

EVERGLADES AGRICULTURAL AREA  
A-1 SHALLOW FLOW EQUALIZATION BASIN

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**Final Environmental Impact Statement**

**U.S. Army Corps of Engineers  
Jacksonville District**

July 2013

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## EVERGLADES AGRICULTURAL AREA SHALLOW FLOW EQUALIZATION BASIN

### FINAL ENVIRONMENTAL IMPACT STATEMENT

**Responsible Agency:** The lead agency is the U.S. Army Corps of Engineers, Jacksonville District. Cooperating Agencies include the U.S. Department of Interior and the U.S. Environmental Protection Agency.

**Abstract:** The South Florida Water Management District (SFWMD) proposes to construct and operate a Shallow Flow Equalization Basin (FEB) in Palm Beach County, Florida. The Shallow FEB is an above-ground 60,000 acre-foot impoundment with a maximum operating depth of 4 feet. The Shallow FEB would be constructed on 16,517.9 acres of land situated north of Stormwater Treatment Area (STA) 3/4 and between the Miami and North New River Canals in the Everglades Agricultural Area (EAA). As proposed, construction of the Shallow FEB would place fill within 280.1 acres of freshwater marsh wetlands to construct levees, place fill within 112.8 acres of canals to create appropriate wetland elevations, and excavate 43.0 acres of freshwater marsh wetlands to create canals and ditches. Operation of the Shallow FEB would inundate 10,820.3 acres of jurisdictional wetlands and 1,214.7 acres of uplands to create an emergent marsh habitat. The SFWMD is required to obtain a Department of the Army permit pursuant to Section 404 of the Clean Water Act. This Final Environmental Impact Statement evaluates the environmental effects of four (4) alternatives: the No Action Alternative, the SFWMD's Preferred Alternative (the Shallow FEB), a deep FEB Alternative, and a Stormwater Treatment Area Alternative. The overall project purpose, as defined by the USACE, is to achieve the Water Quality Based Effluent Limit at the STA 2 and STA 3/4 discharge points in the Central Flowpath of the Everglades Protection Area. To achieve this, the Shallow FEB project would retain and deliver water at improved timing to the STAs so that the STAs perform at a more optimized efficiency.

THE OFFICIAL CLOSING DATE FOR THE RECEIPT OF COMMENT IS 30 DAYS FROM THE DATE ON WHICH THE NOTICE OF AVAILABILITY OF THIS FINAL EIS APPEARS IN THE FEDERAL REGISTER

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# **EXECUTIVE SUMMARY**

## **FINAL ENVIRONMENTAL IMPACT STATEMENT**

### **EVERGLADES AGRICULTURAL AREA A-1 SHALLOW FLOW EQUALIZATION BASIN IN PALM BEACH COUNTY, FLORIDA**

#### **A. BACKGROUND**

The South Florida Water Management District (SFWMD) is requesting regulatory authorization from the United States Army Corps of Engineers (USACE), in the form of a Department of the Army (DA) permit pursuant to Section 404 of the Clean Water Act, to construct a Shallow Flow Equalization Basin (FEB) on the A-1 project site in the Everglades Agricultural Area (EAA). The A-1 project site is approximately 16,517.9 acres and bordered to the east by US Highway 27, to the south by Stormwater Treatment Area (STA) 3/4, to the west by an area known as the Holey Land Wildlife Management Area (Holey Land) and to the north by agricultural lands.

The Shallow FEB is designed to improve the phosphorus treatment performance in STAs 2 and 3/4 by retaining and then delivering water to the STAs with improved flow and timing, which is expected to increase the effectiveness of phosphorus treatment in the STAs prior to discharge in the Everglades Protection Area (EPA). Since the A-1 Site was purchased with Farm Bill Funds, the SFWMD will request approval for a land use change from the United States Department of the Interior (DOI)/U.S. Fish and Wildlife Service (USFWS).

#### **B. NEED FOR PROPOSED ACTION**

The SFWMD is required to meet a numeric discharge limit, referred to as the Water Quality Based Effluent Limit (WQBEL) that is contained in the National Pollutant Discharge Elimination System (NPDES) permit for discharges from the STAs into the EPA. The WQBEL was developed to assure that such discharges do not cause or contribute to exceedances of the 10 parts per billion (ppb) total phosphorus (TP) criterion (expressed as a long-term geometric mean [LTGM]) established under 62-302.540, Florida Administrative Code (F.A.C.) (SFWMD – Final Technical Support Document for the WQBEL 2012). The TP criterion is measured at a network of stations across the EPA marsh and is intended to prevent imbalances of aquatic flora and fauna. The WQBEL is measured at the discharge points from each STA and requires that the total phosphorus concentration in STA discharges shall not exceed: 1) 13 ppb as an annual flow-weighted mean in more than three out of five water years on a rolling basis; and 2) 19 ppb as an annual flow-weighted mean in any water year. Excess phosphorus discharged into the EPA has caused ecological impacts within the Everglades.

Although phosphorus levels in the discharges from STA 2 and STA 3/4 have been reduced during the years that these STAs have been operating, STA discharges have not consistently achieved the phosphorus concentrations described in the WQBEL that was established in 2012. As a result of technical discussions in early 2010, the SFWMD, Florida Department of Environmental Protection (FDEP), and the U.S. Environmental Protection Agency (USEPA) developed a plan to ensure that discharges into the EPA do not cause or contribute to exceedances of the State of Florida's 10 ppb TP numeric phosphorus criterion entering into the EPA. The above agencies identified a suite of water quality projects that would work in conjunction with the existing Everglades STAs to meet the WQBEL at the discharge points from the STAs. As a result of these technical discussions, on September 10, 2012, FDEP issued NPDES and Everglades Forever Act (EFA) permits for the existing Everglades STAs and consent orders establishing the WQBEL and the suite of water quality improvement projects to be constructed. The Shallow FEB at the A-1 project site is the project proposed by the SFWMD to achieve the WQBEL within the Central Flowpath of the EPA.

The SFWMD is proposing to meet the WQBEL in flows from STA 2 and STA 3/4 by using a shallow FEB at the A-1 project site to temporarily store excess water from within the central EAA, collected by the North New River and Miami Canals. This water is then delivered from the Shallow FEB to STA 2 (including Compartment B) and STA 3/4 at an improved rate. By managing basin runoff in the Central Flowpath in a more advantageous manner, the impacts of storm driven events would be reduced for STA 2 and STA 3/4. The proposed projects will also improve operations of the STAs in the dry season by providing water during the periods of drought and low water conditions. Attenuating and managing excess water flows in the Central Flowpath is intended to enhance operations and improve phosphorus treatment performance in STA 2 and STA 3/4 so that these STA discharges meet the WQBEL.

The goals and objectives are to assist STA 2 and 3/4 in achieving the WQBEL at the STA discharge points in three ways:

1. Attenuate peak water flows and temporarily store runoff from the central EAA, thereby minimizing the discharge of untreated water into the EPA,
2. Improve inflow delivery rates to STA 2 and STA 3/4, thereby providing enhanced operation and phosphorus treatment performance, and
3. Assist in maintaining minimum water levels and reducing the frequency of dryout conditions within STA 2 and STA 3/4, which will sustain phosphorus treatment performance.

The overall project purpose, as defined by the USACE, is to achieve the WQBEL at the STA 2 and STA 3/4 discharge points into the Central Flowpath of the EPA. The project construction completion milestone is July 2016 as established in the Consent Order (OGC #12-1148).

### **C. SCOPE OF ANALYSIS**

The USACE determined that the scope of this Final Environmental Impact Statement (EIS) includes the A-1 project site, the STAs that the proposed project would assist (STAs 2 and 3/4), the Everglades Water Conservation Areas that receive the STAs discharges (WCA 2A and 3A), and the Holey Land. The A-1 project site was originally purchased using Department of the Interior's (DOI) Farm Bill funds for the Comprehensive Everglades Restoration Plan EAA A-1 Storage Reservoir project and is subject to land use restrictions; therefore, the land use of the site is a major component of the scope of analysis. The EAA was historically Everglades wetlands, which has now been ditched and drained. Much of the EAA canal system, including the extensive network of ditches and canals along the perimeter of the site, is considered to be "navigable waters of the United States" under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act. The lands within the A-1 project site have been previously farmed. However, the lands were taken out of agricultural use and the wetland hydrology, hydric plants, and hydric soils have returned. Therefore, the USACE's regulatory jurisdiction under Section 404 of the Clean Water Act includes the project site as well as wetlands and aquatic resources that will be affected as a result of the project. A number of federally listed species utilize the project site as well as other natural areas that will be affected by the project. Taking these factors into consideration, the proposed project is subject to substantial federal control and responsibility and the scope of analysis is extended over the entire site.

### **D. ALTERNATIVES CONSIDERED**

This Final EIS evaluates construction of the applicant's (SFWMD) preferred alternative, which is a Shallow FEB on the A-1 project site. The USACE will analyze a range of alternatives to determine if the applicant's preferred alternative is the least environmentally damaging practicable alternative, and if the applicant's preferred alternative is not contrary to the public's interest. The range of alternatives considered in this EIS include the No Action Alternative, the Applicant's Preferred Alternative (Shallow FEB), a Deep FEB, and an STA. The potential effects of the Alternatives would largely be a function of the manner in, and degree to which, the Alternative features are used in the context of other regional water management infrastructure and system operations made possible by the presence of the enhanced water management options and phosphorus treatment performance. The No Action Alternative and Alternatives 2 (Shallow FEB), 3 (Deep FEB), and 4 (STA) are presented to compare the differences in regional water management infrastructure to effectively meet the project purpose.

## **E. DESCRIPTION OF ACTION ALTERNATIVES**

### **Alternative 2 (Shallow FEB)**

Alternative 2 is a 15,000-acre Shallow FEB, with a maximum operating depth of approximately 4 feet, and is SFWMD's Preferred Alternative to be evaluated in this EIS. The Shallow FEB was assumed to include the following components, at a minimum:

- Perimeter Levees around the FEB (> 20 miles; 8-10 feet levee heights for 4 feet maximum operating depth)
- Interior levees to convey inflows to the north end of the FEB (8.7+/- miles)
- Internal collection canal to assist in conveying water out of the FEB
- Operable water control structures to control FEB water levels and flows into and out of the FEB
- Seepage canal and pump station(s) to collect FEB seepage and return to FEB/STA-3/4
- Degradation of portions of major agriculture roads
- Demolition of the existing test cells
- Demolition of the existing Talisman and Cabassa pump stations

The majority of the Shallow FEB outflows (approximately 80%) will be directed to STA 3/4 for treatment while the remaining flows (approximately 20%) will be conveyed to STA 2 (including Compartment B) via the G-434 and G-435 pump stations.

### **Alternative 3 (Deep FEB)**

Alternative 3 is a 15,000-acre Deep FEB, with a maximum operating depth of approximately 12.5 feet. Alternative 3 was assumed to include the following components, at a minimum:

- Perimeter Levees around the FEB (> 20 miles; 20-30 feet levee heights for a maximum operating depth of 12.5 feet)
- Inflow Pump Station to direct North New River Canal flows into the FEB to the maximum operating depth of 12.5 feet
- Internal collection canal to assist in conveying water out of the FEB
- Operable water control structures to control FEB water levels and flows into and out of the FEB
- A cutoff wall to minimize or eliminate seepage impacts to adjacent areas
- Seepage canal and pump station(s) to collect FEB seepage and return to FEB/STA 3/4
- Degradation of portions of major agriculture roads
- Demolition of the existing test cells
- Demolition of the existing Talisman and Cabassa pump stations

The majority of the Deep FEB outflows (approximately 60%) will be will be directed to STA 3/4 for treatment while the remaining flows (approximately 40%) will be conveyed to STA 2 (including Compartment B) via the G-434 and G-435 pump stations.

#### **Alternative 4 (STA)**

Alternative 4 is a 15,000-acre STA, with a maximum operating depth of approximately 4 feet. The proposed STA would have a normal operating depth of approximately 1.25 – 1.5 feet and a maximum operating depth of approximately 4 feet. Alternative 4 would operate in parallel with STA 2 and STA 3/4. Alternative 4 was assumed to include the following components, at a minimum:

- Perimeter Levees around the STA (> 20 miles; 8-10 feet levee height for 4 feet maximum operating depth)
- Interior levees dividing the STA into cells
- Inflow canals to direct inflows from the North New River and Miami Canals to the STA
- Discharge canal to direct outflows from the STA to the L-5 Canal
- Internal distribution canals to facilitate sheetflow through the cells
- Internal collection canals to assist in conveying water out of the cells
- Seepage canal and pump station(s) to collect STA seepage and return to STA
- Operable water control structures to control water levels and flows into and out of all STA cells

In order to operate the new STA, construction of conveyance features in addition to construction of the STA itself will be required. Specifically, a discharge canal would need to be constructed within the Holey Land to connect the STA discharge canal to the L-5 Canal. This would enable the delivery of discharges with low phosphorus from the proposed STA to WCA 2A and/or WCA 3A via existing infrastructure, without interfering with the existing operations of STA 2, STA 3/4 and the North New River and Miami Canals.

## **F. SUMMARY OF ENVIRONMENTAL EFFECTS**

The effects of the alternatives on the environment were evaluated. Many of the environmental effects were similar between Alternatives 2, 3, and 4. However, changes to the affected environment are seen in land use, soils/total phosphorus removal, surface water, water quality, and wetland impacts as a result of the Alternatives and discussed further in Section 4.22. For Table 4-16 below, a “+” is a positive effect, a “0” is a neutral effect, while a “-” is a negative effect.

**Table 4-16** Summary of Environmental Effects

	No Action	Shallow FEB		Deep FEB		STA	
Land Use on A-1 project site	Project would not require land use change from USFWS/DOI	+	Requires verification from USFWS/DOI for land use change	+	Requires verification from USFWS/DOI for land use change	+	Requires verification from USFWS/DOI for land use change
Geology		-	Some removal of cap rock	-	Some removal cap rock	-	blasting cap rock
Topography		0	10 foot levees	0	25 foot levees	0	10 foot levees
Soils							
A-1 project site		+	Soils remain hydric in shallow water depths	-	Deep water depths result in less organic debris and nutrients	+	Soils remain hydric in shallow water depths
TP removal	- no reduction in TP concentrations in soil	+	Benefit soils in WCAs 2A and 3A by reducing TP concentration in soils	+	Benefit soils in WCAs 2A and 3A by reducing TP concentration in soils	+	Benefit soils in WCAs 2A and 3A by reducing TP concentration in soils
Water							
Hydroperiod		0	WCA 2A 17 days per year longer hydroperiod; in 600 acres (0.6% of total area) WCA 3A 14-30 days per year shorter hydroperiod in 11,000 acres (2.2% of total area)	0	WCA 2A 15-18 days per year longer hydroperiod in 3,000 acres (3.1% of the area); WCA 3A 14-30 days shorter hydroperiod in 1,000 acres (0.2% of the area)	0	WCA 2A 13,000 ac-ft per year less flow with no change in ponding and hydroperiod; WCA 3A 28,000 ac-ft per year less flow with no change in ponding and hydroperiod
Ground water	0	0	No changes	0	No changes	0	No changes
Water Quality	- does not meet WQBEL	+	Meets WQBEL	+	Meets WQBEL	+	Meets WQBEL

Vegetation							
Type		+	EAV	0	FAV	+	SAV and EAV
Wetland impacts (acres)		+	323.1	-	533.6	-	603.6 (353.6 onsite and 250 acre at Holey Land)
Fish and Wildlife							
Federally listed T&E		0	Requires BO for eastern indigo snake	0	Requires BO for eastern indigo snake	0	Requires BO for eastern indigo snake
State listed T&E		0	No adverse effects	0	No adverse effects	0	No adverse effects
Migratory Birds		0	no Avian Protection Plan required	0	No Avian Protection Plan required	0	Avian Protection Plan implemented
Other Issues							
Cultural Historic and archeological resources	No impacts	0	No impacts	0	No impacts	0	No impacts
Tribal rights		0	No change in water supply	0	No change in water supply	0	No change in water supply
Recreational Resources	No resources on project site	+	Recreational plan would be developed on project site	+	Recreational plan would be developed on the project site	+	Recreational plan would be developed on project site
Aesthetics		0	Negligible change from existing conditions	0	Negligible change from existing conditions	0	Negligible change from existing conditions
Flood protection		0	No adverse impacts. Is able to meet flood protection	+	No adverse impacts. Is able to meet flood protection	0	No adverse impacts. Is able to meet flood protection
Hazardous and toxic waste		0	No impact	0	No impact	0	No impact
Climate	No impact	0	No impact	0	No impact	0	No impact
Cost		+	\$60,000,000 cost the least	-	\$493,000,000 (costs the	-	\$288,000,000

			of the action alternatives		most of the action alternatives		
Environmental Justice	No impacts	0	No impacts	0	No impacts	0	No impacts
Natural or Depletable resources	Increased agricultural or mining	+	No mining or agriculture	+	No agriculture or mining	+	No agriculture or mining

The evaluation of environmental impacts indicates that among the alternatives that are projected to meet the WQBEL at both STAs, the SFWMD's Preferred Alternative (the shallow FEB) is the least expensive and also has the lowest wetland impact. The changes in hydroperiod in the downstream Everglades (WCA 2A and WCA 3A) in each of the Action Alternatives is negligible.

**G. AREAS OF POTENTIAL CONTROVERSY**

This project is being developed with input and consensus from federal and state agencies, local agencies and the public. There is currently ongoing coordination with the Seminole Tribe of Florida, Miccosukee Tribe of Indians of Florida, USFWS, DOI, USEPA, Florida Fish and Wildlife Conservation Commission (FFWCC), and Florida Department of Environmental Protection (FDEP) to address concerns regarding impacts such as wetlands, water quality, flood protection, wildlife and habitat, and threatened and endangered species. Numerous meetings have occurred with the various agencies and the public in the context of identifying areas of potential controversy and resolving or mitigating for those concerns. Through the coordination process and meetings with the agencies, all areas of potential controversy, in particular the compensatory mitigation, have been resolved.

**H. LIST OF OTHER GOVERNMENT ACTIONS REQUIRED**

The SFWMD shall be responsible for obtaining federal, state and local permits, licenses and meet other consultation requirements for the proposed project, as described in this section and Chapter 8 of the main report.

The USACE's permitting decision is required to comply with many federal requirements including the National Environmental Policy Act (NEPA), Clean Water Act (CWA), Endangered Species Act (ESA), Rivers and Harbors Act, Coastal Zone Management Act (CZMA), Fish and Wildlife Coordination Act of 1958, and the National Historic Preservation Act. The USACE will consider other relevant environmental laws as well as protection of wetlands, floodplain management, environmental justice, and invasive/exotic species.

State requirements that will need to be satisfied for this project include an Everglades Forever Act (EFA) permit for construction and operation of the FEB. A consumptive use/water use permit will also need to be obtained for any construction dewatering prior to dewatering activities. In addition, a National Pollution Discharge Elimination System (NPDES) Permits (Notice of Intent to use Generic Permit for stormwater discharges from large and small construction activities) would also need to be obtained prior to start of construction. The Florida Department of Environmental Protection (FDEP) is currently processing a permit application from the SFWMD for the Shallow FEB under file number 0313994-001.

Local permitting authority for the proposed EAA A-1 Shallow FEB project resides with several county Departments and Divisions. Primary coordination of local permit review will be administered by Palm Beach County's Planning, Zoning and Building (PZB) Division.

The SFWMD will be required to obtain approval from the USFWS/DOI for a land use change on the A-1 project site.

The USACE made a determination that the SFWMD's proposed Shallow FEB project may affect, but is not likely to adversely affect the Audubon's crested caracara, the Florida panther, the Everglade snail kite, and the wood stork; and may adversely affect the eastern indigo snake. The USACE is currently in formal consultation with the USFWS.

## **I. UNRESOLVED ISSUES**

The SFWMD proposes to obtain ecological lift within the boundary of either the Deep FEB or STA for hydrologic and vegetation benefits expected from the additional retained water. The USACE determined that the compensatory mitigation plan of utilizing on-site ecological lift within the Deep FEB or STA alternatives was not possible at this time. The Deep FEB would not be expected to support adequate wetland vegetation due to periods of flooding greater than 4-feet following by periods of drawdown. Based on USEPA's Guiding Principles for Constructed Treatment Wetlands, the STA Alternative would provide compensatory mitigation within a treatment area that the USACE has only utilized past treatment wetlands to offset impacts to agricultural wetlands.. If the Deep FEB or the STA alternative were selected, further discussions would need to occur to develop an appropriate mitigation plan. The USACE does not have any concerns with the mitigation plan for the Shallow FEB. The USACE agrees that the Shallow FEB would provide wetland benefits and the loss of wetland function and value is offset.

The Shallow FEB Alternative would provide significantly more mitigation credit than is needed to offset the impacts from construction. The USACE is evaluating whether it is appropriate to utilize the excess functional capacity units from the Shallow FEB Alternative as compensatory mitigation to offset wetland impacts for future projects. The Shallow FEB will be operated as a

water storage site to enhance the operation of the STAs. The Shallow FEB will accept water during storm events, and supply water to the STA during the dry season. The USACE recognizes that the Shallow FEB would be susceptible to more drastic changes in water elevations and will sacrificially experience dry-out conditions in favor STA 2 and STA 3/4. These changes in hydrology will cause the wetland community to change between marsh wetlands and wet prairie wetlands, with dryer dry periods. The USACE recognizes that this is a great benefit for water quality purposes within the EPA and an improvement to the current site conditions on the project site. However, the effects from changes in hydrology on the wetlands at the project site may not make appropriate mitigation to offset future impacts for other projects, especially if there is dissimilar vegetation or hydroperiod as this would be out of kind. This option would be evaluated on a case by case basis for each future project.

## **J. COMPENSATORY MITIGATION TO OFFSET THE LOSS OF WETLAND FUNCTION AND VALUE**

The compensatory wetland mitigation plan for Alternatives 2 includes hydrologic and vegetation benefits within the footprint of the project. By retaining additional water on the site, it is anticipated that the hydrology and the vegetation community within the footprint of the project would improve from the current condition. In assessing the pre- and post-project conditions of the wetlands with UMAM, the project results in an environmental benefit (or excess credits). The FDEP, the USFWS and the USEPA have agreed upon and finalized the Uniform Mitigation Assessment Method (UMAM) scores, incorporating an appropriate UMAM scores, time lag and risk associated with the Compensatory Mitigation Plan as described in Chapter 5. Therefore, all concerns with the UMAM analysis have been resolved. The SFWMD's Preferred Alternative (Alternative 2) results in a surplus of 1,510.5 credits.

## **K. COORDINATION**

Throughout the evolution of project design alternates, federal and state agencies, county officials, and the public have been kept informed through a scoping meeting, social media, news release, and public notices designed to inform, gather input, and respond to questions regarding the proposed project. The public, government agencies, federally-recognized Native American Tribes, and interested parties are afforded the opportunity to provide input regarding this project by reviewing and commenting on the draft and final EIS. Project information, schedules, documents, and presentations to the public are also kept updated and available on the USACE website: <http://www.saj.usace.army.mil/Missions/Regulatory/ItemsofInterest.aspx>.

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## ACRONYMS

Ac-ft	acre-feet
AD	Amended Determination
BA	Biological Assessment
BAR	Bureau of Archaeological Research
bgs	below ground surface
BMPs	best management practices
C&SF	Central and Southern Florida
CAA	Clean Air Act
CARL	Conservation and Recreational Lands
CEPP	Central Everglades Planning Project
CERP	Comprehensive Everglades Restoration Plan
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
COC	constituents of concern
Compact	Water Rights Compact
Cooperative Agreement	<i>Cooperative Agreement Among the United States Department of the Interior and the Nature Conservancy and the South Florida Water Management District</i>
COP	Combined Operation Plan
CWA	Clean Water Act
CZMP	Coastal Zone Management Program
DA	Department of the Army
DDT	dichlorodiphenyltrichloroethane
Decomp	Decomartmentalization and Sheetflow Enhancement of WCA 3
DMSTA	Dynamic Model for Stormwater Treatment Areas
DOI	U.S. Department of Interior
EAA	Everglades Agricultural Area
EAV	emergent aquatic vegetation
ECP	Everglades Construction Project
EFA	Everglades Forever Act
EIS	Environmental Impact Statement
ENP	Everglades National Park
EPA	Everglades Protection Area
ERA	Environmental Risk Assessment
ERP	Environmental Resource Permit
ERTP	Everglades Restoration Transition Plan
ESA	Endangered Species Act
ESAs	Environmental Site Assessments
ESWCD	East Shore Water Control District
ET	Evapotranspiration
FAC	Florida Administrative Code

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Farm Bill	1996 Federal Agriculture Improvement and Reform Act
FCU	Functional Capacity Units
FDEP	Florida Department of Environmental Protection
FEB	Flow Equalization Basin
FMSF	Florida Master Site File
FOE	Friends of Everglades
FWCC	Florida Fish and Wildlife Conservation Commission
FWMC	flow weighted mean concentration
FY	Fiscal Year
Holey Land	Holey Land Wildlife Management Area
HTRW	Hazardous, Toxic and/or Radioactive Waste
IOP	Interim Operational Plan
LECSA	Lower East Coast Service Area
LEDPA	least environmentally damaging practicable alternative
Long-Term Plan	Long-Term Plan for Achieving Water Quality Goals in Everglades Protection Area Tributary Basins
LORS	Lake Okeechobee Regulation Schedule 2008
LORSS	Lake Okeechobee Regulation Schedule Study
LTGM	long-term geometric mean
Miccosukee Tribe	Miccosukee Tribe of Indians of Florida
MOA	Memorandum of Agreement
mt	metric tons
MWD	Modified Water Deliveries
NAVD	North American Vertical Datum
NECPP	Northern Everglades and Estuaries Protection Program
NEPA	National Environmental Policy Act
NFA	No Further Action
NGVD29	National Geodetic Vertical Datum of 1929
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PAH	polynuclear aromatic hydrocarbons
ppb	parts per billion
PSTA	Periphyton-based STA
project site	Compartment A-1
the Refuge	Arthur R. Marshall Loxahatchee National Wildlife Refuge
RWQP	Regional Water Quality Plan
RSM	Regional Simulation Model
SAV	submerged aquatic vegetation
SCTLs	soil cleanup target levels
SDCS	South Dade Conveyance System

Seminole Tribe	Seminole Tribe of Florida
SFER	South Florida Environmental Report
SFWMD	South Florida Water Management District
SFWMM	South Florida Water Management Model
SHPO	State Historic Preservation Officer
SLOPES	Standard Local Operating Procedures for Endangered Species
SRCO	Site Rehabilitation Completion Order
SSC	Species of Special Concern
STA	Stormwater Treatment Area
TMDL	total maximum daily load
TP	total phosphorus
UMAM	Unified Mitigation Assessment Methodology
US	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	U.S Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
Water Control Plan	C&SF Project Water Control Plan for Lake Okeechobee
WCA	Water Conservation Area
WCD	Water Control District
WMAs	Wildlife Management Areas
WQBEL	Water Quality Based Effluent Limits
WQC	Water Quality Certification
WRDA	Water Resource Development Act
WY	Water Year

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