WS) deployed 94 bait stations. Supplemental trapping was done to obtain rats for radio telemetry. From January to May 2007, 1,000 bait stations were placed throughout Grassy Key hammock and residential areas. In March 2007, 20 GPR were trapped for the USDA-APHIS National Wildlife Research Center for studies of more effective attractants and third generation rodenticides. USDA-WS developed GPR-specific bait deployment stations effectively eliminating the non-target mortality observed in the earlier stages of baiting and trapping, and in addition, after numerous trials, developed an effective bait, zinc phosphide, to eliminate GPR.

In May 2007, the eradication effort commenced with the pre-baiting of roughly 600 stations around the periphery of the core GPR infestation area. As of January 2008, direct baiting and post-baiting monitoring has resulted in the removal of 73 GPR from Grassy Key, Crawl Key and adjacent areas. An additional 10 GPR were captured between January-October 2009. A few GPR remained in areas that could not be accessed. Captures and sightings subsided after October 2009 following these initial intensive very successful trapping efforts. FWC and USDA-WS continue to monitor for GPR using 60 motion-activated cameras and 318 live traps. A 'rat hotline' has been established (FWC, Scott Hardin), and when a report is confirmed, the 'hot spot' area (s) is/are saturated with zinc phosphide baits to further ensure complete removal.

Current Status: A female GPR was captured in September 2009, sterilized and was fitted with a radio collar, and subsequently released on Grassy Key as a 'Judas' specimen in hopes of attracting other wild GPR, and was monitored for its movements. Tracking indicated she moved frequently from her original capture location to an adjacent 'no access' property. However, this collared 'Judas' rat did not work out as well as hoped, and did not lead researchers to any additional rat activity. Monitoring efforts for the period of November 2009 – early May 2011 documented zero GPR – the only exception being the 'Judas' rat. It appeared that the project was a success. Unfortunately, in late May 2011, a young male and older female were captured adjacent to the same 'no access' property that the 'Judas' female frequented. Currently, FWC and USDA-WS are trying to scrape together funds to continue quarterly monitoring efforts to initiate 2 weeks of trapping in core GPR areas on Grassy Key – each visit consisting of 250 cage traps per night. These agencies continue to collaborate to discuss ways to gain access to the few properties that still remain 'off limits' and which may harbor the few remaining GPR.

In June 2011, the FWC and USDA-WS followed up on reported sightings of GPR on Big Pine Key. After inspection of the rat carcasses that had been collected, it was determined that these specimens were likely Norway rats.

Estimated Cost: $500,000 (*revised est.*)

Project Schedule:

Proposed Start Date: February 1, 2006
Finish Date: September 30, 2014

Detailed Project Budget Information ($1000s)

	2006	2007	2008	2009	2010	2011	Total
Federal[1]	20	105	13	50			188
State[2]		67.5		15	9	5.5	97
Tribal							
Local							
Other[3]	20						20
Total	**40**	**172.5**	**13**	**65**	**9**	**5.5**	**305**

[1]USFWS Washington DC, Region 4 Invasive Species Strike Team, Partners for Wildlife Program, USDA-WS
[2]FL-DEP (in-kind), FWC, South Florida Water Management District
[3]Wildlife Foundation of Florida

Hyperlink: N/A

Contact: Scott Hardin, Statewide Invasive Species Coordinator,
Scott.Hardin@MyFWC.com and William G. Thomas, Jr
Region 4 Invasive Species Strike Team Leader, General Biologist (*Invasive Species*)
U.S. Fish and Wildlife Service, J.N. 'Ding' Darling NWR

Additional Information: As of June 2011, 85 GPR have been captured and/or removed for research or euthanized. Monitoring continues with the goal to be two years of monitoring without a GPR capture or verified sighting that would indicate all GPR have been eradicated.

Figure 1. Giant Gambian pouched rat in live trap.

Goal 3 Project Sheets

Foster the Compatibility of the Built and Natural Systems

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Program Name: Florida Greenways and Trails Program
Project Name: **Florida Keys Overseas Heritage Trail**
Project ID: 3200 (Formerly Project ID 3301)
Lead Agency: Office of Greenways and Trails
Authority: Florida Department of Environmental Protection

Strategic Plan Goal(s) Addressed: 3.A.1

Florida Keys Overseas Heritage Trail Vision
The Florida Keys Overseas Heritage Trail (FKOHT) is being developed by the FDEP/OGT, the Florida Department of Transportation (FDOT) and Monroe County as a world-class, multi-use bicycle and pedestrian facility that will traverse the Florida Keys from Key Largo to Key West. A recreational greenway, that upon completion, will include an integrated system of educational kiosks, roadside picnic areas, scenic overlooks, fishing piers, water access points, and bicycle and jogging paths serving both residents and visitors to the Florida Keys. The FKOHT will link communities by providing a safe and continuous multi-use path, offer an alternative form of transportation, help mitigate congestion, promote health opportunities, and provide a mechanism for the preservation and use of the historic Flagler Railroad Bridges. The trail will also provide outstanding educational opportunities for both residents and visitors to learn about the unique history of the Florida Keys and the importance of sustainable development, by offering cultural, historical and ecological interpretation, as users traverse the historical railroad bridges and the many conservation areas between Key Largo and Key West.

Measurable Output(s): Miles of trails: Existing 54.9 ocean side/37.5 bay side,

A recreational greenway, that upon completion, will include an integrated system of educational kiosks, roadside picnic areas, scenic overlooks, fishing piers, water access points, and bicycle and jogging paths serving both residents and visitors to the Florida Keys.

Project Synopsis:
Spurred by concerns in the community for the future of the Old Keys Bridges and under Executive Order, the "Old Keys Bridge Task Force" report was presented to then Governor Lawton Chiles in 1997, outlining recommendations for the old Flagler Railroad bridges as a linear greenway. A similar report had been presented in 1938, to then Governor Fred Cone by the Road and Toll Authority, the State Forestry Department and the National Park Service outlining the creation of a linear park from Key Largo to Key West. In 1998, Clean Florida Keys rallied enough local support to prepare a Florida Keys Overseas Heritage Trail Conceptual plan published in January 1999, and a Florida Keys Overseas Heritage Trail Action plan published in November 1999. With a combination of local citizen support, the Rails To Trails, National Park Service, Greenways and Trails, Monroe County, the Florida Department of Environmental Protection, the Florida Department of Transportation and many other agencies, the Florida Keys Overseas Heritage Trail Master Plan was approved in August 2000. Monroe County passed a resolution in 2000, approving allocation of enhancement funding to the project and a Memorandum of Understanding (MOU) was signed allowing the coordination, planning and implementation of the FKOHT as a joint effort between the FDEP, Monroe County, and the FDOT. Direct support for the 106-mile long multi-use recreational trail and facilities is one of the primary features of the Scenic Highway Corridor Management Plan Goals and Objectives, the Corridor Management Plan (CMP), the Florida Keys Overseas Heritage Trail Master Plan, the Scenic Highway Interpretive Master Plan. In addition, the FKOHT was nominated as a National Recreational Trail in 1994 and has designated all 23 remaining historical Flagler Railroad Bridges on the National Registry of Historic Places. Recently completed signage plan and environmental plan provide a look and mechanism for reviewing the trail corridor as one entity rather than multiple separate segments.

A Memorandum of Agreement was signed in August 2001, by the FDEP/OGT to maintain FDOT right-of-way where the trail will be designed and built. The FDEP/OGT maintains a 50-year lease on all 23 historical bridges from State of Florida, Division of State Lands.

Current Status:
4.7 miles of new paved trail, improved trail, and historic bridge repair work were completed including Tom's Harbor, Park Channel, Bow Channel, Kemp Channel, Saddlebunch, and Grassy Keys.

14.0 miles of new paved trail, improved trail, and historic bridge repair work were completed including Ramrod to Big Pine Key, Channel 2 Fishing Platforms, Channel 5 to Tollgate Road, Lower Sugarloaf Bridge, three separate Ohio-Missouri/Ohio Bahia Honda/Ohio Little Duck Bridges, and City of Marathon Safety Improvements.

29.8 miles of improved trail are bid and ready to commence construction including the following segments: Baypoint to Sugarloaf Key, Lower Sugarloaf to Summerland Key, Spanish Harbor to Seven-Mile Bridge, Key Haven to Big Coppitt Key, and Conch Key to Long Key;

There are several design projects also underway including the following segments: Windley Key Trail Segment, Key West Botanical Gardens and Trailhead, South Pine Channel Bridge Retrofit, and Kemp Channel Bridge.

Cost:
Total: $51,249,155
Project Development:
The FDOT work program and the FDEP/OGT implementation plan outline a progression of design and build projects that will construct the Florida Keys Overseas Heritage Trail over the next five years. Construction of the FKOHT is funded in the FDOT Five Year Work Program using enhancement funds for the segments between historic bridges. Additional funding is being sought to retrofit the remaining historical bridges and fishing platforms. The FDEP/OGT is certified by the FDOT to design and build projects under the Local Agency Program (LAP) using enhancement funds.

Operations and maintenance
There are currently 92.4 miles of existing bike path located along the ocean side and bay side. Some segments do have trail on both sides so there is some overlap. There are twenty-three bridges comprising fourteen miles of trail in various stages of completion and funding. The City of Key West currently maintains an agreement with the Office of Greenways and Trails on maintenance of the existing sections throughout the City. The Village of Islamorada signed an agreement in 2003 and the City of Marathon is in the process of developing agreements for maintenance and trail planning. The FDEP/OGT is responsible for the maintenance of the trail in accordance with the agreement established between FDOT and the FDEP/OGT and currently maintains 92.4 miles of trail.

Project Schedule: See table below:

Location	Length		MM	O/S Trail	B/S Trail
	Ocean Side	Bay Side			
Key West	4.1	4.1	1-4.1		
Cow Key Channel	0.1	0.1	4.1-4.2		
Stock Island		1.1	4.2-5.3		
Boca Chica Channel	.5		6-6.5		
Boca Chica Key			6.5-9.5		
Rockland Channel	0.2		9.5-9.7		
Big Coppitt Key	1.6	.9	9.7-11.3	9.7-11.3	9.8-10.7
Shark Channel	0.3		11.3-11.6		
"Saddlebunch 5 Key"	.8		11.6-12.4		
Saddlebunch No. 5 Ch	0.2		12.4-12.6		
"Saddlebunch 4 Key"	0.4		12.7-13.1		
Saddlebunch No. 4 Ch	0.2		13.1-13.3		
"Saddlebunch 3 Key"	.9		13.3-14.2		
Saddlebunch No. 3 Ch	0.1		14.2-14.3		
"Saddlebunch 2 Key"	0.2		14.3-14.5		
Saddlebunch No. 2 Ch	0.1		14.5-14.6		
"Saddlebunch 1 Key"	0.4		14.6-15.3		
Lower Sugarloaf Channel	0.3		15.2-15.5		
"Harris Fill"			15.6-16.6		
Harris Channel			16.6-16.7		
Lower Sugarloaf Key			16.7-17.6	FY 11/12	
Harris Gap Channel			17.6-17.7		
"Harris Gap Fill"			17.7-17.8	FY 11/12	
North Harris Channel			17.8-17.9		
Park Key			17.9-18.7	FY 11/12	
Park Channel	0.1		18.7-18.8	18.7-18.8	
Upper Sugarloaf Key			18.8-20.2	FY 11/12	
Bow Channel	0.3		20.2-20.5	20.2-20.5	
Cudjoe Key			20.5-23	FY 11/12	
Kemp Channel	0.6		23-23.6	FY 12/13	
Summerland Key	0.5		23.6-25.4	24.5-25	
Niles Channel	1		25.4-26.4		
Ramrod Key	1		26.4-27.4	26.4-27.4	
Torch-Ramrod Channel			27.5-27.6		
Middle Torch Key	.4		27.6-28	27.6-28	
Torch Channel			28-28.1		
Little Torch Key	.6		28.1-28.7	28.1-28.7	
South Pine Channel	0.1		28.7-28.8	FY 12/13	

"Pine Channel Fill"	.6		28.8-29.4	28.8-29.4	
Location	Length	MM	O/S Trail	B/S Trail	Location
North Pine Channel			29.4-29.5		
Big Pine Key	.9	1.5	29.5-32.9	29.6-30.5	29.5-31
Spanish Harbor Channel			32.9-33.7	FY 11/12	
Spanish Harbor Keys			33.7-35.3	FY 11/12	
Bahia Honda Channel			35.3-36.6	FY 11/12	
Bahia Honda Key			36.6-38.4	FY 11/12	
Ohio-Bahia Honda Ch		0.1	38.4-38.6		
Ohio Key			38.6-38.9	FY 11/12	
Missouri-Ohio Channel		0.2	38.9-39.1		
Missouri Key			39.1-39.4	FY 11/12	
Little Duck-Missouri Ch		0.1	39.4-39.5		
Little Duck Key			39.5-40	FY 11/12	
7 Mi Bridge			40-46.8		
Old 7 Mile Bridge		0.7	40-40.7		
Knight's Key Bridge		2	44.8-46.8		44.8-46.8
Vaca Key (Marathon)	4.5	6	47-53	48.6-53	47-53
Vaca Cut	.1	.1	53-53.1	53-53.1	53-53.1
Grassy Key	1.4	5.2	53.1-60.5	53.1-54.5	53-58.2
Toms Harbor Channel	0.2		60.5-60.7	60.5-60.7	
Duck Key	0.5		60.7-61.5	59.9-60.4	
Toms Harbor Cut	0.2		61.5-61.7	61.5-61.7	
Conch Keys			61.7-63.1		
Long Key Bridge	2.2		63.1-65.3		
Long Key	3.4		65.3-70.9	65-68.4	
Channel 5	0.5		70.9-71.9		
Craig Key		0 .9	71.9-72.8		71.9-72.8
Channel 2		0.3	72.8-73.1		72.8-73.1
Lower Matecumbe Key		4.4	73.1-77.5		73.1-77.5
Lignumvitae Channel			77.5-77.7		
"Lignumvitae Fill"	0.2	0.2	77.7-77.9	77.7-77.9	77.7-77.9
Indian Key Channel			77.9-78.3		
Indian Key Fill	0.8	0.8	78.3-79.1	78.3-79.1	78.3-79.1
Tea Table Channel			79.1-79.2		
Tea Table Fill	0.4	0.4	79.2-79.6	79.2-79.6	79.2-79.6
Tea Table Relief Channel			79.6-79.7		
Upper Matecumbe Key	4	4	79.7-83.7	79.7-83.7	79.7-83.7
Whale Harbor Channel			83.7-83.8		
Windley Key			83.8-85.5		
Snake Creek			85.5-85.6		

Plantation Key	4.3	4.3	85.6-90.8	86.5-90.8	86.5-90.8
Location	Length	MM	O/S Trail	B/S Trail	Location
Tavernier Creek	0.1	0.1	90.8-90.9		
Key Largo	15.6		90.9-106.5		
Total Miles	54.9	37.5			

Florida Keys Overseas Heritage Trail
Detailed Project Budget Information– ($1000)

	2003-07	2008	2009	2010	2011	2012	2013	*2014	Total
State	23,903.6	2,875.5	1,640.1	1,343.0	9,383.3	2,181.2	11,500.5	$3,400.5	56,227.7
Total									

*Projected

Hyperlink: http://www.dep.state.fl.us/gwt/
Contact: Anthony Knott

Program Name: Florida Greenways and Trails Program
Project Name: **Lake Okeechobee Scenic Trail**
Project ID: 3201 (Formerly Project ID 3102)
Lead Agency: Office of Greenways and Trails
Authority: Department of Environmental Protection

Strategic Plan Goal(s) Addressed: 3.A.1

Measurable Output(s): Designated miles of trails

Project Synopsis: The LOST will consist of an 11 foot wide paved trail on top of the Herbert Hoover Dike that will have a 3 foot wide grassed shoulder on the lake side. It will accommodate pedestrians, backpackers, bicyclists, equestrians, sightseers, naturalists, skaters, picnickers, campers and fishermen. The trail will be approximately 110 miles long.

Current Status:
To date there are 62 miles of paved levee-top trail completed by the Florida Department of Transportation (DOT). 2.5 miles of at-grade trail in the Fisheating Creek area were completed by DOT and the Office of Greenways and Trails (OGT). OGT engineering designs for the Taylor Creek pedestrian bridge are underway. OGT funding is in place for an additional 6.5 miles of levee-top trail in Glades County. The levee repairs being conducted by the US Army Corps of Engineers (ACOE) may impact existing levee-top trail in some areas, resulting in multiagency negotiations with ACOE. It will be requested that the ACOE replace any paved trail damaged or removed for levee repairs as part of the levee repair contracts.

Cost:

Total:	$27,000,000
Project Development:	Unknown
Land Acquisition:	Unknown
Implementation:	Unknown
Operations and maintenance:	$ 100,000 a year when completed

Project Schedule:
Start Date: 7/1/03

- DOT Segment One is complete between the Kissimmee River and the St. Lucie Canal (26 miles)
- DOT Segment Two is completed between Moore Haven and Pahokee (36 miles)
- OGT/DOT SR78 2.5 miles of 3-mile segment in Fisheating Creek area complete.
- OGT design of Taylor Creek Pedestrian Bridge, underway. Construction of 7 miles of paved LOST in Glades County entering design phase, to be constructed by DOT using OGT funds. Expect completion in 2012.

Finish Date: Completion date will depend on monies from D.E.P.

Lake Okeechobee Scenic Trail Detailed Project Budget Information ($1000s)									
	2003+ 2004	**2005+ 2006**	**2007**	**2008**	**2009**	**2010-2012**	**2013**	**Balance to complete**	**Total**
Federal	12,500	zero							12,500
State			*1,000	**1,000	**500	zero	zero	***12,000	14,500
Tribal									
Local									
Other									
Total	12,500	zero	1,000	1,000	*500	zero	zero	12,000	27,000

* Combined with DOT funding to construct 2.5 miles of the 3 mile trail segment adjacent to SR78 where no levee exists along Fisheating Creek, which has been completed. Balance of 2007 funds, $714,000, rolled into 2008 and 2009 funds for improvements identified in ** below.
**Funds combined to design Taylor Creek pedestrian bridge and construct 7 miles of paved trial in Glades County. Construction of Taylor Creek pedestrian bridge dependant on future funding.
*** DOT cost per mile 7 years ago was $210,000/mile. Balance to complete is currently based on an estimate of $250,000/mile.

Hyperlink: http://www.dep.state.fl.us/gwt/
Contact: FDEP

Program Name: Florida Greenways and Trails
Project Name: **Florida Greenways and Trails Program**
Project ID: 3202
Lead Agency: FDEP-Florida Office of Greenways and Trails
Authority: Acquisition: Florida Forever Act, Section 259.105, Florida Statutes
Designation: Chapter 260, F.S.; 62S-1.400, 62S-1.450, F.A.C
Funding Source: Florida Forever

Strategic Plan Goals(s) Addressed: 3.A.1

Measurable Output(s): Target 10,000 acres (Designation)

Project Synopsis: The Florida Office of Greenways and Trails is guiding a statewide initiative to create a system of greenways and trails connecting communities and conservation areas. When completed the trail system will connect one end of the state to the other, from Key West to Pensacola. The Florida Forever Act authorizes a land acquisition program for the statewide trail system. This is a competitive program that provides funding for local and regional land acquisition projects that will facilitate the establishment of a statewide system of greenways and trails. The primary mission of this program is to facilitate the establishment of a statewide system of greenways and trails for recreation and conservation purposes. Once acquired, the property is owned by the Board of Trustees of the Internal Improvement Trust Fund (Governor and Cabinet) and managed by the state, regional and local governments.

The Office of Greenways and Trails Designation Program encourages voluntary partnerships in conservation, development, and management of greenways and trails, provides recognition for individual components of the system and the partners involved, and raises public awareness of the conservation and recreation benefits of greenways and trails. The criteria for a designated land or waterway are that it must (1) protect and/or enhance natural, recreational, cultural or historic resources and (2) either provide linear open space or a hub or site, or promote connectivity between or among conservation lands, communities, parks, other recreational facilities, cultural sites, or historic sites.

Current Status:

Cost:	Total: 4.5 million of Florida Forever funding for land acquisition (statewide)
	No direct cost to the state for designation
Land Acquisition	$4.5 million (statewide)

Project Schedule:

Start Date:	2000
Finish Date:	Ongoing for both Designation and Acquisition

South Florida Acres
Through Fiscal Year 2003 227,094 acres plus 75 linear miles
Through Fiscal Year 2004 298,774 acres plus 147 linear miles (add 71,680 acres & 72 linear miles)
In 06/07, an additional 179 acres and 24 miles of designated greenways & trails in South Florida
Through Fiscal Year 2008 – 2 Blueway systems were designated in South Florida. One in Lee County and one in Charlotte County. The estimated "acreage" for these Blueway systems is 79,400 acres or 440 miles of paddling trails.
Through Fiscal Year 2009 –Designation: The Shingle Creek Paddling Trail (35 miles long, approx 21 acres) and the Shingle Creek Regional Park (1028 acres), which are both located in Osceola County, were designated in 2009. Acquisition: 5.22 acres acquired with Florida Forever funding ($412,000) in Orange County as part of the Cady Way Trail system.
Through Fiscal Year 2010 –Designation: The Pine Creek located in Broward County (.275 miles long, approx 1.5 acres), the Montverde Greenway Trail located in Lake County (.5 miles long, approx 5.4 acres), the Lake Wales Rails to Trails in Polk County (2.1 miles long, approx 18 acres) and the Lake Okeechobee Scenic Trail (110 miles long, approx 226.67 acres), were designated in 2010. Acquisition: Nothing acquired in the 16 counties.
Through Fiscal Year 2011 –Designation: The Lake Wales Rails to Trail located in Polk County (2.1 miles long, 18 acres), the Pine Glades Natural Area located in Palm Beach County (6,642 acres), the Peace River Extension located in Polk County (18 miles long, 832 acres). Acquisition: Nothing acquired in the 16 counties.

Florida Greenways and Trails Program Detailed Project Budget Information ($1000s)								
	FY 04-05	**FY 05-06**	**FY 06-07**	**FY 07-08**	**FY 08-09**	**FY 09-13**	**Balance**	**Total**
State	174	497.372	280	0	412	zero		
Total	**174**	**497.372**	**280**	**0**	**412**	zero	**3,136.6**	**4,500**

Hyperlink: http://www.dep.state.fl.us/gwt/
Contact: Cindy Radford (designation & acquisition)

Program Name: Watershed Management Assistance
Project Name: **Technical Assistance to Seminole and Miccosukee Indian Reservations**
Project ID: 3300 (Formerly Project ID 3201)
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46 & Public Law 566

Strategic Plan Goal(s) Addressed: 3.A.2

Measurable Output(s): Target 107,000 Acres

Project Synopsis: From a watershed management perspective, assist the Seminole and Miccosukee Indian Reservations to plan and implement resource management systems on a voluntary basis to reduce nutrient loading. Assistance will be provided to each agricultural producer, at the direction of the Tribal Councils, to assist in their planning, design, application, cost shared installation and management of BMP's that will improve water quality and the ecological integrity of the landscape.

Current Status:

Cost:

Total (projected through 2015)	$15,000,000
Project Development	
Land Acquisition	
Implementation	
Operations and maintenance	
Management	$15,000,000

Project Schedule:
Start Date: 1998
Finish Date: 2015

Detailed Project Budget Information (1000s)

	Through 2009	2010	2011	2012	Balance to Complete	Total
Federal	$478	00	00	$00	$14,522	$15,000
State						
Tribal						
Local						
Other						
Total	**$478**	**$00**	**$00**	**$00**	**$14,522**	**$15,000**

Hyperlink: N/A
Contact: Roney Gutierrez- (USDA – NRCS)

Program Name: Agricultural Assistance
Project Name: **2008 Farm Bill**
Project ID: 3301 (Formerly Project ID 3202)
Lead Agency: Natural Resources Conservation Service
Authority: Food, Conservation, and Energy Act of 2008 (Farm Bill)
Funding Source:

Strategic Plan Goal(s) Addressed: 3.A.2

Measurable Output(s): Acres Enrolled in 2008 Farm Bill Programs

Project Synopsis: The 2008 Farm Bill responds to a broad range of emerging natural resource challenges faced by farmers and ranchers, including soil erosion, wetlands, wildlife habitat, and farmland protection. Private landowners will benefit from a portfolio of voluntary assistance, including cost-share, land rental, incentive payments, and technical assistance. The 2008 Farm Bill places a strong emphasis on the conservation of working lands, ensuring that land remain both healthy and productive. The assistance includes the design, layout and consultation services associated with the conservation practice application or management guidance provided. Technical assistance is targeted towards nutrient management, water quality, and water conservation concerns associated with animal feeding, livestock grazing operations and fruit and crop production within the Everglades Ecosystem. As of 2011, a total of 408,135 acres in the sixteen-county South Florida region were enrolled in these and other Farm Bill Conservation Programs at an obligated cost of $322,730,600.

Current Status:

Cost: $300,000,000
Project Development:
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: 2009
Finish Date: 2012

Detailed Project Budget Information (1000's)

	Through 2009	**2010**	**2011***	**2012**	**Balance to Complete**	**Total**
Federal	$57,500	$153,409	$6,399	$7,266	$75,426	$300,000
State						
Tribal						
Local						
Other						
Total	**$ 57,500**	**$153,409**	**$6,399**	**$7,266**	**$75,426**	**$300,000**

*Total for 2012 does not include conservation easement programs (WRP, GRP, and FRPP). Funding for these programs will not be completed until after August 15, 2012.

Hyperlink: http://www.nrcs.usda.gov/programs/farmbill/2008/index.html
Contact: Roney Gutierrez (USDA – NRCS)

Program Name: **C&SF: CERP PLA/Public Outreach and Assistance**
Program ID: 3502
Lead Agency: USACE / SFWMD
Authority: WRDA 2000; Design Agreement, WRDA *2007 (specific authorized funding)*

Strategic Plan Goal(s) Addressed: 3-A.3

Measurable Output(s): Development and distribution of educational materials through various printed and electronic media including brochures, newsletters, kiosks, CDs, radio, television, and the internet. Conduct and engage public in regular meetings.

April 1999 (Restudy) Program Synopsis: The Restudy listed guidelines for implementing CERP and stated that outreach and public involvement efforts were an integral part of the process and would continue throughout the planning, design, construction, monitoring, and implementation of CERP. The objective of all outreach activities was to ensure that the public is informed about the Plan and that its implementation is reflective of the input received from stakeholders and the public throughout the project's implementation.

Current Program Synopsis: Public outreach is a critical part of CERP. Its two primary components -- involvement and information -- continue to play a key role in the CERP implementation effort. The primary objectives of outreach are to (1) keep the public informed of the status of the program or project and key issues associated with restoration implementation, and (2) provide effective mechanisms for public participation in the restoration plan development. A *CERP Public Outreach Program Management Plan* approved in 2001 describes these outreach goals, objectives, and tasks in more detail.

Since 2001, the USACE and SFWMD have implemented an ongoing multi-faceted public outreach program for the CERP. Outreach strategies seek two-way communication with all public sectors to broaden understanding and to instill a sense of stewardship among all south Floridians and visitors. Two separate and simultaneous levels of public outreach have been employed:

Program-level Outreach - involves long-term, system-wide issues at an overarching program level such as general outreach, RECOVER, environmental equity and other CERP issues that span the life of the 30+ year plan.

Project-level Outreach - involves targeted outreach for the 50+ specific CERP components: the individual reservoirs, underground storage wells, filtering wetlands, and other local project features. A custom outreach plan is developed for each individual CERP project. While program and project outreach activities are considered separate, there is often a great overlap of materials, tools and techniques. The same overarching CERP messages apply to both program and project level outreach activities.

A broad array of outreach involvement and information programs has been developed to include the general public, minority groups, small businesses, and specific stakeholder audiences. The program has included public meetings and workshops; news media relations; creative and unusual information products; environmental education; print, electronic and Internet materials; and many other programs and products to ensure the public is engaged and involved in CERP. The main focus of the outreach efforts is the 16-county central and south Florida region, the area most affected by CERP. However, outreach activities and products also reach people throughout the state of Florida, the nation and the world.

WRDA 2007 amended section 601 (k) of WRDA 2000, to support those requirements with an allowance for the Secretary to expend up to $3,000,000 per fiscal year (beginning after September 30, 2004) for public outreach, education and business assistance.

Highlights of this very diverse outreach program, from the past two years, follow below.

Current Status: The USACE and the SFWMD continued to make much progress during this reporting period to raise awareness of central and south Florida's public-at-large and socio-economically impacted communities about CERP and the restoration of the greater Everglades ecosystem. For the federal government, the message began to transition from a decade of planning in the 1990s, to an exciting decade of groundbreakings starting in 2010.

Innovative products, unique delivery methods, and public involvement all helped ensure that CERP and the greater Everglades ecosystem were better understood and that the public had opportunities to participate in decision-making. Between July 2008 and June 2011, the USACE:

- Distributed over 450,000 newspaper inserts, brochures, posters, eco-friendly promotional items, and other materials about CERP.
- Developed culturally-sensitive outreach programs and products to reach African American, Haitian and Spanish-speaking communities.
- Launched a new mobile information van about Lake Okeechobee and CERP, along with a message about the Herbert Hoover Dike rehabilitation project.
- Participated in at least 30 community events each year, with staff, a display and materials.
- Continued with a very successful environmental education program with materials for K through 5th grade and online resources.
- Introduced a new line of products featuring the Florida panther to raise public awareness of this endangered animal in southwestern Florida, where the Picayune Strand Restoration Project is located.
- Introduced a statewide public service billboard campaign focusing on non-native species, and urging residents to "don't let it loose."
- Held two Everglades restoration ground-breaking ceremonies, both of which received national news media attention (Tamiami Trail Modifications and Picayune Strand Restoration Project). More than 200 people attended each.
- Two additional groundbreakings were held in 2011 – one for the Faka Union portion of the Picayune Strand Restoration Project and the other for the first phase of the Indian River Lagoon-South project.
- Organized an Everglades art program for an inner city after-school program in Miami's Little Haiti, which featured art instruction and lessons about the ecosystem.
- Organized an Earth Day event on the shores of Lake Okeechobee, attracting a wide variety of attendees and hundreds of student drawings.
- Distributed a newspaper insert twice a year to African American and Hispanic readers, to raise awareness about opportunities to participate in Everglades restoration *(Community Outreach in Action)*.
- Continued to translate materials into Spanish and Creole, as needed.
- Distributed 14 issues of an electronic newsletter about Everglades' restoration *(Everglades Report)*.

- Launched a newsletter about Lake Okeechobee and the associated dike rehabilitation project *(Big Water Bulletin).*Held several public meetings each year for CERP or other Everglades restoration projects.
- Distributed news releases for CERP and related topics.
- Created and uploaded videos of Everglades topics on USACE internet sites.
- Updated the official CERP web site with current information, including many of these public information products. Some content is available in Spanish and Creole.
- Began including information on Facebook and other social media sites.

While these efforts were organized by the USACE, they often included the SFWMD as a major state partner in the restoration of the Everglades. Ongoing efforts are summarized below:

General Public Awareness. There are more than 7.5 million residents in the 16-county CERP area, and there will be many more in the decades ahead. It is important to raise awareness of the population-at-large so people can appreciate the benefits of the program and so they can participate in CERP decision-making, if desired. Many successful outreach efforts took place to raise awareness of and encourage involvement in the CERP. These included special events, distribution of materials, updating the web site, and other ways to engage and involve the public and special interest groups. A sample of USACE efforts is listed below.

- **Web site update:** The official CERP web site at www.evergladesplan.org continued to provide an important source of current and archived news and information to the public and stakeholders. New information was uploaded regularly. The web site home page was completely updated during this period, and "behind the scenes" improvements were made to ease use of the web site.
- **Toll-Free line:** A toll-free telephone line continued this reporting period. The line **(1-877-CERP-USA)** is recorded in English and Spanish, is updated periodically, and allows callers to leave a recorded message to receive information in mail in English or Spanish.
- **Everglades Radio Network:** The Everglades Radio Network (ERN) was the first FM version of a highway advisory radio station in Florida designed to educate and inform Florida's residents and visitors about the expansive Everglades ecosystem. The network's original programming highlights the natural wonders and environmental challenges facing the restoration of the Greater Everglades Ecosystem, as well as profiles of individuals and organizations associated with the region. Serving as a vital link to more than 18,000 motorists daily, ERN also enhances highway and public safety by airing emergency weather bulletins, travel advisories, and Amber Alerts along Alligator Alley, the reversible hurricane evacuation route linking southwest and southeast Florida. Broadcast from Florida Gulf Coast University, the magazine-style continuous broadcast from WFLP-LP or WFLU-LP (FM 98.7 or 107.9) features details about the Everglades ecosystem, its wildlife and habitat, along with a history of the Everglades and the natural and man-made forces affecting its future. All of ERN's segments are also available over the Internet at www.evergladesradionetwork.org. The website links to the live streaming broadcast or individual segments in MP3 format, which are available to be downloaded for educational purposes.

  Network of kiosks: A network of CERP touch-screen kiosks was maintained, with messages in English and Spanish. The USACE maintains eight kiosks, and several other identical kiosks are owned by partner organizations. The kiosks have a detailed message about CERP and Everglades' restoration. A new kiosk was placed at the Loxahatchee River District in Jupiter in late 2008.

- **Print and electronic newsletters:** An electronic newsletter about CERP news and projects, *Everglades Report,* continued to be distributed in print and electronic format six times a year. A print newsletter about Lake Okeechobee, *Big Water Bulletin*, was introduced in 2009.
- **CERP fact sheets, promotional items, and a report.** Fact sheets were produced on CERP projects and engaging promotional items helped keep the CERP fun at community and other events. The 2007-2008 *CERP Report to the Public* was printed, distributed and placed online.
- **Interactive game.** The interactive "*Name that CERP Sound*" game, featuring the sounds of birds and other animals of the Everglades, was updated this reporting period. It continued to be a favorite of the public-at-large.
- **Billboard campaign:** The USACE spearheaded the introduction of a billboard public service campaign to help raise awareness of non-native species. "Don't Let it Loose" billboards were starting to appear around the state in 2009 – on free space donated by the Florida Outdoor Advertising Association – to encourage viewers not to let non-native plants or animals go into the wild. The infestation of the Burmese python in central and south Florida highlighted the problem nationally of non-native species. An associated web site is available (www.dontletitloose.org).
- **Displays and events:** The USACE and its partners participated in many events and conferences to raise awareness about CERP, the Everglades, and related programs. Displays, printed products, educational and informative promotional items, and knowledgeable staff were at these events, reaching tens of thousands of people over the two-year period.

Minority Community Outreach. Special efforts continued to reach south Florida's African American, Haitian, and Hispanic residents with the CERP message. Minorities represent a large and growing segment of south and central Florida's population (perhaps more than 50% collectively), and will be a large part of the CERP in the years ahead. It is important reach all ethnic groups with the CERP message, so the final plan represents the varied interests of all groups. Many minorities receive their news through the mainstream media and the general public awareness programs mentioned above. However, some are more comfortable reading materials in their native language or participating in events in communities with historically large minority populations. The USACE has a number of special efforts under way to reach these minority communities, some of which are listed below.

- **Newspaper insert: *Community Outreach in Action*.** Since 2002, the USACE has produced a popular newspaper insert to reach minority audiences. *Community Outreach in Action* is published twice a year and includes stories about participating in Everglades restoration. Each issue, 100,000 are placed in African American weekly newspapers and 50,000 are placed in Spanish-language newspapers. It is also available online. The rest are distributed at community events and through social service organizations. More than 1 million copies of the colorful newsletter have been distributed since 2002.
- **Mobile information van.** In November 2008, the USACE introduced a new "Community Outreach on the Go" mobile information van. The van includes a video, display boards, print material, promotional items, and a knowledgeable driver. The van is in use throughout the 16-county CERP region, but special emphasis is placed on reaching communities with larger minority populations. The van featured Lake Okeechobee this reporting period.

  Earth Day celebrations. Each year, the USACE sponsors an Everglades-related Earth Day celebration in south Florida. In 2009, a celebration was held on the banks of Lake Okeechobee in Pahokee, a historic city with a larger minority population. Many residents have lived in the area for generations. This included a day of fun and display of Everglades artwork by area students.

- **Inner city Haitian after-school program.** Every spring, the USACE sponsors an event for the Haitian community in south Florida. This often coincides with Earth Day in April and Haitian Flag Day in May. In 2009, the USACE organized art classes and lessons about the Everglades for an after-school program in Miami's Little Haiti. The artworks were then displayed in a library in Little Haiti. More than 20 children participated.
- **Spanish-language novellas.** Each year, in observance of Hispanic Heritage Month from Sept. 15 to Oct. 15, the USACE releases special information products to raise awareness of the Everglades for Spanish-language speakers in south Florida. In 2008 and 2009, the USACE released original "novellas," which are 60- to 90-second radio public service announcements, mimicking the overly-dramatic Spanish-language soap operas. The novellas feature an Everglades message and are also placed online.
- ***Livin' with the Waters* comic series.** Many efforts are under way to reach Black residents of south Florida with the CERP message. In 2006, approximately, the USACE introduced a fictional family living in south Florida and learning about the Everglades. The Waters is a three-generational family featured in comic strips and other materials. In 2009 and 2010, Waters products included new comic installments, two activity books, and a Kwanzaa screen-saver. New products are highly anticipated each year.
- **Special efforts around Lake Okeechobee.** Special outreach efforts continued around Lake Okeechobee, an area deeply affected by both CERP and the rehabilitation of the Herbert Hoover Dike. The USACE launched the mobile information van, a newsletter, and continued to place a community outreach liaison in the city of Pahokee. In 2009, the USACE participated in emergency management activities sponsored by the five counties bordering the lake, and maintained a year-round outreach program in this area.

Environmental Education. The USACE continued with an environmental education program launched in 2006 called The Journey of Wayne Drop to the Everglades. This includes print and online materials, teacher's guides, and presentations by staff at schools and other educational facilities. More than 200,000 printed storybooks have been distributed since 2006, plus related outreach products and promotional items. Staff from the Corps attended state and national science teachers' conferences to promote the Wayne Drop products in late 2008 and 2009, and continued to promote the materials in other ways. For children, the Corps reprinted 13,000 Wayne Drop coloring books and purchased 1,000 Wayne Drop squeeze figures, both of which were created especially for this program.

Panther materials introduced. In 2009, the USACE introduced a new line of information products to raise awareness about the endangered Florida panther. A poster, mobile, display and booklet are among the components. A magazine was well under way in 2010, expected to be released later in the year. The materials are appropriate for all ages, but special efforts are made to place them in school systems or programs to reach children and young adults. The products will be distributed in southwest Florida, where a CERP project to benefit the Florida panther just broke ground in early 2010 (the Picayune Strand Restoration Project).

Small Business Outreach. Many efforts were made to reach south Florida's small and minority-owned businesses with information on how to participate in CERP. This included holding workshops, distributing printed materials, updating materials, participating in small business related conferences and fairs, and other efforts to ensure small business owners and representatives understand the separate federal and state contracting processes.

The American Recovery and Reinvestment Act (ARRA) funds benefitted both CERP and the Herbert Hoover Dike rehabilitation project, and some small businesses were able to take advantage of these funds in 2009 and 2010 to work on the CERP and dike project.

Project Level Involvement. Many public meetings and workshops were held to inform and include the public in the development of CERP projects. This form of project-specific communication is essential to the success of the CERP. Meetings were announced in advance, held in convenient locations, and often featured an open house session to meet CERP staff prior to the formal meeting or workshop. For those people who could not attend meetings, all meeting documents were posted online. Comments were taken online, in addition to those taken in person at the meetings and workshops. USACE developed fact sheets and poster boards for individual CERP projects, with some translated into Spanish.

In 2009 and 2010, public meetings were held for the C-111 Western Spreader Canal, Decompartmentalization of Water Conservation Area 3, Picayune Strand Restoration, Biscayne Bay Coastal Wetlands, Site 1 and Melaleuca control projects.

Hyperlinks: http://www.evergladesplan.org/pm/progr_outreach.aspx
En Español:
http://www.evergladesplan.org/get_involved/spanish_home.aspx>
An Kreyòl:
http://www.evergladesplan.org/get_involved/creole_home.aspx

Contacts: Susan Kaynor , Program Manager, Ecosystem Branch, Programs and Project Management Division, USACE
Susan R.Kaynor@usace.army.mil

Deena Reppen, Deputy Executive Director, Regulatory and Public Affairs, SFWMD
dreppen@sfwmd.gov

Source: USACE Strategic Communications team.

Program Name: SFWMD Outreach Program
Project Name: Outreach
Project ID: 3503
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 3-A.3 Increase community understanding of ecosystem restoration

Measurable Output(s): Public Meetings; Stakeholders Meetings; Schools and Teacher Education; Workforce Development; Symposiums; Media Exposure; Groundbreakings; Special Events; Awards and Recognitions; Everglades Video Clips; Speakers' Bureau Presentations to Civic Groups; Community Events; Small Business Enterprises; Utilization of Updated External Web Site; Comprehensive Ecosystem Restoration Web Site Pages with Multimedia; Outreach Material Distribution; Site Briefings in the Field

Project Synopsis: The South Florida Water Management District continues to participate with the USACE, and other agencies/major stakeholders and general public in various outreach activities, as listed above, to increase the understanding of ecosystem restoration.

Total Estimated Project Cost: Ongoing

Project Schedule:
Start Date: Ongoing
Finish Date: Ongoing

Actual Expenditures to Date by SFWMD:

	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total to Date
SFWMD	431,190	417,334	680,871	247,300	224,466	83,799	75,825	74,113	112,786	2,347,684

Contact: Barbara Ross, SFWMD

Educating students about Everglades restoration in the field generates an eagerness to respond.

Groundbreaking ceremonies are one of many celebratory events that SFWMD Outreach staff captures, as various projects get under way.

Program Name: Flood Protection
Project Name: **C-4 Canal Bank Improvements**
Project ID: 3600
Lead Agency: South Florida Water Management District
Authority: FEMA/DCA

Strategic Plan Goal(s) Addressed: 3.B.1

Measurable Output(s): Improve conveyance and level of service protection in the C-4 Basin

Project Synopsis:
Sweetwater Flood Protection Berm & Wall**:** This work involves the construction of a berm and floodwall along the north side of the C-4 Canal from SW 107th Avenue to SW 97th Avenue. The north bank will be raised to a minimum elevation of 8.0 feet (NGVD). This will prevent canal overflows into the city during high canal stages and allow for a pumping system constructed by the city to provide flood protection. The project area is within the C-4 Canal right-of-way from SW 97th Avenue to SW 107th Avenue.

Belen Phase 2 Flood Protection Berm & Wall: This work involves the construction of a berm and floodwall along the north side of the C-4 Canal from SW 130th Avenue to SW 122nd Avenue. The north bank will be raised to a minimum elevation of 8.0 feet (NGVD). This will prevent canal overflows into the adjacent communities during high canal stages and allow for a pumping system being implemented by Miami-Dade County to provide flood protection. The project area is within the C-4 Canal right-of-way from SW 130th Avenue to SW 122nd Avenue.

Palmetto Flood Protection Berm & Wall (a.k.a. Miami-Dade Floodwall): This work involves the construction of a berm and floodwall along the north side of the C-4 Canal from SW 97th Avenue to the Palmetto Expressway. The north bank will be raised to a minimum elevation of 8.0 feet (NGVD). This will prevent canal overflows into the adjacent communities during high canal stages and allow for a pumping system constructed by Miami-Dade County to provide flood protection. This two-mile segment of the Canal from SW 97th Avenue to the Palmetto Expressway was identified as having low top of bank elevations that would need to be improved for the above improvements to be utilized. This two-mile segment has been surveyed to determine the specific areas where a flood protection berm or wall will be needed. This segment of the canal was not originally included in the C-4 Flood Mitigation Plan.

The portion of this project between SW 94th Avenue and SW 92nd Avenue is called the "Quick Start Floodwall" component and construction of this component was completed in January 2012. This component was constructed first, because there were very few right-of-way encroachments along this portion of the canal bank and construction was therefore easily expedited.

C-4 Canal Conveyance Improvements: This work involves dredging/deepening one or more segments of the C-4 Canal. The dredging will increase the conveyance capacity of the C-4 and as a result reduce the extent of flooding along the canal banks during major storm events.

Current Status: The following projects are complete:

S-25B Forward Pump Station
S-26 Forward Pump Station
C-4 Phase 1 Impoundment (G-420 & G-421)
C-4 Phase 2 Impoundment (G-422)
Sweetwater Linear Berm and Safety Fence
Belen Conveyance Improvements (dredging project)
Belen Phase 1 Floodwall (SW 122nd Ave. to the Florida Turnpike)
Quick-Start Floodwall (SW 94th Ave. to SW 92nd Ave.)
Updated C-4 Basin Model

The following projects are scheduled to be completed in the near future (Phase 3):

Belen Phase 2 Flood Protection Berm & Wall (Land acquisition complete)
Design is currently under way with construction scheduled to begin in February 2013 and be completed by January 2014.

Sweetwater Flood Protection Berm & Wall (Land acquisition complete)
Design is currently under way with construction scheduled to begin in May 2013 and to be completed by May 2014.

Palmetto Flood Protection Berm & Wall (a.k.a. Miami-Dade Floodwall) (Land acquisition pending)
Design is scheduled to begin July 2012 with construction scheduled to begin in November 2013 and to be completed by April 2015.

Project Schedule:

Start Date: January 2005
Finish Date: April 2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Planning & Design											
Real Estate											
Construction											

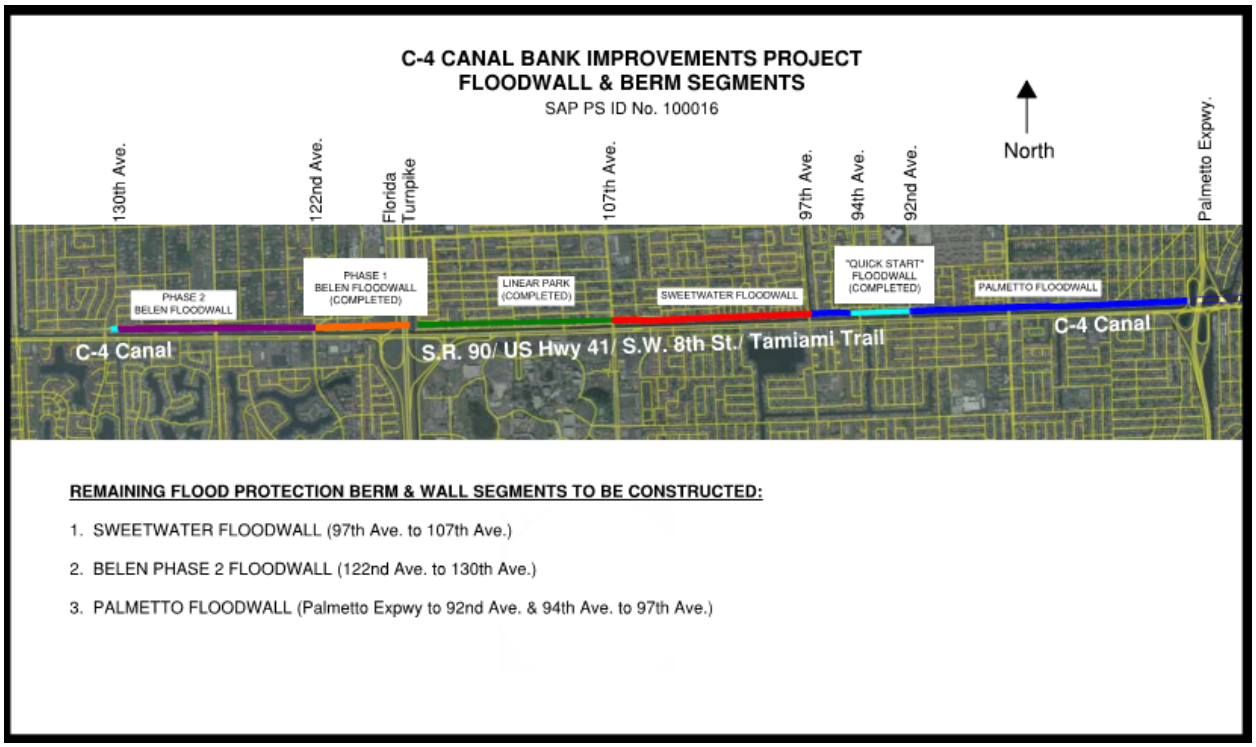
Actual Expenditures To Date by SFWMD

	Exp thru 2006	2007	2008	2009	2010	2011	2012*	2013	2014	2015
Federal	$185	$4,083	$600		$32,000					
SFWMD			$14,307	$10,414	$111,696	$508,869	$351,623			
Total	**$185**	**$4,083**	**$14,907**	**$10,414**	**$143,696**	**$508,869**	**$351,623**			

*** Updated as of May 8, 2012.**

Hyperlink: http://my.sfwmd.gov/portal/page/portal/common/pdf/splash/spl_tamiami_c4.pdf

Contact: Raymond Sciortino, SFWMD



C-4 Canal Floodwall and Berm Segments

Project Name: Herbert Hoover Dike Rehabilitation (HHD)

Project ID: 3700
Lead Agency: USACE
Authority: Central and Southern Florida (C&SF) Project for Flood Control and Other Purposes in the Flood Control Act of 1948, 1954, 1958, 1960, 1965 and 1968; Authorization in 1970 under Section 201 of the Flood Control Act of 1965; the Water Resources Development Acts of 1986, 1988, 1990, 1992, 1996, 2007; and the Rivers and Harbors Act of 1930. WRDA 2007 *(report requirement and authorization)*
Funding Source: USACE

Strategic Plan Goal(s) Addressed: 3-B.2

Measurable Output(s): Risk reduction features implemented within the 143 mile HHD system

Project Synopsis: The Herbert Hoover Dike system consists of nearly 143 miles of levees surrounding Lake Okeechobee, with culverts, hurricane gates and other water control structures. The first embankments around Lake Okeechobee were constructed by local interests from sand and muck, circa 1915. Hurricane tides overtopped the original embankments in 1926 and 1928 causing over 3,000 deaths. The River and Harbor Act of 1930 authorized the construction of 67.8 miles of levee along the south shore of the lake and 15.7 miles of levee along the north shore. The USACE constructed the levees between 1932 and 1938 with crest heights ranging from +32 to +35 feet, NGVD.

A major hurricane in 1947 prompted the need for additional flood protection work. As a result, Congress passed the Flood Control Act of 1948 authorizing the first phase of the Central and South Florida (C&SF) Project, a comprehensive plan to provide flood protection and other water control benefits in Central and South Florida. By the late 1960's the new dike system was completed, raising the elevation of the levees to +41 feet, NGVD. This provides protection to the Standard Project Flood level, approximately an event occurring once in 935 years.

Investigations conducted in the 1980's and early 1990's of the dike system's potential seepage and stability problems resulted in the identification of two major areas of concern: the seepage and embankment stability at the culvert locations, and the problematic foundation conditions of the dike. During high water events, piping is experienced thru the levee. In 1999, the Corps developed a plan to rehabilitate HHD and the plan was approved in 2000.

The Major Rehabilitation Report (MRR) from 2000 divided the 143 mile dike into eight (8) Reaches with the initial focus on Reach 1. This Reach by Reach rehabilitation approach has been replaced with a system wide risk reduction approach as required for safety modifications to Corps dams. The supplemental MRR being produced for Reaches 2 and 3 will become a system wide Dam Safety Modification (DSM) Report. (The MRR approach and approval for Reach 1 occurred prior to procedural changes implemented post-Katrina.) The DSM report will address the entire dike as a system and will include a risk reduction approach to implementing features based on priority and reducing risk as quickly as possible. All features planned and under construction support the goal of this report.

In 2011, the Corps approved a plan to replace, abandon or remove the 32 water control structures (culverts) operated by the Corps within the HHD system. This project is being implemented as part of the risk reduction approach to the entire system.

Current Status:
Construction of cutoff wall continues in Reach 1 with completion of the planned 21.4 miles by 2013.

A total of 32 water control structures (culverts) are planned for replacement, removal or abandonment around the dike. The removal of one (1) culvert is complete and the replacement of four (4) culverts is underway. Two (2) additional culvert replacements and three (3) abandonments are planned for 2012 while five (5) culvert replacement structures are being designed for implementation in 2013.

As part of the DSM report effort, a seepage management pilot test is planned for construction in 2012 to demonstrate the constructability of an alternate risk reduction feature to address the embankment and foundation piping issues. The results of this demonstration will be utilized in the DSM for future consideration.

Potential Failure Mode Analyses (PFMA) and Risk Assessments (RA) continue through all Reaches supporting the DSM report and identifying future risk reduction features that will be necessary to complete the project.

Est. Cost: $ 2,073,370,000

Project Schedule:

2013	Complete cutoff wall construction in Reach 1
2014	DSM report is complete identifying needed risk reduction features
2018	Water control structure (culvert) construction complete
2022	Implementation of future risk reduction features

Detailed Project Budget Information (rounded):

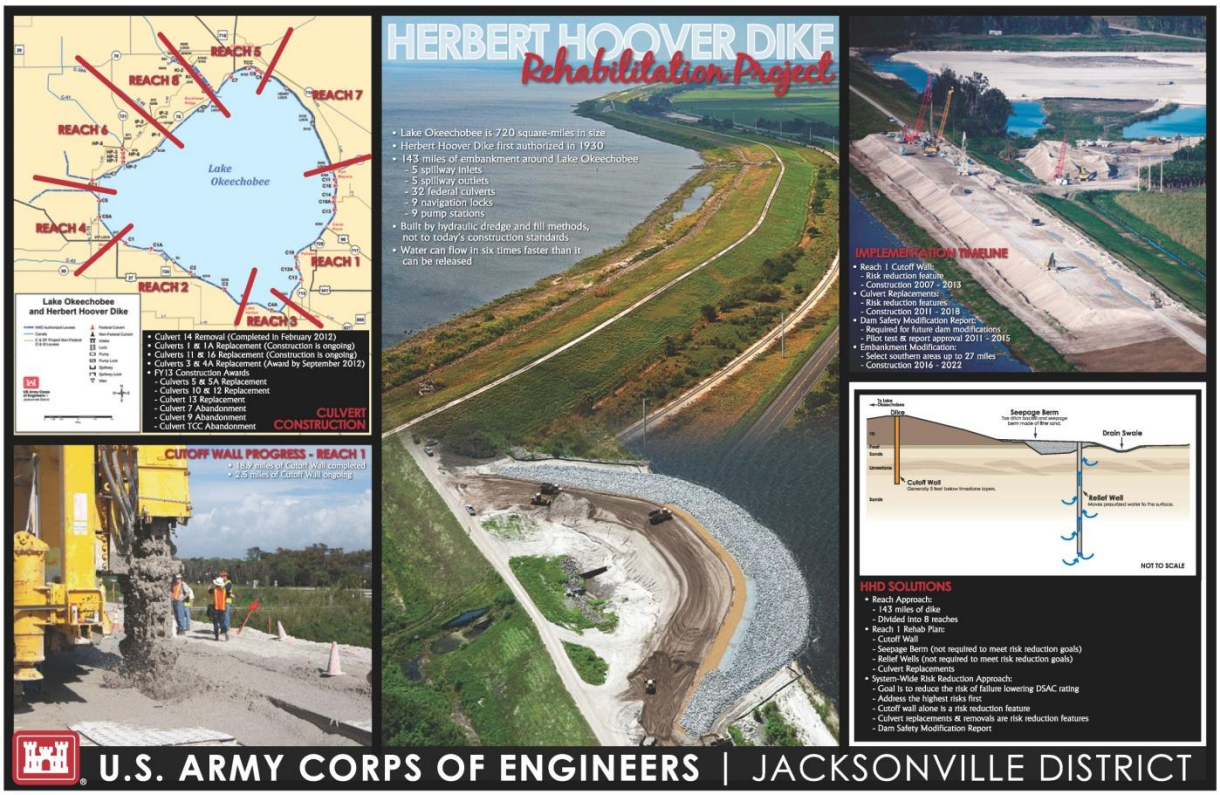
HHD	Expenditures Thru FY 2011
USACE	$270,164,000
SFWMD	N/A
Total	**$270,164,000**

Hyperlink: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx

Contact: Tim Willadsen, Project Manager USACE
Timothy.D.Willadsen@usace.army.mil

Source: Current status and schedule was provided by the project manager.

Additional Information:



Cutoff Wall Task Order #7 (February 2012)

Culvert 11 Replacement (April 2012)

Cutoff Wall Task Order #6 (April 2012)

Program Name: Water Supply Planning
Project Name: **Regional water supply plans (*LEC Plan, LWC Plan, UEC Plan, KB Plan*)**
Project ID: 3800 (Formerly Project ID 3704)
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes

Strategic Plan Goal(s) Addressed: 3.C.1

Measurable Output(s): Water made available through Alternative Water Supply (AWS) Program is reported separately as Project ID: 3900.

Project Synopsis: Water supply plans are mandated to be updated at least every five years. The 2011 Upper East Coast Water Supply Plan Update was approved by the SFWMD Governing Board in March 2011. The most recent updates of the Kissimmee Basin (KB), Lower East Coast (LEC), and Lower West Coast (LWC) Water Supply Plans were approved in 2006 and reflect the requirements of the Water Resource Protection and Sustainability Program (Program). The Program requires water supply planning coordination between the water management districts and local governments to ensure permitted water supply and potable water facilities are available before new development is approved. The LEC, LWC, and KB plan updates are in progress.

Under current legislation, the District must notify each local government in the planning region within six months of the plan approval. Each local government then has one year from the notification to identify the water supply projects it intends to develop. Local governments also must update their Facility Work Plan that details the water supply projects, conservation, and reuse for at least a 10-year planning period within 18 months after the water supply plans are approved.

Each regional water supply plan includes a water supply development chapter and a water resource development chapter. Water supply projects create water and are the responsibility of local governments and utilities. Water resource development projects support and enhance water supply development projects, but often do not by themselves yield specific quantities of water. For example, hydrologic investigations and groundwater monitoring and modeling provide important information on aquifer characteristics, such as hydraulic properties and water quality. All of these efforts are useful in developing an appropriate facility design, identifying the safe yield and evaluating the economic viability of water supply development projects. Water resource development projects often cross planning region boundaries or are conducted District-wide and usually do not produce water.

Current Status: The 2011 Upper East Coast Water Supply Plan Update was approved by the SFWMD Governing Board in March 2011. The process to update the plans for the LW C, LEC and KB is under way. The LWC Update is scheduled for completion in late 2012 and the LEC Update is scheduled for completion in early 2013. The KB Update is divided into two efforts. The upper portion of the Kissimmee Basin is in the Central Florida Water Initiative (CFWI) Regional Water Supply (RWSP) area, which is a joint effort between South Florida, Southwest Florida, and St. Johns River Water Management Districts. The CFWI RWSP is scheduled for completion in early-mid 2013. Parallel to this effort, the Lower KB water supply plan has been initiated and scheduled for completion in early 2013. The plan updates include development of goals and objectives, population and demand projections, issue identification, water source options, water supply and water resource projects and future direction. The plans are completed in a public process under the auspices of the District's Water Resources Advisory Commission.

Cost:	**Total Cost*+**
Regional water supply plans	$ 10,693,000

*Excludes: costs associated with CERP, and costs of alternative water supply projects, which are reported separately.

Hyperlink:

http://my.sfwmd.gov/portal/page/portal/xweb%20-%20release%203%20water%20supply/water%20supply%20planning

+ Source: The *2012 South Florida Environmental Report. Includes projects estimated to be completed between 2012-2016.*

Contacts: Mark Elsner, SFWMD; Cynthia Gefvert, SFWMD

Project Name: **C&SF: CERP South Miami-Dade Reuse (BBB)**
Project ID: 3900 CERP Project WBS # 98
Lead Agency: USACE / Miami-Dade County
Authority: Not authorized
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 3-C.2

Measurable Output(s): 131 million gallons per day advanced WWTP

April 1999 Project Synopsis: This project includes a plant expansion to produce superior, advanced treatment of wastewater from the existing South District Wastewater Treatment Plant (WWTP) located north of the C-1 Canal in Miami-Dade County. In order to attain the superior level of treatment, construction of an add-on pretreatment and membrane treatment system to the existing secondary treatment facility will be necessary. The initial design of this feature assumed the plant would have a capacity of 131 million gallons per day.

Current Project Synopsis: The purpose of the project is to provide additional water supply to the South Biscayne Bay and Coastal Wetlands Enhancement Project. Detailed analyses will be required to determine the quality and quantity of water needed to meet the ecological goals and objectives of Biscayne Bay. Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters (Biscayne Bay).

Current Status: Due to the water quality issues associated with discharging reclaimed water into Biscayne National Park, an *Outstanding Florida Water,* such as potential failures of the treatment system and the limited ability to control contaminant inputs to the sanitary sewer system serving the treatment facility, other sources of water to provide required freshwater flows to southern and central Biscayne Bay should be investigated before pursuing the reuse facility as a source. If, more appropriate sources are not available, the reuse project will be initiated by determining the parameters of concern, the necessary wastewater treatment requirements, and the appropriate treatment technology to be implemented.

This project has not yet begun.

Est. Cost: $ 492,183,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

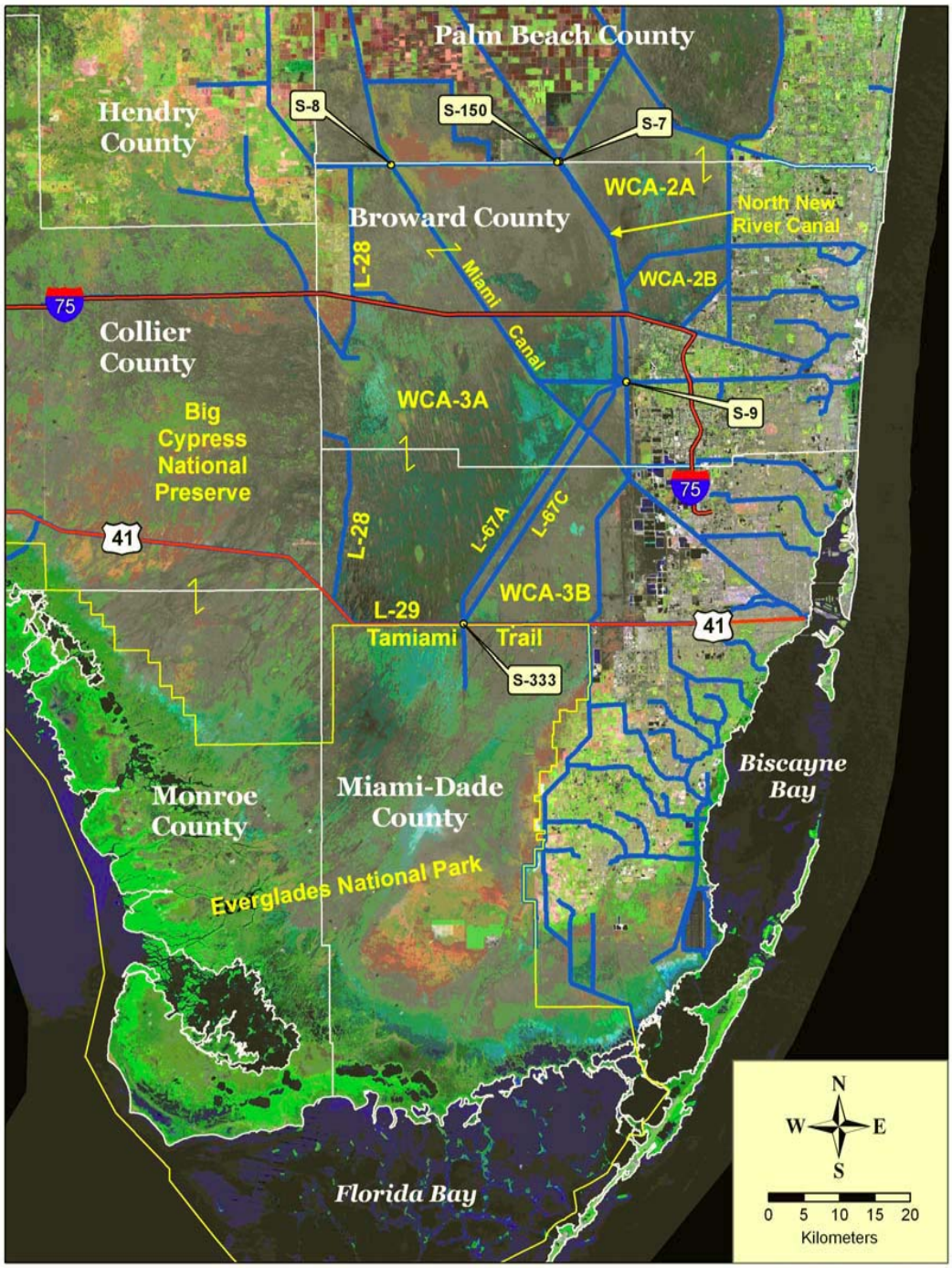
South Miami-Dade Reuse	**Expenditures Thru 2009**	**FY**
USACE		$0
SFWMD		$0
Total		**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_98_south_miami.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars.

Additional Information:



Project Name: **C&SF: CERP West Miami-Dade Reuse (HHH)**
Project ID: 3901 (CERP Project WBS # 97)
Lead Agency: USACE / Miami-Dade County
Authority: Not authorized
Funding Source: Federal/County

Strategic Plan Goal(s) Addressed: 3-C.2

Measurable Output(s): 100 million gallons/day advanced WWTP; report

WRDA 1996: Conduct reconnaissance study to determine Federal interest in using West Dade, FL reuse facility to improve water quality in, and increase supply of surface water to, Everglades to enhance fish and wildlife habitat.

April 1999 Project Synopsis: Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters. The initial design assumed a potential discharge volume of 100 million gallons per day from the wastewater treatment plant.

Current Project Synopsis: The purpose of the feature is to meet the water demands for: 1) the Bird Drive Recharge Area, 2) the South Dade Conveyance System, and 3) the Northeast Shark River Slough. When all demands have been met, the plant will stop treatment beyond secondary standards and will dispose of the secondary treated effluent into deep injection wells.

This feature includes a wastewater treatment plant expansion to produce superior, advanced treatment of wastewater from a future West Miami-Dade Wastewater Treatment Plant (WWTP) to be located in the Bird Drive Basin in Miami-Dade County. This project adheres to the original concept described in the Restudy.

Current Status: The final configuration of these facilities will be determined through more detailed planning and design to be completed in the ongoing West Dade Water Reuse Feasibility Study authorized in Section 413 of the Water Resources Development Act of 1996. This project has not yet begun.

Est. Cost: $ 592,046,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

West Miami-Dade Reuse	**Expenditures Thru FY 2009**
USACE	$0
SFWMD	$0
Total	**$0**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_97_west_miami.cfm
Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil
Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Current status was summarized from the PMP (2005).

Project Name: **C&SF: CERP Wastewater Reuse Technology Pilot**
Project ID: 3902 (CERP Project WBS # 37)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(pilot project)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: **Primary:** 3-C.2 **Secondary:** 2-A.3

Measurable Output(s): 3,500 acres of wetlands restored and created

April 1999 (Restudy) Project Synopsis: The original concept addresses water quality issues associated with discharging reclaimed water into natural areas such as the West Palm Beach Water Catchment Area, Biscayne National Park, and the Bird Drive Basin as well as determine the level of superior treatment and the appropriate methodologies for that treatment. A series of studies will be conducted to help determine the level of treatment needed.

Current Project Synopsis: Pilot facilities will be constructed to determine the ecological effects of using superior, advanced treated reuse water to replace and augment freshwater flows to Biscayne Bay and to determine the level of superior, advanced treatment required to prevent degradation of freshwater and estuarine wetlands and Biscayne Bay. The constituents of concern in wastewater will be identified and the ability of superior, advanced treatment to remove those constituents will be determined.

In addition, a pilot facility will be constructed to treat wastewater from the east central regional wastewater treatment facility using improved wastewater treatment processes to remove nitrogen and phosphorus. After treatment, the wastewater will be used toward restoring 1,500 acres of wetlands and to recharge wetlands surrounding the city of West Palm Beach's well field. A portion of the treated wastewater will be used for recharge of a residential lake system surrounding the city's well field and a Palm Beach County well field.

Besides serving as a pilot project for wetlands-based water reclamation, this feature will reduce a portion of the city's dependence on surface water from Lake Okeechobee during dry or drought events. Another 2,000 acres of wetlands would be created or restored. Other benefits include aquifer recharge and replenishment, reduction of water disposed in deep injection wells and a reduction of stormwater discharge to tide.

Current Status: This project is planned for in the future; and has not yet begun.

Est. Cost: $ 37,049,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Wastewater Reuse Technology Pilot	**Expenditures Thru FY 2009**
USACE	$1,208,234
SFWMD	$667,774
Total	$1,876,008

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_37_wastewater_pilot.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Additional Information:

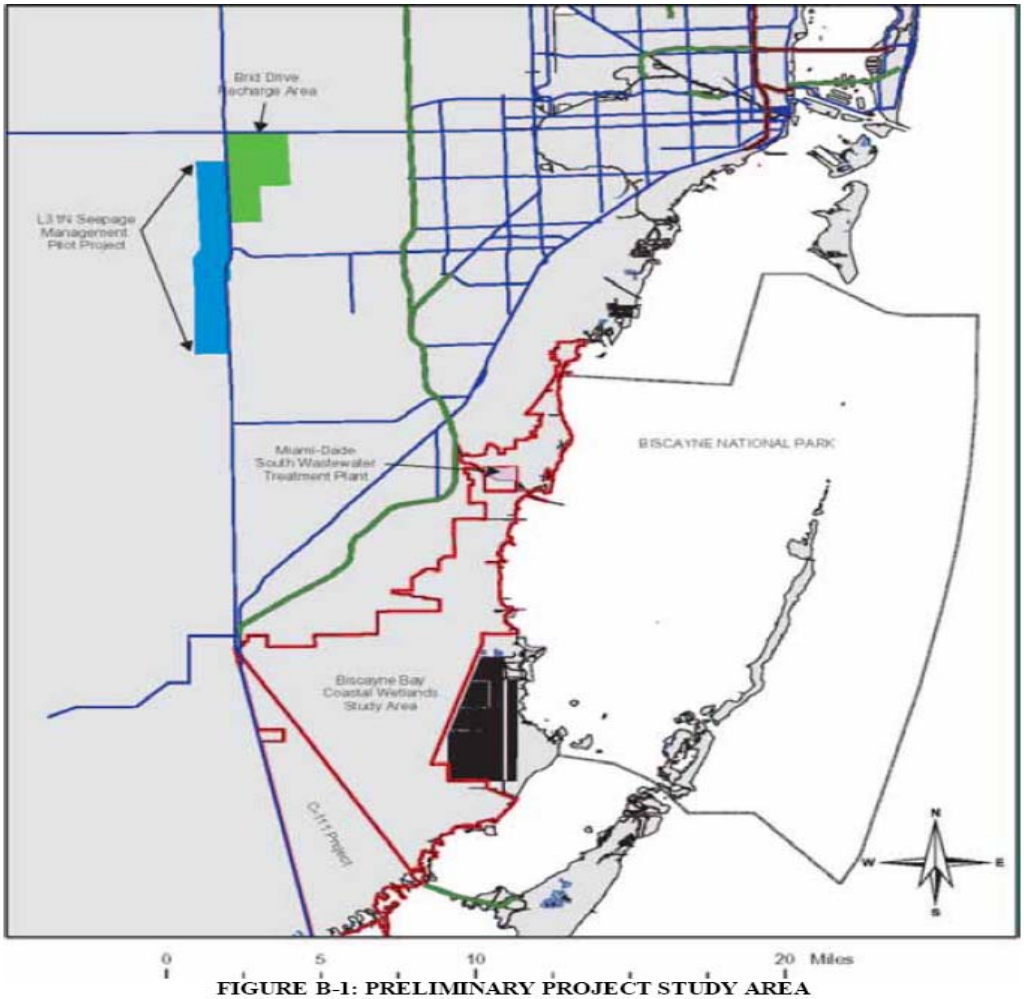


FIGURE B-1: PRELIMINARY PROJECT STUDY AREA

Program Name: Alternative Water Supply (AWS)
Project Name: **Alternative Water Supply Grant**
Project ID: 4000 (Formerly Project ID 3900)
Lead Agency: SFWMD
Authority: Chapter 373.707, Florida Statutes

Strategic Plan Goal(s) Addressed: 3.C.3

Measurable Output(s): 282 MGD of capacity added to water supply system District-wide between FY2006- FY2012. From FY2009 - FY2012, water supply capacity created was 50 MGD.

Project Synopsis: SFWMD has a program of cooperative funding with local governments and other entities to assist in their development of alternative water supplies. Since 1996, this program has invested approximately $189 million for the construction of over 470 projects. The Water Protection and Sustainability Program in 2005 established annually recurring State funding, when available, with a required match by the water management districts, which further supported alternative water supply development. The FY2012 budget included $3.07 million in District ad valorem funding for approved AWS projects for local government and other partners. For the period FY2009 - FY2012, $37.7 million in AWS funding, including reallocated amounts, was budgeted for local government and other partners with $10.9 million provided by the State. This funding was used to assist 76 AWS projects that created 50 MGD of additional water supply capacity.

Current Status:
For FY2012, 7 new projects were funded and one project has been carried over from FY2009 -- the City of Hialeah, 10 MGD Reverse Osmosis Water Treatment Plant.

Cost: $26.4M expended from program for the period FY2009 – FY2011
Project Development: $26.4M
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: 1997
Finish Date: Ongoing/annual grants – current projects to be completed by August 2012, except Hialeah, which will be complete in September 2012.

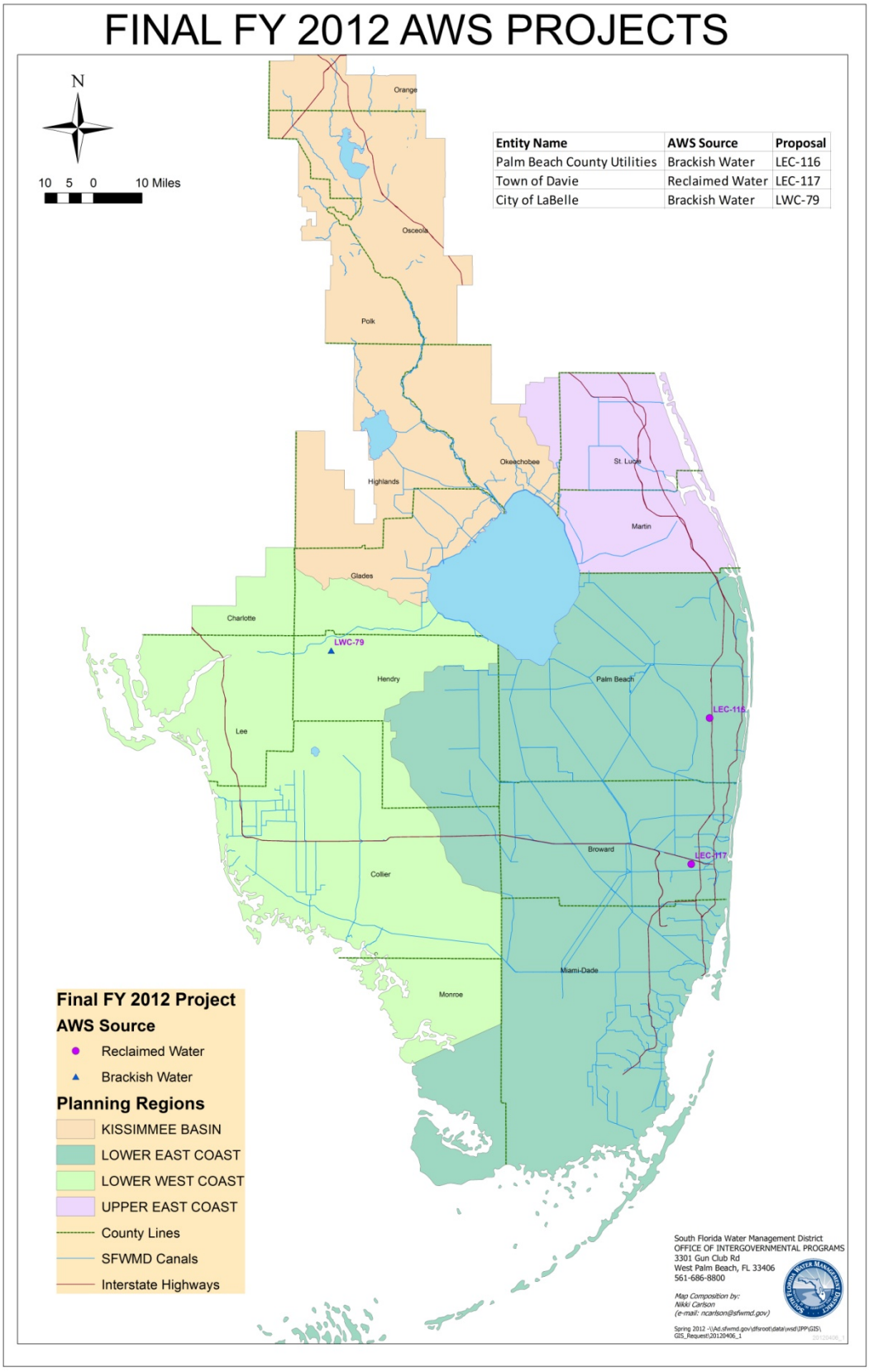
Detailed District Project Budget Information

Through 2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
$26,500	$4,800	$6,000	$60,986	$36,000	$31,200	$8,850	$191	$6,050	$3,070

Hyperlink: www.sfwmd.gov/AWS

Contact: Stacey Adams, SFWMD; Patrick Martin, SFWMD

FINAL FY 2012 AWS PROJECTS



Entity Name	AWS Source	Proposal
Palm Beach County Utilities	Brackish Water	LEC-116
Town of Davie	Reclaimed Water	LEC-117
City of LaBelle	Brackish Water	LWC-79

Program Name: Agriculture
Project Name: **BMPs for Agriculture**
Project ID: 4101
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Nutrient Load Reduction

Project Synopsis: This project provides for technical assistance to landowners and managers of agricultural lands. The goals of this project are to encourage the adoption and implementation of Best Management Practices (BMPs) that will provide for sustainable agriculture within the Everglades ecosystem that is both ecologically and economically sound. Comprehensive resource management plans are developed with the farmer/rancher to achieve their management objectives, while meeting federal, state, regional and local environmental quality criteria and standards (TMDLs).

Current Status:

Cost
Total:
$160,278,000
Project Development:
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: 1997
Finish Date: 2015

Detailed Project Budget Information (1000s)

	Through 2009	**2010**	**2011**	**2012**	**Balance to Complete**	**Total**
Federal	$48,321	$7,050	$4,000	$2,882		
State	$48,085	$3,000	$3,000	$3000		
Tribal						
Local						
Other						
Total	**$96,406**	**$10,050**	**$7,000**	**$5882**	**$40,940**	**$160,278**

Hyperlink: N/A
Contact: Roney Gutierrez- USDA-NRCS

Program Name: Soils
Project Name: **Monitoring of Organic Soils in the Everglades**
Project ID: 4102
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Resource Assessment

Project Synopsis: This project will produce an assessment of the amount of accretion and/or subsidence that has occurred on organic soils throughout the Everglades region. ARS and IFAS have initiated work within the Everglades Agricultural Area (EAA) based upon observations taken every 5-year from 1913 – 1978. The goal of this project is to expand this assessment to the entire Everglades ecosystem, in an effort to provide scientists and land managers a tool to ascertain the effects from hydrologic condition changes upon the organic soil resource.

Current Status:

Cost:
Total:
$1,236,000
Project Development:
Land Acquisition:
Implementation:
Operations and maintenance: $1,236,000

Project Schedule:
Start Date: 1998
Finish Date: On-going

Detailed Project Budget Information ($1000)

	Thru 2011	**2012**	**2013**	**2014**	**2015**	**Balance to complete**	**Total**
Federal	$25	0				$1,211	
State	$11	0					
Tribal		0					
Local		0					
Other		0					
Total	**$36**	**0**				**$1,200**	**1,236**

Hyperlink: N/A
Contact: Tom Weber USDA – NRCS

Program Name: Soil Survey
Project Name: **Soil Survey Update for the Everglades Agricultural Area**
Project ID: 4103
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Acres Mapped

Project Synopsis: This project will produce an updated comprehensive soil survey of the Everglades Agricultural Area (EAA). The project is designed to produce a spatial representation of the soils on approximately 700,000 acres, and a detailed description of each soil's profile. The current soil survey is over 20 years old. Significant changes have occurred due to organic soil subsidence and changes in landscape features. This project will provide an effective conservation planning tool for on-farm decision making that will contribute to over-all ecosystem restoration efforts.

Current Status:

Cost:
Total:
$2,100,000
Project Development:
$2,100,000
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: 2007
Finish Date: 2017

Detailed Project Budget Information ($1000)

	2012	**2013**	**2014**	**Balance to complete**	**Total**
Federal	0			2,100	$
State	0				
Tribal	0				
Local	0				
Other	0				
Total	**0**			**2,100**	**$2,100**

Hyperlink: N/A
Contact: Tom Weber USDA – NRCS

Program Name: Soil Survey
Project Name: **Soil Survey for Everglades National Park, Big Cypress, National Preserve, and Water Conservation Areas**
Project ID: 4104
Lead Agency: NRCS
Authority: PL-46
Funding Source:

Strategic Plan Goal(s) Addressed: **Primary**: Other

Measurable Output(s): Acres Mapped

Project Synopsis: This project will produce a comprehensive soil survey of Everglades National Park, Big Cypress National Preserve, and the Water Conservation Areas. The project is designed to produce a spatial representation of the soils on approximately 2,000,000 acres, and a detailed description of each soil's profile. Currently there is not a detailed soil survey available to land managers, modelers and planners. This project will provide an effective correlation/association tool for land managers, modelers and planners to identify, restore, and sustain natural ecological communities.

Current Status:

Cost:
Total:
$6,000,000
Project Development:
$6,000,000
Land Acquisition:
Implementation:
Operations and maintenance:

Project Schedule:
Start Date: 2007
Finish Date: 2017

Detailed Project Budget Information ($1000s)

	2012	2013	2014	2015	Balance to complete	Total
Federal	35				$6,000	$
State	0					
Tribal	0					
Local	0					
Other	0					
Total	**35**				**6,000**	**6,000**

Hyperlink- N/A
Contact: Tom Weber –USDA – NRCS, Roney Gutierrez

Project Name: **C&SF: CERP Flows to NW and Central WCA 3A (II) (RR)**
Modify G-404 Pump Station (II), Flow to NW and Central Water Conservation Area 3A (RR)
Project ID: 4105 (CERP Project WBS # 11)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 *(Programmatic Authority <$25 M)*
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Increased flows to WCA 3A

April 1999 Project Synopsis: Additional flows will be directed to the northwest corner and west central portions of Water Conservation Area 3A by increasing the capacity of the G-404 pump station, currently a part of the Everglades Construction Project, and increasing the capacity and relocating the S-140 pump station. Development of a spreader canal system at S-140 will reestablish sheetflow to the west-central portion of Water Conservation Area 3A.

Current Project Synopsis: The purpose of this feature is to increase environmental water supply availability, increase depths and extend wetland hydropatterns in the northwest corner and west-central portions of Water Conservation Area 3A in western Broward County. If additional water quality treatment is determined to be required as a result of future detailed planning and design work, existing facilities would be modified to provide the necessary treatment. Water quality treatment of flows is assumed to be provided by the Everglades Construction Project and water quality treatment strategies developed to fulfill the Non-Everglades Construction Project requirements of the Everglades Forever Act.

Current Status: This project has dependencies on the Everglades Construction project; and has not yet begun.

Est. Cost: $ 41,259,000

Project Schedule: TBD

Detailed Project Budget Information (rounded):

Flows to NW and Central	Expenditures Thru FY 2009
USACE	$59,096
SFWMD	$7,202
Total	**$66,298**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_11_flow_nw_central.cfm

Contact: Pauline Acosta, Everglades Section Chief, Everglades Division, USACE
Pauline.M.Acosta@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

COMPLETED PROJECTS

Project Name: **Kissimmee Prairie Ecosystem**
Project ID: 1305
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: CARL/Save Our Rivers

Strategic Plan Goal(s) Addressed: 1.A.3 and 2.A.1

Measurable Output(s): 38,282 Acres Acquired

Project Synopsis: This project involves acquisition and restoration of wetland and dry prairie habitat in Okeechobee County. The SFWMD and FDEP purchased 38,282 acres of land in 1997 for conservation as the Kissimmee Prairie State Preserve. Restoration has been initiated on the Preserve as well as the adjacent 7,315-acre Ordway-Whittell Kissimmee Prairie Sanctuary owned and managed by the National Audubon Society. The project will restore 13,100 acres of wetlands that were over drained or over impounded by agricultural activities. In addition, the project will enhance another 2,625 acres of wetlands and 9,500 acres of associated dry prairie habitat. Restoration will be accomplished by removing 39.3 miles of ditches and dikes to return sheet flow across the land. Enhancement will include removal of unwanted or invasive vegetation from wetland and dry prairie habitats.

The purpose of the land acquisition project is to preserve the unique wetland and dry prairie habitats that were in agriculture and cattle land use and, using a five-year federal grant, restore and enhance these lands. Approximately 5,000 acres of the project hydraulically linked with the Kissimmee River will be reconnected, thereby restoring wetland habitat to regain historical biological diversity. The remaining 40,000 acres of the project in the project area contain extensive wetland habitats and excellent examples of the dry-prairie community type, which is recognized by the Florida Natural Areas Inventory as endangered at state and global levels. Because of the conversion of similar lands to citrus and improved pasture throughout central Florida, the Kissimmee Prairie Ecosystem, in combination with the adjacent Air Force's Avon Park Bombing Range and Audubon's Kissimmee Prairie Sanctuary, will form the largest region of dry prairie in public ownership in the State. Its preservation is the most important step in the recovery of the federally endangered Florida grasshopper sparrow. The endangered whooping crane, Everglades snail kite, and the woodstork utilize the habitats of the project area. Protection of these lands will also provide habitat for the following threatened species: southern bald eagle, Audubon's caracara, Florida scrub jay, and the eastern indigo snake. In addition, the project area contains habitat that supports over 800 species of plants and animals. **This project has been completed.**

Cost: Total: Project size 38,282 acres.
38,282 acres have been acquired at a cost of $21,953,790.

Project Schedule:
Start Date: 1996
Finish Date: 1997

Detailed Project Budget Information ($1000s)

	Through 2011	Total
Federal		
State	21,953.790	21,953.790
Total	**21,953.790**	**21,953.790**

Hyperlink: N/A
Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Infrastructure
Project Name: **E&SF Critical Projects – East Coast Canal Structures (C-4)**
Project ID: 1406
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Water control structures

Project History: This project calls for the construction of a gated water control structure (S-380) on the C-4 canal in Dade County, Florida. This structure will be located immediately southeast of the Pennsuco Wetlands.

Project Synopsis: The purpose of the structure is to maintain stages to create and preserve wetlands as well as aquifer recharge.

Current Status: **COMPLETED 2003**

Cost: $3,737,000

Project Schedule:

Start Date:	1999
Finish Date:	2003

Detailed Project Budget Information (rounded):

East Coast Canal Structures (C-4)	Expenditures Thru FY2008
USACE	$1,901,000
SFWMD	$1,836,000
Total	**$3,737,000**

Hyperlink: http://www.saj.usace.army.mil/projects/proj1.htm

Contact: Karen Tippett, Program Execution Branch Chief
Karen.S.Tippett@usace.army.mil

Program Name: Infrastructure
Project Name: **C&SF: Indian River Lagoon Feasibility Study**
Project ID: 1428
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Other supports 3-C.1

Measurable Output(s): Reports

Project History: The purpose of the study is to investigate making structural and operational modifications to the C&SF Project to improve the quality of the environment, improve protection of the aquifer, and improve the integrity, capability, and conservation of urban and agricultural water supplies and other water related purposes. The product of this study is a regional plan for addressing the water resource problems and opportunities of the St. Lucie River and Estuary and Indian River Lagoon watersheds in Martin and St. Lucie Counties.

Project Synopsis: The initial Indian River Lagoon South Feasibility Study was completed in October 2002 and a Project Implementation Report was completed in March 2004.

Current Status: COMPLETED 2002

Est. Cost: $6,150,000

Project Schedule:

1996	Start
2002	Completed

Detailed Project Budget Information (rounded):

	Total Expenditures
USACE	$3,075,000
SFWMD	$3,075,000
Total	**$6,150,000**

Hyperlink: http://www.evergladesplan.org/pm/studies/irl_south.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Program Name: Restoration Program: Hydrological Restoration, Water Quality
Project Name: **Chapter 298 Districts/Lease 3420 Improvements**
Project ID: 1700
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Extent of reduction of total phosphorus entering Lake Okeechobee.

Project Synopsis: South Florida Water Management District funded works of the Chapter 298 District (East Beach Water Control District, East Shore Water Control District, South Shore Drainage District and South Florida Conservancy District) for the design and construction of these diversion works as described in the Everglades Forever Act. South Florida Water Management District also funded works of the Lessee of Lease No. 3420 (Closter Farms) for the design and construction of diversion works described in the Everglades Forever Act. The primary objective of these improvements is to reduce total phosphorus loads discharged directly to Lake Okeechobee. **All projects are complete and are in operation.**

*** Cost (Estimate):** Total: $ 24,115,521
(1) Project Development: $ 779,995
Land Acquisition: $ -
(2) Implementation: $ 23,335,526
Operations and Maintenance:$ -

Project Schedule: Completion Date:September 2005

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Implementation						

*** Detailed Project Budget Information**

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	$24,115,521	-	-	-	-	-	$24,115,521
Other							
Total	$24,115,521	-	-	-	-	-	$24,115,521

(1) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.
(2) Project Development includes Design Phase [contracts & staff costs] costs.
(3) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonaisingh

Program Name: Infrastructure
Project Name: **E&SF: Critical Projects - Western C-11 Water Quality Treatment**
Project ID: 1703
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Gated spillway structure; pump station

Project History: Construction of a 500-cfs seepage pump station (S-9A) and spillway (S-381) in Canal C-11 will separate clean seepage from urban run-off waters and pump the clean water back into Water Conservation Area 3A.

Project Synopsis: The purpose is to improve the quality and timing of stormwater discharges to the Everglades Protection Area from the Western C-11 Basin located in south central Broward County. The S-9 pump station pumped untreated urban and agricultural stormwater runoff from the Western C-11 Basin directly into Water Conservation Area 3A. The project involved construction of a gated control structure on C-11 to divide western seepage waters (i.e., clean water) from the eastern runoff waters in C-11 canal (i.e., polluted water) and construction of an additional pumping station adjacent to S-9 to pump clean seepage back into the Everglades Protection Area. Both features will be remotely controlled using sponsor-installed telemetry.

Construction of pump station S-9A was completed in August 2002. The initial audit of original construction contract termination for spillway S-381 was completed in September 2003. The second audit phase began in February 2004. Construction of a re-designed spillway (S-381) was completed in 2005. The Obermeyer construction contract has been in the closeout phase.

Current Status: **COMPLETED 2006**

Est. Cost: $ 18,066,000

Project Schedule:

1997	Start
2006	Finish

Detailed Project Budget Information (rounded):

Western C-11 Water Quality Treatment	Expenditures Thru FY2009
USACE	$9,247,498
SFWMD	$9,247,498
Total	$18,494,996

Hyperlink: http://www.saj.usace.army.mil/projects/newrpt.htm

Contact: Karen Tippett, Program Execution Branch Chief
Karen.S.Tippett@usace.army.mil.

Source: Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Program Name: Infrastructure
Project Name: **Everglades National Park Water and Wastewater**
Project ID: 1705
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Number of water and wastewater systems that are rehabilitated or replaced

Project Synopsis: This project will rehabilitate or replace 28 water and wastewater systems in two districts of Everglades National Park. A large percentage of the existing water and wastewater systems within the park were constructed over 35 years ago when the public health and environmental standards were not as fully evolved as they are today. While originally constructed to code, all of the systems are in non compliance with environmental regulations and standards for operating a public water supply. This rehabilitation effort would modify or replace all of the existing systems with new systems that offer the full level of public health and environmental protection that present day standards require. The final result will be potable water systems properly designed to provide safe, clean water and wastewater that is sufficiently treated to fully protect the fragile water resources within Everglades National Park. **This project has been completed.**

Cost:
Total
$18,965,000

Project Schedule:
Start Date: 1997
Finish Date: 2006

	1997	1998	1999	2000	2001	2002	2003	2004
Construction								

Detailed Project Budget Information ($1,000)

	Thru 1999	**2000**	**2001**	**2002**	**2003**	**2004**	**Balance to complete**	**Total**
Federal	3,516	1,894	2,883	4,192	4,594	286	1,600	18,965
State								
Tribal								
Local								
Other								
Total	**3,516**	**1,894**	**2,883**	**4,192**	**4,594**	**286**	**1,600**	**18,965**

Hyperlink: **N/A**
Contact: Michael Jester

Program Name: Restoration Program: Water Quality, Habitat & Species
Project Name: **Lake Okeechobee Sediment Removal Feasibility Study and Pilot Project**
Project ID: 1708
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Recommendation Regarding Sediment Removal from Lake Okeechobee

Project Synopsis: The goal of this project was to analyze alternatives and determine the best method of sediment management to reduce internal phosphorus loading in Lake Okeechobee. The Feasibility Study addressed alternatives such as sediment removal, processing, disposal, chemical treatment, and/or sealing sediment to achieve the project goal. The goal of the Feasibility Study was achieved using an objective methodology that allowed for review and input by experts and stakeholders throughout the study process. A pilot test of a state-of-the-art sediment removal/treatment technology train was conducted in parallel with the Feasibility Study. The pilot test included sediment removal, de-watering, treatment, and a pilot water quality treatment system. The results of the pilot test were incorporated into the Feasibility Study.

The results for the feasibility study indicated that once the TMDL is met the annual frequency of algal blooms would decrease to below a 15% annual probability of a bloom occurrence (from a current annual likelihood of approximately 20%) by 2015 and 10% by 2028. Under this "no in-lake action" alternative, steady-state lake recovery conditions would be achieved approximately 35 years from the point that external loads are reduced to the inflow load of 140 metric tons. Dredging did not prove feasible, while chemical treatment might be of value under limited conditions.

Cost:

Total		$955,069
Project Development		$955,069
Land Acquisition	N/A	
Implementation		N/A
Operations and Maintenance		N/A

Project Schedule:
Start Date: 6/1/00
Finish Date: 6/1/03 (**Completed 04/03**)

Detailed Project Budget Information ($1000)

	Thru 1999	2000	2001	2002	2003	Balance to complete	Total
State		0	287.5	280.8	386.7		955.1
Tribal							
Local							
Other							
Total			**287.5**	**280.8**	**386.7**		**955.1**

Hyperlink: N/A
Contact: Don Nuelle

Program Name: Restoration Program: Water Quality, Habitat & Species
Project Name: **Lake Okeechobee Tributary Sediment Removal Pilot Project**
Project ID: 1709
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: SFWMD Ad Valorem; EPA 319

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Reduction in phosphorus loads from the Lettuce Creek drainage basin to Lake Okeechobee.

Project Synopsis: This project provides a direct comparison between two sediment removal technologies, namely, a continuous deflective separation (CDS) unit and a tributary sediment trap (TST) to determine if particulate phosphorus loading to Lake Okeechobee from Lettuce Creek drainage basin may be reduced using either of two pre-selected technologies. This project also examines the feasibility of sediment removal in a tributary as a method of reducing phosphorus loading to Lake Okeechobee. The effectiveness of the two technologies is being evaluated over a 12-month monitoring period. Initial monitoring results have indicated poor removal efficiencies for phosphorus by both units. Upon evaluation of the physical characteristics of the particles in the Lettuce Creek water, it was hypothesized that the settling velocities of the particles are too slow to allow capture of the particulate phosphorus within the relatively short residence times provided by the two units. Additional sediment management techniques are being investigated to examine if the effectiveness of these units can be improved by enhancing the settling velocity of the particles. The effectiveness of each system will be quantified using both a concentration-based and mass balance approach. The economic viability of each technology will be evaluated by comparing the present worth cost (20-yr) per kilogram of sediment and phosphorus removed by each system. If one of the tested sediment trap methods is found effective, landowners in the watershed will be encouraged to use it. The District will also use the technology wherever possible on District facilities. **This project has been completed.**

Cost:
Total
$440,000
Project Design (Phase I)
$93,728
Construction, Installation and Calibration of Monitoring Instruments (Phase II) $210,940
Post Sediment Removal Monitoring and Measuring Effectiveness of the Project (Phase III)$135,332

Project Schedule: Start Date: October 2000Completion Date: June 2004

	10/2000	08/2001	01/2002	04/2002	05/2002	06/2004
Project Design						
Construction and Installation						
Monitoring and Project Evaluation						

Detailed Project Budget Information ($1000)

	2000-2001	**2001-2002**	**2002-2003**	**2003-2004**	**Balance to complete**	**Total**
Federal EPA	59.5	87.1	23.4			170
State SFWMD	71	136.6	42.4	20		270
Total	**130.5**	**223.7**	**65.8**	**20**		**440**

Contact: Odi Villapando

Program Name: Restoration Program: Hydrological Restoration, Water Quality
Project Name: **S-5A Basin Runoff Diversion Works**
Project ID: 1713
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Reduce phosphorus levels before it enters the Everglades Protection Area (EPA).

Project Synopsis: S-5A Basin Runoff Diversion Works is located in western Palm Beach County at the confluence of the Hillsboro and Ocean Canals in the Everglades Agricultural Area (EAA). The project diverts flow from the S-5A Basin into STA-2 for treatment. This project included enlargement of approximately 17 miles of the Hillsboro and Ocean Canals in approximately 2001 and the construction of a water control structure (G-341) which was completed in June 2005.

*** Cost (Estimate):** Total: $ 14,233,758
(1) Project Development: $ 408,815
Land Acquisition: $ 1,902,688
(2) Implementation: $ 11,298,233
Operations and Maintenance:$ 624,022

Project Schedule:
Completion Date: June 2005

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Land Acquisition						
Implementation						
Operations and Maintenance						

*** Detailed Project Budget Information**

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	$13,536,252	$49,892	$51,387	$53,314	$54,913	$488,000	$14,233,758
Tribal							
Local							
Other							
Total	$13,536,252	$49,892	$51,387	$53,314	$54,913	$488,000	$14,233,758

(4) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.
(5) Project Development includes Design Phase [contracts & staff costs] costs.
(6) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonaisingh

Program Name: Restoration Program: Hydrological Restoration, Water Quality
Project Name: **STA-1 Inflow and Distribution Works**
Project ID: 1719
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Reduce phosphorus levels in outflows from the STAs as directed in the Everglades Forever Act.

Project Synopsis: STA-1 Inflow and Distribution Works is located in Western Palm Beach County, just north of the Water Conservation Area No. 1 (Loxahatchee National Wildlife Refuge). This project redirects the discharge from S-5A Pump Station via the L-40 and L-7 Borrow Canals to STA-1 West and STA-1 East. The project scope includes the construction of four water control structures (G-300, G-301, G-302, G-311), and associated bypass canals, a separation levee extending from L-7 to L-40 and an inflow canal and perimeter levee leading to the STA-1W project.

*** Cost (Estimate):** Total: $ 12,679,955
(1) Project Development: $ 1,090,618
(2) Implementation: $ 11,589,337
Operations and Maintenance:$ Included with STA-1 West

Project Schedule:
Completion Date: September 2005 (including structure G-311, inflow structure for STA-1E)

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Land Acquisition						
Implementation						
Operations and Maintenance						

* Detailed Project Budget Information

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	$12,679,955	-	-	-	-	-	$12,679,955
Tribal							
Local							
Other							
Total	$12,679,955	-	-	-	-	-	$12,679,955

(7) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.

(8) Project Development includes Design Phase [contracts & staff costs] costs.
(9) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonaisingh

Program Name: Land Acquisition
Project Name: **Babcock Ranch**
Project ID: 2102
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 73,542 Acres acquired

Project Synopsis: The Babcock Ranch project consists of approximately 91,361 acres in Charlotte and Lee counties. Acquisition of would assist in the creation of a wildlife corridor that would span from Lake Okeechobee to the Gulf of Mexico. The majority of the project area consists of mesic flatwoods with the center of the project dominated by Telegraph Swamp. This ten thousand acre swamp drains most of the project area. Portions of the project provide habitat for the endangered red-cockaded woodpecker, crested caracara, and numerous other plants and animals. The project is proposed primarily as a less-than-fee simple acquisition a portion of the project will be acquired in full fee title. The evaluation team visited the project on September 25, 2001.

The majority of the Babcock Ranch project lies in southeastern Charlotte County; a small part extends into northeastern Lee County. It is contiguous with Fred C. Babcock-Cecil M. Webb Wildlife Management Area (Babcock-Webb WMA) for approximately 6 miles (mostly Babcock Family Reserve portion; proposed Curry Lake conservation easement is contiguous for 0.75 mile) on the west, Fisheating Creek Florida Forever project for approximately 3 miles on the east, and Caloosahatchee Regional Park for approximately 1.5 miles on the south. Bright Hour Watershed conservation easement is situated approximately 12 miles to the north, Hall Ranch Florida Forever project (contiguous with Babcock-Webb WMA) is contiguous with the Babcock Family Reserve portion for approximately 3 miles (it is ca. 4 miles to the northwest of the proposed Curry Lake conservation easement), Hickey Creek Mitigation Park Wildlife and Environmental Area is located less than 1.5 miles to the south, Moya Sanctuary is located less than 1 mile east of the southeast boundary of the proposal, and the Caloosahatchee Ecoscape Florida Forever project and Okaloacoochee Slough State Forest lie 10.5 miles and 15 miles, respectively, to the southeast. **This project has been completed.**

Cost: Project size is 73,542 acres. 73,542 acres have been acquired at a cost of $350,000,000
Land Acquisition: 0 acres remaining to be acquired.

Project Schedule:
Start Date: 2001
Finish Date: Upon completion

Detailed Project Budget Information ($1000)

	Thru 2007	**2008**	**2009**	**2010**	**Balance to complete**	**Total**
Federal						
State*	308,461					
Tribal						
Local	41,538					
Total	**350,000**					**TBD**

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project name: **Cayo Costa**
Project ID: 2110
Lead Agency: FDEP
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 1,954 Acres acquired

Project Synopsis: The project area, involving 1,954 acres, includes Cayo Costa and North Captiva, both part of a small chain of barrier islands that provide protection for Charlotte Harbor, one of Florida's most productive estuaries. The natural communities within the project are in excellent condition and have high species diversity; some may be unique to these islands. This project contains several archaeological and historical sites. Cayo Costa Island is subdivided into small lots and is threatened by rapid residential development. **This project has been completed.**

Cost: Project size 1,954. All acres acquired at a cost of $29,002,346.

Project Schedule:
Start Date: 1980
Finish Date: 2004

Detailed Project Budget Information (1000s)

	Thru 2004	**2007**	**2008**	**Total**
Federal				
State	$29,002.346			29,002.346
Tribal				
Local				
Other				
Total	**$**29,002.346			29,002.346

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Dupuis Reserve Land Acquisition**
Project ID: 2116
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 21,878 Acres

Project Synopsis: The Dupuis Reserve encompasses 21, 875 acres in northwestern Palm Beach and southwestern Martin Counties. The property is interspersed with numerous ponds, wet prairies, cypress domes, pine flatwoods, and remnant Everglades marsh. Dupuis is actively managed by the District and the Florida Fish and Wildlife Conservation Commission. Numerous public use opportunities are available, including hiking, horseback riding, hunting, fishing, and bicycling. Total project acreage is 21,875 acres. **This project has been completed.**

Cost:	Total	$23,016,601
	Project Development	N/A
	Land Acquisition	$23,016,601
	Implementation N/A	
	Operations and Maintenance	N/A

Project Schedule:
Start Date: 1985
Finish Date: 1986

Detailed Project Budget Information ($1000)

	Through 1999	2000	2001	Balance to Complete	Total
Federal					
State	23,016.601				23,016.601
Tribal					
Local					
Other					
Total	**23,016.601**				**23,016.601**

Contact: Wanda Caffie-Simpson

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project name: **Frog Pond/L31N**
Project ID: 2123
Lead Agency: Florida Department of Environmental Protection
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 10,450 Acres acquired

Project Synopsis: Lands border Everglades National Park and are considered critical to the Park's ecosystem, particularly Shark River Slough. The project's water storage capacity helps to prevent excessive flooding and serves as a recharge area for well fields in South Dade. The area is highly vulnerable to development pressure. **This project has been completed.**

Cost: Total: Project size 2,484 acres. 2,484 acres have been acquired at a cost of $20,005,367.
Project Development
Land Acquisition: 0 acres remaining to be acquired.
Implementation
Operations and maintenance

Project Schedule:
Start Date: 1982
Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2007	**Total**
Federal	799	
State*	19,206.367	
Tribal		
Local		
Other		
Total	**20,005.367**	**20,005.367**

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*
*** A portion of the acres and costs on this project sheet overlap with Project ID 1300 in Goal 1. The Adjusted total compensates for this overlap by allocating the appropriate costs to this project.*

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Land Acquisition
Project Name: **Lake Walk-in-Water Land Acquisition**
Project ID: 2130
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 4,009 Acres

Project Synopsis: The Lake Walk-in-Water project covers land between the northeast shore of lake Weohyakapka (Walk-in-Water) and SR60. The retirement communities of Nalcrest and Fedhaven border the property to the west and the community of Indian Lake Estates lies to the south. The project has extensive frontage along SR60 and Lake Water-in-Water and contains a large expanse of dry prairie, interspersed with small, isolated depression marshes a very large basin marsh along the highway, and large pine stands that have grown back since being logged in the 1920s. In 1999, the District and Polk County partnered to make the initial 4,000 acre purchase. The project is historically significant Town of Sumica. Polk County actively manages the property with financial assistance from the District. The total project acreage is 4,009 acres and all have been acquired. **This project has been completed.**

Cost: SFWMD does not make cost projections on SOR projects

Project Schedule:
Start Date: 1995
Finish Date: 1999

Detailed Project Budget Information (1000s)

	Thru 1999	**Total**
Federal		
State	$1,975	$1,975
Tribal		
Local	$1,975	$1,975
Other		
Total	**$3,950**	**3,950**

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson

Program Name: Land Acquisition
Project Name: **Loxahatchee River Land Acquisition**
Project ID: 2131
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural Habitat and Species

Measurable Output(s): Target 1,915 Acres

Project Synopsis: This 1,915-acre project connects to the southern end of Jonathan Dickinson State Park, and contains lands in Palm Beach and Martin Counties. The project includes the historic floodplain of the Northwest Fork of the Loxahatchee River, a National Wild and Scenic River.

The purpose of this project is to protect the outstanding natural and cultural values of Florida's first federally designated Wild and Scenic River. Public ownership of this property will prevent direct disruption of surface and groundwater flows to the northwest Fork, and increase minimum flows to the Loxahatchee River, which will affect downstream movement of the saltwater wedge during dry conditions. A total of 1,915 acres are in public ownership; the District has acquired 1,547 acres and Palm Beach County owns 367 acres within the project area. **This project has been completed.**

Project is completed.

Cost: Total $19,738,769.

Project Schedule:
Start Date: 1984
Finish Date: 2001

Detailed Project Budget Information ($1000)

	Thru 1999	2000	2001	Balance to Complete	Total
Federal					
State	$11,792.373				$11,792.373
Tribal					
Local	$7,946,396				$7,946,396
Other					
Total	**$19,738,769.**				**$19,738.769**

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson

Program Name: Land Acquisition
Project Name: **Nicodemus Slough Land Acquisition**
Project ID: 2137
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 2,231 Acres

Project Synopsis: Nicodemus Slough consists of wet prairie, broadleaf marsh, and prairie hammock south of the Herbert Hoover Dike (LD-3) and west of State Road 78. Until recently, the construction of the Herbert Hoover Dike, coupled with the maintenance of lower stages in Lake Okeechobee, resulted in a shortened hydroperiod and general lowering of water levels in Nicodemus Slough. This in turn altered vegetative patterns on the property and allowed the spread of transition and upland species. **This project has been completed.**

Cost:	Total	$1,894,501
	Project Development	N/A
	Land Acquisition	$1,894,501
	Implementation N/A	
	Operations and Maintenance	N/A

Project Schedule:
Start Date: 1981
Finish Date: 1988

Detailed Project Budget Information (1000s)

	Thru 1999	2000	2001	Balance to Complete	Total
Federal					
State	$1,894.5				$1,894.5
Tribal					
Local					
Other					
Total	**$1,894.5**				**$1,894.5**

Contact: Wanda Caffie-Simpson
Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: **South Fork St. Lucie River Land Acquisition**
Project ID: 2153
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural Habitat and Species

Measurable Output(s): Target 184 Acres

Project Synopsis: This project includes 184 acres on the western shore of the upper South Fork St. Lucie River. The property begins approximately 0.75 miles south of State Road 76 and extends approximately 1.25 miles southward.

The purpose of this project is to protect the integrity of the river corridor. River water quality is best maintained when river corridor lands remain in their natural state and are restored and managed to enhance the natural community quality. Prescribed fire has successfully been used as the main restoration tool to improve the condition of degraded communities on this property. Responsibility for management of land is divided between the Department of Environmental Protection and Martin County. **This project has been completed.**

Cost:	Total	$2,480,000
	Project Development	N/A
	Land Acquisition	$2,480,000
	Implementation	N/A
	Operations and Maintenance	N/A

Project Schedule:
Start Date: 1995
Finish Date: 1996

Detailed Project Budget Information (1000s)

	Thru 1999	**Total**
Federal		
State	$2,480	$2,480
Tribal		
Local		
Other		
Total	**$2,480**	**$2,480**
Adjusted Total	**0**	

** *A portion of the acres and costs on this project sheet overlap with Project ID 1101 in Goal 1. The Adjusted total compensates for this overlap by allocating the appropriate costs to this project.*

Contact: Wanda Caffie-Simpson
Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: **Tibet-Butler Preserve Land Acquisition**
Project ID: 2157
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural habitat and Species

Measurable Output(s): 439 Acres

Project Synopsis: The Preserve covers 439 acres along the southwest shore of Lake Tibet-Butler in Orange County. The vegetative communities include bay swamp, pine flatwoods, cypress swamp, and smaller areas of xeric oak and freshwater marsh. The Tibet-Butler Preserve site includes approximately 4,000 feet of shoreline on Lake Tibet. Orange County Parks and Recreation Department manages Tibet-Butler Preserve as an environmental education facility. **This project has been completed**.

Cost:	Total	$3,601,900
	Land Acquisition	$3,601,900

Project Schedule:
Start Date: 1988
Finish Date: 1999

Detailed Project Budget Information (1000s)

	Through 1999	**2000**	**Balance to Complete**	**Total**
Federal				
State	$3,601.9			$3,601.9
Tribal				
Local				
Other				
Total	**$3,601.9**			**$3,601.9**

Contact: Wanda Caffie-Simpson

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: **Yamato Scrub**
Project ID: 2161
Lead Agency: FDEP
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 217 Acres

Project Synopsis: Predominantly natural communities here are sand pine scrub and scrubby flatwoods. The species richness of the scrub is considered higher than that of any other scrub on the southeast coast. A bargain shared project. **This project has been completed.**

Cost: Project size 217 acres all acquired
Land Acquisition: 217 acres acquired at a cost of $25,932,850

Project Schedule:
Start Date: 1992
Finish Date: 1996

Detailed Project Budget Information (1000)

	Thru 1999	**2000**	**2001**	**Balance to complete**	**Total**
Federal					
State	17,500				17,500
Tribal					
Local	8,432.8				8,432.8
Other					
Total	**25,932.8**				**25,932.8**

Contact: Sheryl Boutin, Sheryl.Boutin@dep.state.fl.us

Program Name: Invasive Exotic Species Management
Project Name: **Estero Bay Aquatic Preserve and Buffer Enhancement and Exotic Removal Project**
Project ID: 2604
Lead Agency: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Authority: Chapter 403, Florida Statutes

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Acres of exotic plants removed

Project Synopsis:
I. Melaleuca removal: Treatment, removal, monitoring and follow-up treatment of 708 acres of Melaleuca within the 10,405 acre Estero Bay Preserve State Park – **PROJECT COMPLETED**

II. Dog Key Exotic Removal: Treatment, removal, monitoring and follow-up treatment of exotic vegetation on Dog Key, a 24 acre island within the Estero Bay Aquatic Preserve and part of the Estero Bay State Buffer Preserve with documented Calusa Indian middens/mounds – **PROJECT COMPLETED**

Cost: Total: $1.05 million

Project Development:
I. Melaleuca Removal – The initial aerial treatment of 708 acres of melaleuca was completed through funding by the Bureau of Invasive Plant Management (BIPM) at a cost of approximately $100,000.00. Only the heavily infested monoculture areas were treated, leaving untreated buffers around native plant communities. It will be necessary to hand treat these buffer areas and any unsuccessful initial treatment areas. It is anticipated that $600,000.00 will be needed for this work. Monitoring and follow-up treatment of this large-scale treatment still needs funding. Smoke from a prescribed fire within these treatment areas (dead) would be a major problem in the Estero development area so actual removal of dead or live trees off site would be preferable. In this case, costs could exceed the $600,000.00 figure.

Implementation:
I - initial treatment completed in 2001. On the ground treatment of the buffer areas (edges of the treated areas) and any unsuccessful treatment areas should also occur toward the end of 2001 or beginning of 2002. Monitoring and follow-up treatment to continue through 2004 at an estimated cost of $300,000.00.
Operations and maintenance: Total =2,852 acres treated at a cost $1,129,214
Estimated at $40,000.00 through 2004.

Project Schedule:
Start Date: 1998
Finish Date: 2004

Detailed Project Budget Information (1000s)

	Thru 2003	2004	2005	Balance to complete	Total
Federal					
State	$538.5	$28.6	$20.5		
Tribal					
Local					
Other					
Total	**$538.5**	**$28.6**	**$20.5**		**$587.6**

Program Name: Invasive Exotic Species Management
Project Name: **Melaleuca Quarantine Facility**
Project ID: 2701
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
(here for reference only)
Authority: ARS
Funding Source: DOI and DOA

Strategic Plan Goal(s) Addressed: 2-B.3

Measurable Output(s): Number Biological Agents Approved. Biological control agents for effectively reversing and halting the effects of non-native species on the South Florida habitat.

Project History: *Melaleuca quinquenervia* (Melaleuca) is an invasive, exotic tree that has proliferated in Florida for approximately 100 years and now occupies more than 400,000 acres of wetland, riparian and, to a lesser degree, agricultural, systems in the state. Melaleuca is competitively superior to most, if not all, native plants and rangeland grasses, with infestations resulting in degradation of native wildlife habitats and waterways, including portions of the Everglades National Park, and of the limited grazing lands in South Florida. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of non-native species on the South Florida habitat.

Project Synopsis: This project consisted of constructing a quarantine facility to enable the testing of candidate organisms for biological control and reversal of the spread of exotic plant species. Construction of the quarantine facility was completed after receiving an additional contribution of about $500K by USDA-ARS and $400,000 from the South Florida Water Management District. USDA took occupancy of the facility on 19 Jan 2005. It opened March 2005 and was dedicated April 8, 2005. Minor checklist items were finished up at that time. Design problems and shoddy construction by the contractor of critical subsystems are hampered full use of the quarantine areas, but funding for needed repairs had not been identified. Due to a lack of Operations & Maintenance funding, full staffing could not be achieved ($350,000/yr .estimated need).

Current Status: **COMPLETED 2005**

Cost: $ 7,100,000
Project Schedule:
1997 Start
2003 Finish

Detailed Project Budget Information (rounded):

Melaleuca Quarantine	Total Expenditures
Federal	$6,700,000
State	$400,000
Total	**$7,100,000**

Hyperlink: http://www.ars.usda.gov/is/pr/2005/050408.2.htm

Contact: Ted Center

Program Name: Infrastructure
Project Name: **E&SF: Critical Projects - Florida Keys Carrying Capacity**
Project ID: 4100
Lead Agency: USACE / FDCA
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Report

Project History: The carrying capacity study/analysis will develop information that will improve decision-making regarding development approvals and infrastructure investments, and its impact on the ecology and natural system in the Florida Keys and Florida Bay.

Project Synopsis: The development of a decision-making tool will provide a comprehensive basis for coordinating and strengthening water and land related planning efforts by local, state and federal agencies. The Study was completed March 2003.

Current Status: **COMPLETED 2003**

Est. Cost: $ 6,000,000

Project Schedule:

1997	Start
2003	Completed

Detailed Project Budget Information (rounded)

Florida Keys Carrying Capacity	**Expenditures Thru FY2005**
USACE	$2,993,067
FDCA	$1,500,000
Total	**$4,493,067**

Hyperlink: http://www.saj.usace.army.mil/projects/proj4.htm

Contact: Karen Tippett, Program Execution Branch Chief
Karen.S.Tippett@usace.army.mil

Closed Projects

blnk

Program Name: Restoration Program: Hydrology and Water Quality
Project Name: **Taylor Creek Reservoir –- The SFWMD is implementing as part of Northern Everglades Project**
Project ID: 1112
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1.A.1 **Secondary:** 1.B.1

Measurable Output(s): 32,000 acre ft of storage; 3-5 metric tons of phosphorus reduction

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative, which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The plan identifies five construction projects north of Lake Okeechobee, including the Taylor Creek Reservoir, as expedited projects. The Taylor Creek Reservoir project involves construction of a 4,000-acre reservoir in Taylor Creek, which will provide approximately 32,000 acre feet of storage and 3-5 metric tons of phosphorus reduction.

Total Estimated Project Cost: $TBD

Project Schedule:
Start Date: TBD
Finish Date: Project canceled.

Detailed Project Budget Information

	2006	2007	2008	2009	2010	2011	Total
State SFWMD	$1,959,622	$1,707,691	$18,192	$0	$0	$0	$3,685,505

Hyperlink: N/A
Contact: Pinar Balci, SFWMD

Program Name: Restoration Program: Hydrology
Project Name: **Permanent Forward Pumps – Expedited Project** –The SFWMD is implementing as part of Northern Everglades Project
Project ID: 1436
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: State Funds

Strategic Plan Goal(s) Addressed: Other (Hydrology)

Measurable Output(s): Forward pumps to provide water supply

Project Synopsis: The USACE has initiated a process for revising the Lake Okeechobee regulation schedule. The new regulation schedule is expected to result in lower lake levels, which have the potential to affect water supply. This potential exists because constraints occur on gravity water supply releases when the Lake reaches 10.5 ft NGVD or less. Therefore, forward pumps are being designed to provide water supply deliveries when lake levels are between 10.5-7.5 ft NGVD.

Cost:
Total $135,000,000

Current Status: This project has been cancelled.

Start Date: January 2006
Finish Date: June 2010

Detailed Project Budget Information

	2006	2007	2008	2009	2010	Balance to complete	Total
State SFWMD	1,000,000	1,200,000	10,000,000	60,000,000	63,000,000	133,000,000	135,000,000

Hyperlink: N/A
Contact: Joseph Albers

Program Name: Management
Project name: **Floridan Aquifer Restoration**
Project ID: 1707
Lead Agency: USDA - NRCS
Authority: PL-46

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Reduced Aquifer Contamination

Project Synopsis: Saline aquifer water will cause well casings to corrode and eventually leak causing cross aquifer contamination caused by artesian flow from the Floridan. This project seeks to permanently decommission irrigation wells via plugging in St. Lucie County in order to reduce saline water from the Floridan Aquifer by leaking well casings transferring groundwater into the surficial aquifer used for drinking. This project has been put on hold due to a lack of funding.

Cost:
Total:
$900,000
Project Development
Land Acquisition
Implementation $900,000
Operations and maintenance:

Project Schedule:
Start Date: 2002
Finish Date: TBD

Detailed Project Budget Information ($1000s)

	Thru 2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
Federal	$50	$100	$100					$250
State	$150	$150	$150					$450
Tribal								
Local								
Other	$100	$50	$50					$200
Total	**$300**	**$300**	**$300**					**$900**

Hyperlink: N/A
Contact: Donna Smith –USDA – NRCS

Project Name: **C&SF: CERP Strazzulla Wetlands (OPE)**
Project ID: 2300 (CERP Project WBS # 39)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Federal/DOI (WRDA 2000)/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): An increase of 3,335 acres of habitat extent and connectivity

April 1999 (Restudy) Project Synopsis: Water control structures and the acquisition of 3,335 acres located in Palm Beach County. Expanding wetlands will act as a buffer between higher water stages to the west and lands to the east that must be drained.

Current Project Synopsis: The purpose of this feature is to provide a hydrological and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide habitat connectivity for species that require large un-fragmented tracts of land for survival.

WRDA 2000 dictated that the Federal share for land acquisition in the Loxahatchee National Wildlife Refuge, including the Strazzulla tract, should be funded through the budget of the Department of the Interior. The project adheres to the original concept outlined in the Restudy.

Current Status: The project has been suspended due to the potential of the project to impact lands having a significant amount of cultural resources.

Est. Cost: $ 67,390,000

Project Schedule: **Project CLOSED**

Detailed Project Budget Information (rounded):

Strazzulla Wetlands	**Expenditures Thru FY 2009**
USACE	$355,035
SFWMD	$142,831
Total	$497,866

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_39_strazzulla.cfm

Contact: Jeff Couch, Okeechobee Section Chief, Everglades Division, USACE
Jeffery.D.Couch@usace.army.mil

Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999).* Cost estimate information is updated to reflect current price levels in October 2009 dollars. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07.

Project Name: **C&SF: CERP Winsberg Farm Wetlands Restoration (OPE)**
Project ID: 2301
Lead Agency: USACE / Palm Beach County's Water Utilities District (PBCWUD)
Authority: WRDA 2000 *(Programmatic Authority < $25 M)*
Funding Source: Federal/County

Strategic Plan Goal(s) Addressed: Primary: 2-A.3

Measurable Output(s): 114 acres of improved wetlands

April 1999 (Restudy) Project Synopsis: The Winsberg Farm wetlands project was included in the Restudy as an "Other Project Element". Projects in the "Other Project Element" category were determined to be consistent with Restudy planning objectives and have a Federal interest, but were too small in scale to evaluate from a system-wide perspective. The original concept for this feature includes the construction of a 175-acre wetland east of Loxahatchee Wildlife Preserve in Palm Beach County using water that would normally be lost to deep well injection or any future beneficial use.

Current Project Synopsis: The project involves restoration of approximately 114 acres of wetlands on former agricultural lands. Wetlands would reduce the amount of treated wastewater coming from the Palm Beach County's Water Utilities District (PBCWUD) Southern Region Water Reclamation Facility (SRWRF) lost to deep injection wells by further treating and recycling the water. Treated wastewater will instead be reused to recharge the local aquifer system, create a new ecologically significant wildlife habitat and extend the function of the nearby Wakodahatchee Wetland. The initial configuration would include a Phase 1 design and construction with approximately 72 acres of wetlands created in the western half of the project. The remaining 42 acres of the project on the eastern half , considered Phase 2, would work similarly. As a result of the 2003 real estate purchase agreement (175 acres) between PBCWUD, the non-federal sponsor and the Winsberg family, PBCWUD completed construction of Phase 1 in 2004. This included 72 acres of wetlands, plus a parking lot, visitor center, and recreational access features and was completed without Federal funds. The local sponsor refers to this portion of the project as "Green Cay Wetlands".

The 2005 Tentatively Selected Plan (TSP), presented at AFB, was configured assuming constant inflow of water to maintain continuous inundation. Refinements during the formulation process provide for the project to be located on approximately 165 acres of farmland just east of the Southern Region Water Reclamation Facility (SRWRF). Approximately 114 of the 165 acres would be hydrated using treated wastewater from the SRWRF resulting in the creation of a wetland system approximately three times the size of the adjacent Wakodahatchee Wetlands, and its location and proximity would leverage the recently created ecosystem restoration benefits by expanding the constructed wetland into an integrated system having even greater regional significance. Water levels will be allowed to fluctuate seasonally, within a 1- to 2-foot range throughout the entire project, in response to the natural seasonal variation of rainfall. This variation in the depth of project hydration will influence the growth and distribution of various plant species within the wetland area.

Effluent enters the site from the western half of the project (Phase 1). To circulate flow throughout the project, several control structures and pumps would be integrated in various locations and can be operated to allow flow in three ways:

1. To the eastern half of the project (Phase 2), or
2. Circulate flow in the eastern half of the project by a 15-hp recirculation pump, or
3. Send flow to deep well injection by a 250-hp discharge pump in the event pool elevations rise beyond a set point due to direct rainfall.

A draft PIR was completed in February 2008 and released for public and agency comment. The draft report recommended credit for PBCWUD's share of the project, and was submitted to the Secretary of the Army to authorize Federal funds to construct the Phase 2 portion of the project (approximately 42 acres to be constructed to the same design elevations as Phase 1).

Current Status: During summer 2008, the sponsor declined to continue support of the project; in part based on the requirement made to revise embankment heights to the new Federal standards and the need to remove landscaping on sections of the Phase 1 embankment that otherwise sacrifices its structural integrity. Such a removal was also viewed as potentially impacting existing habitats or disrupting to public recreational use. Project close out was announced by Public Notice in 2009. CLOSED OUT 2009.

Est. Cost: $ 16,736,000

Project Schedule:

2009 Discontinued; **CLOSED OUT**.

Detailed Project Budget Information (rounded):

Winsberg Farms Restoration	**Expenditures Thru FY 2009**
USACE	$1,855,670
PBCUD	$1,978,110
Total	**$3,833,780**

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_91_winsberg.cfm

Contact: Kim Vitek, Project Manager, Everglades Division, USACE
Kimberly.A. Vitek@usace.army.mil

Source: Original project description summarized from the Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999). Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor expenditures on design.

Project Name: **C&SF: S-169/Nine Mile Canal Basin**
Project ID: 2311
Lead Agency: USACE / SFWMD
Authority: Central and Southern Florida Project; Section 203 Flood Control Act (1948)
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): Improved structures

Current Project Synopsis: The S-169 project, located in Hendry County, was to include enlarging culverts, an access bridge, converting 5 flap-gates telemetric-controlled gates, stabilizing canal banks, replacing two pump stations and installing a manatee protection barrier. This effort was related to high water stages of HHD that required operational discharges and an effort to moderate discharges to an industrial canal used for agricultural purposes.

A draft General Reevaluation Report/EA (2005) was completed, but was discontinued. The study phase was also completed.

Current Status: A determination was made that the project had "no further Federal interest". The project has been 'closed out'.

Est. Cost: $ 13,600,000 (*for the original project (Oct 2007 dollars)*

Project Schedule:

2001	Start
2009	Discontinued; Closeout completed.

Detailed Project Budget Information (rounded):

S-169/Nine Mile	**Expenditures Thru 2008**
USACE	$1,200,000
SFWMD	$0
Total	**$1,200,000**

Hyperlink:
http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/DOCS/OnLine/Hendry/CSFlaFloodCtrl/ACOE60038_S-169-CDversion.pdf

Contact: Eunice Ford, Project Manager, USACE
Eunice.Ford@usace.army.mil

Dewey Worth, Project Manager, SFWMD
dworth@sfwmd.gov

Source: Original project description is summarized from the *DRAFT General Reevaluation Report and Environmental Assessment (2005).* Initial cost estimate was based on the GRR description and was last calculated for inflation in October 2007 dollars.

Additional Information: