

Draft



Everglades Agricultural Area Storage Reservoir Project Update

South Florida Ecosystem Restoration Task Force Meeting

June 5, 2018

Matt Morrison, Federal Policy Chief
Everglades Policy & Coordination Division

Florida Statute 373.4598 Water Storage Reservoir

- Directs the expedited design and construction of a water storage reservoir in the Everglades Agricultural Area (EAA)
- Increases southern storage features to reduce high-volume discharges from Lake Okeechobee
- Modifies the congressionally authorized Central Everglades Planning Project (CEPP) as part of the Comprehensive Everglades Restoration Plan (CERP)
- Includes reservoir storage capacity of at least 240,000 acre-feet, and necessary water quality treatment and conveyance features
- Directs SFWMD to develop a CEPP Post Authorization Change Report jointly with USACE for submission to Congress for approval
- Requires the South Florida Water Management District meet certain timelines for implementing the project

Potential Courses of Actions Identified with the USACE

CERP Design Agreement

- Central Everglades Planning Project Re-Evaluation Report – 2 to 3 years
- Advance the EAA Storage Project on the Integrated Delivery Schedule and develop Project Implementation Report using SMART Planning – typically 3 years

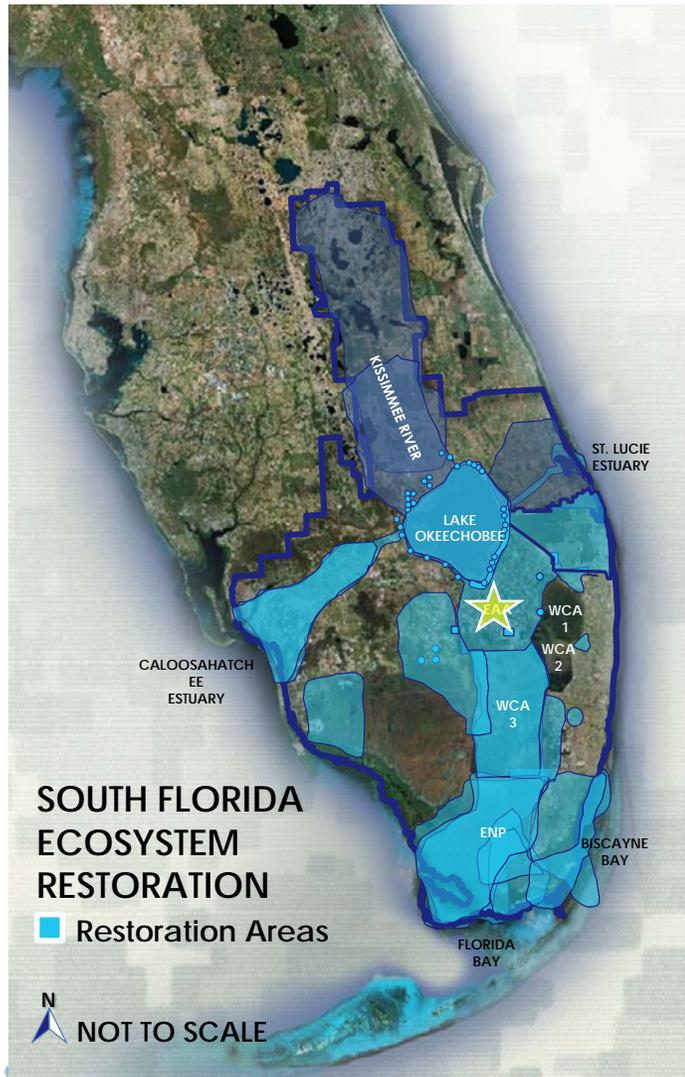
Regulatory Approach

- Section 408 application for infrastructure changes – no federal cost share

Section 203 of WRDA 1986

- SFWMD utilization of Section 203 process, completes study report for transmission to the Office of the Assistant secretary of the Army, Civil Works
- Requires execution of a Memorandum of Agreement by and between the USACE and SFWMD
- Requires execution of Support Agreement(s) to pay the USACE for technical assistance services rendered
- Section 203 process identified as the best option to meet the project timelines codified in State law

South Florida Ecosystem Restoration



NON-CERP & FOUNDATION PROJECTS

- Modified Water Deliveries to Everglades National Park
- Kissimmee River Restoration
- C-111 South Dade
- C-51/Storm Water Treatment Area (STA) 1E
- Storm Water Treatment Areas/Restoration Strategies
- Tamiami Trail Bridging & Roadway Modifications
- Herbert Hoover Dike (HHD) Rehabilitation
- Seminole Big Cypress Critical Project

CERP GENERATION 1 PROJECTS

- Indian River Lagoon (IRL) – South
- Picayune Strand
- Site 1
- Melaleuca Annex Facility

CERP GENERATION 2 PROJECTS

- C - 43 Reservoir
- Broward County Water Preserve Areas (WPA)
- C-111 Spreader Canal Western Project
- Biscayne Bay Coastal Wetlands Phase 1

DECEMBER 2016 AUTHORIZATION

- Central Everglades Planning Project (CEPP)

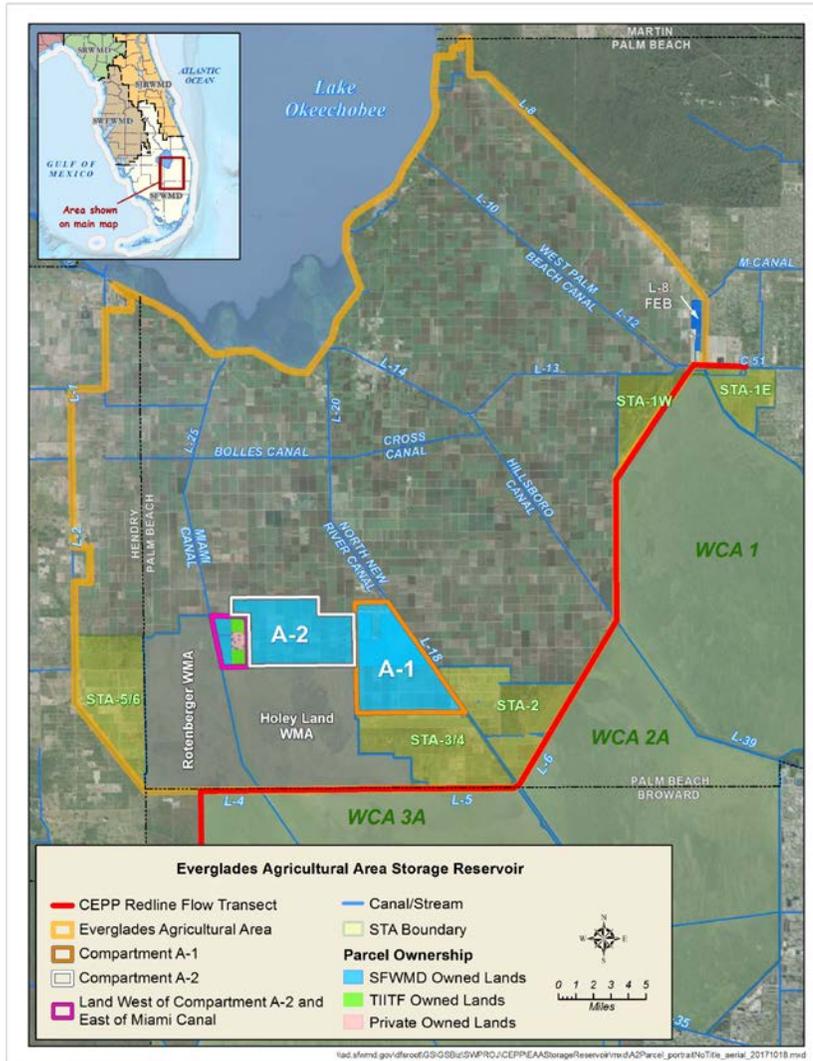
PLANNING EFFORTS

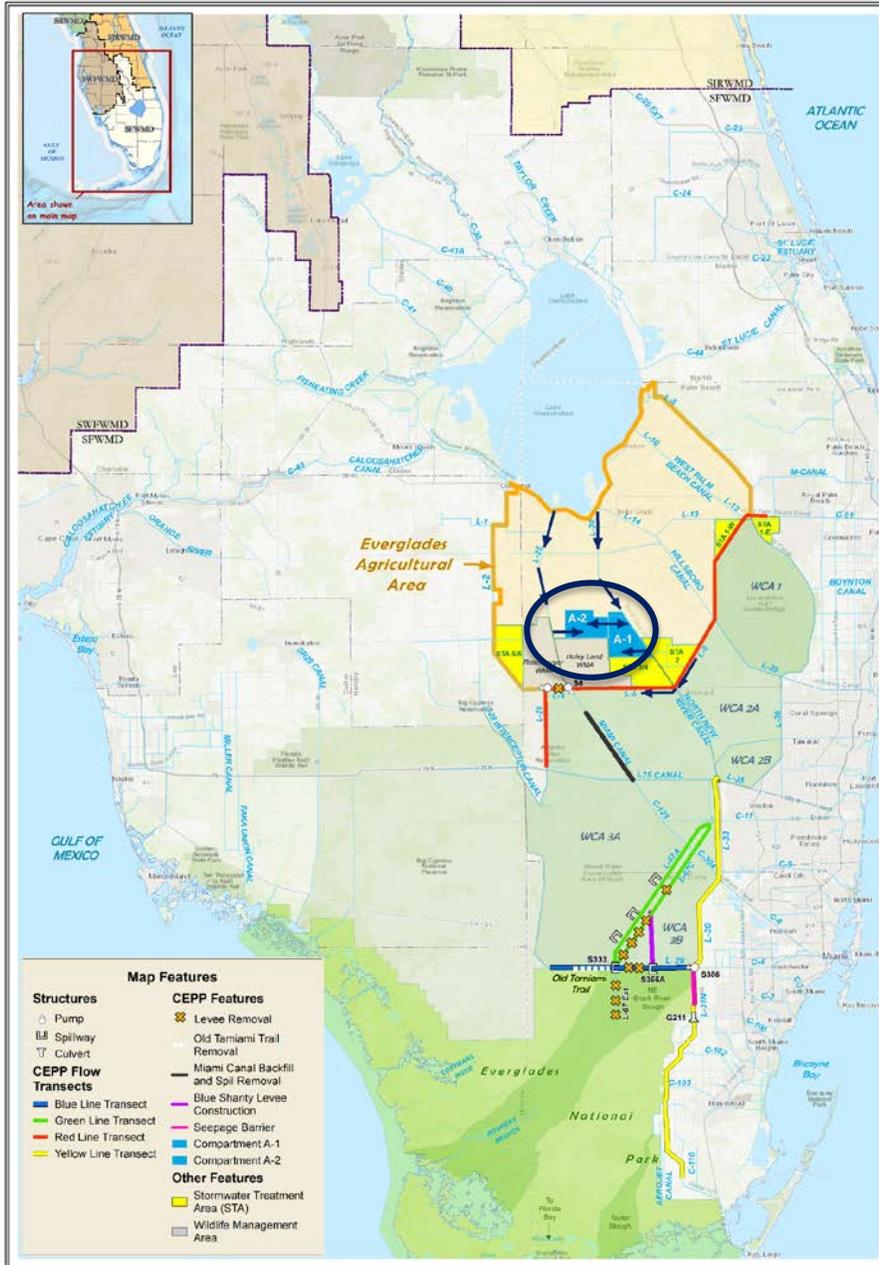
- Loxahatchee River Watershed Restoration
- Western Everglades Restoration
- Lake Okeechobee Watershed Restoration

EVERGLADES AGRICULTURAL AREA STORAGE RESERVOIR

Everglades Agricultural Area Storage Reservoir Feasibility Study

- Next increment of storage and necessary treatment to provide progress towards the level of restoration envisioned for the CERP
- Continue to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries and central Everglades
- Be consistent with federal program and policy requirements to maintain eligibility for federal cost share





CEPP Recommended Plan ALT **Draft**

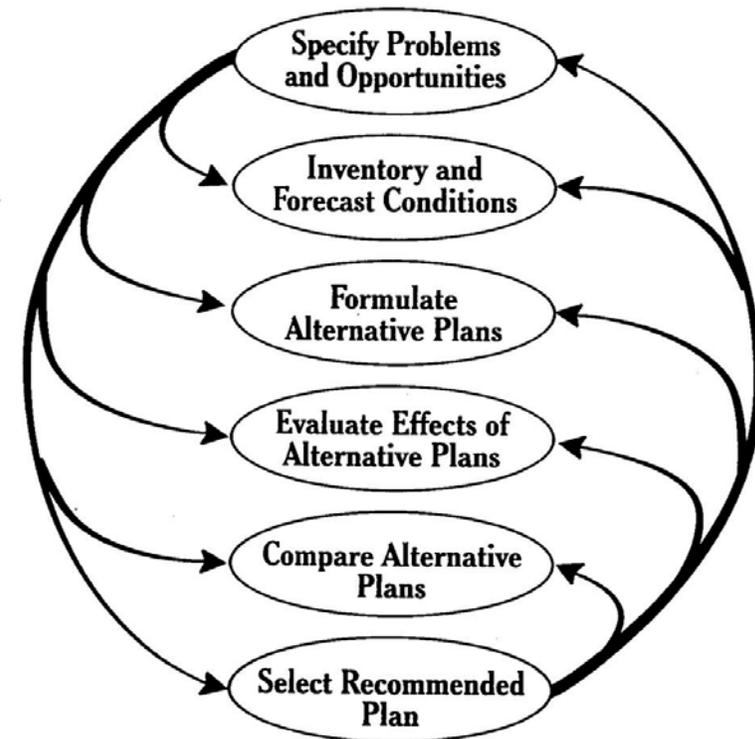
- PPA New Water
 - A-2 Flow Equalization Basin (FEB)
 - Seepage Barrier, L-31N Levee
- PPA North
 - L-6 Canal Flow Diversion
 - L-5 Canal Conveyance Improvements
 - S-8 Pump Station Complex Modifications
 - L-4 Levee Degrade and Pump Station
 - Miami Canal Backfill
- PPA South
 - S-333 Spillway Modification
 - L-29 Canal Gated Spillway
 - L-67A Conveyance Structures
 - L-67C Levee Gap
 - L-67C Levee Degrade
 - Blue Shanty Levee, WCA 3B
 - L-29 Levee Degrade
 - L-67 Extension Levee Degrade and Canal Backfill
 - Old Tamiami Trail Removal
 - S-356 Pump Station Modifications
 - System-wide Operations Refinements

Planning Process

The six steps of the planning process

1. Specify Problems & Opportunities
2. Inventory & Forecast Conditions
3. Formulate Alternative Plans
4. Evaluate Effects of Alternative Plans
5. Compare Alternative Plans
6. Select Recommended Plan

PLANNING PROCESS



Problems

- Impacts to the Northern Estuaries as a result of high-volume discharges from Lake Okeechobee
- Reduced flows to the Everglades system



St. Lucie Inlet



Caloosahatchee River

Project Opportunities and Objectives

- Reduce the high-volume freshwater discharges from Lake Okeechobee to the Northern Estuaries
- Identify storage, treatment and conveyance south of Lake Okeechobee to increase flows to the Everglades system
- Reduce ongoing ecological damage to the Northern Estuaries and Everglades system



Water Conservation Area 3A

Inventory and Forecast Conditions

Evaluate the effects of alternative plans based on a comparison of the existing and most likely future conditions

Constraints

WRDA 2000 Sec. 601(h)(5); Sec. 373.1501, F.S.

- Elimination or transfer of existing legal sources of water must be addressed
- Maintain existing level of flood protection

Meet applicable water quality standards

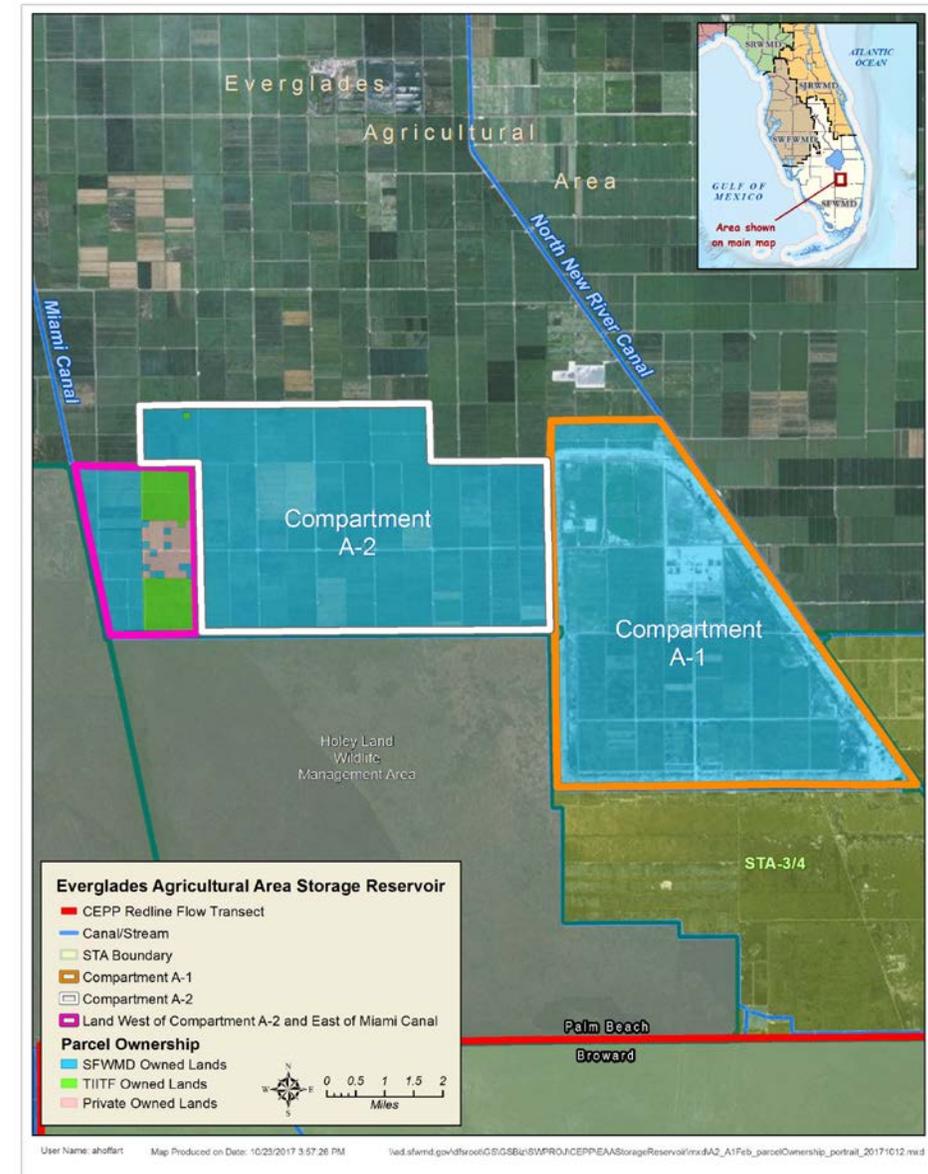
- Will not cause or contribute to a violation of state water quality standards, permit discharge limits or specific permit conditions
- Reasonable assurances exist that adverse impacts on flora and fauna will not occur

Remain within federal authorities (CERP)

Florida State Law

Chapter 2017-10 Requirements as it relates to Post-Authorization Change Report

- Engage landowners on a 'willing seller' basis
- 240,000 acre-feet of storage and necessary treatment on A-2 Parcel plus conveyance improvements
- 360,000 acre-feet of storage and necessary treatment on A-1 and A-2 Parcels plus conveyance improvements
- Report to State Legislature by January 9, 2018
- Submit Post-Authorization Change Report to Congress for approval by October 1, 2018



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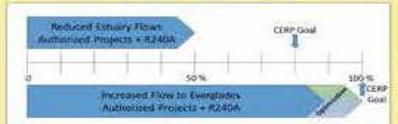
Final Array of Alternatives

Alternative R240A

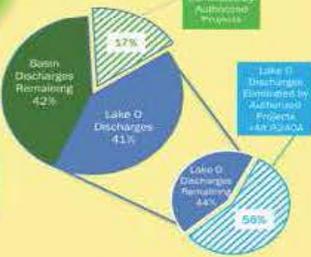
COST EFFECTIVE + BEST BUY



Improved Flow Conditions



% Northern Estuary Events Eliminated



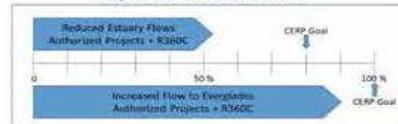
Region	R240 Habitat Unit Lift
Northern Estuaries	2,169
Greater Everglades	10,775
Florida Bay	9,100
Total HU Lift	22,044

Plan Capital Cost \$1.74B⁽¹⁾ – CEPP New Water Component \$0.40B⁽²⁾ = **Capital Cost to Implement Plan \$1.34B**
 (1)Includes Reservoir + Stormwater Treatment Area + Real Estate \$1.64B, Canal Conveyance Improvement \$100M, and Recreation Plan \$2.2M Costs
 (2)Includes CEPP A2 FEB and A2 Recreation Plan

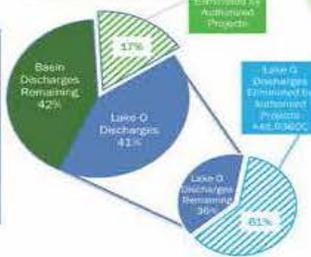
Alternative R360C



Improved Flow Conditions



% Northern Estuary Events Eliminated



Region	R360 Habitat Unit Lift
Northern Estuaries	3,328
Greater Everglades	13,161
Florida Bay	9,900
Total HU Lift	26,390

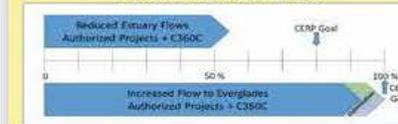
Plan Capital Cost \$2.11B⁽¹⁾ – CEPP New Water Component \$0.40B⁽²⁾ = **Capital Cost to Implement Plan \$1.71B**
 (1)Includes Reservoir + Stormwater Treatment Area + Real Estate \$2.01B, Canal Conveyance Improvement \$100M, and Recreation Plan \$2.2M Costs
 (2)Includes CEPP A2 FEB and A2 Recreation Plan

Alternative C360C

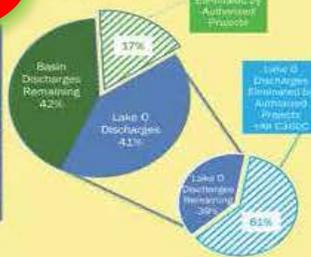
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Improved Flow Conditions



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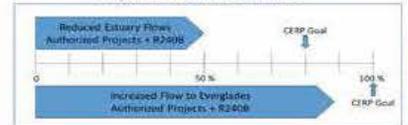
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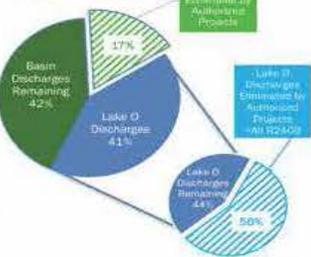
Alternative R240B



Improved Flow Conditions



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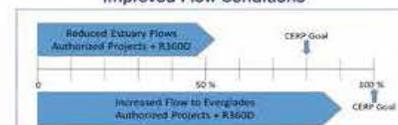
Region	R240 Habitat Unit Lift
Northern Estuaries	2,169
Greater Everglades	10,775
Florida Bay	9,100
Total HU Lift	22,044

Plan Capital Cost \$1.76B⁽¹⁾ – CEPP New Water Component \$0.40B⁽²⁾ = **Capital Cost to Implement Plan \$1.36B**
 (1)Includes Reservoir + Stormwater Treatment Area + Real Estate \$1.66B, Canal Conveyance Improvement \$100M, and Recreation Plan \$2.2M Costs
 (2)Includes CEPP A2 FEB and A2 Recreation Plan

Alternative R360D



Improved Flow Conditions

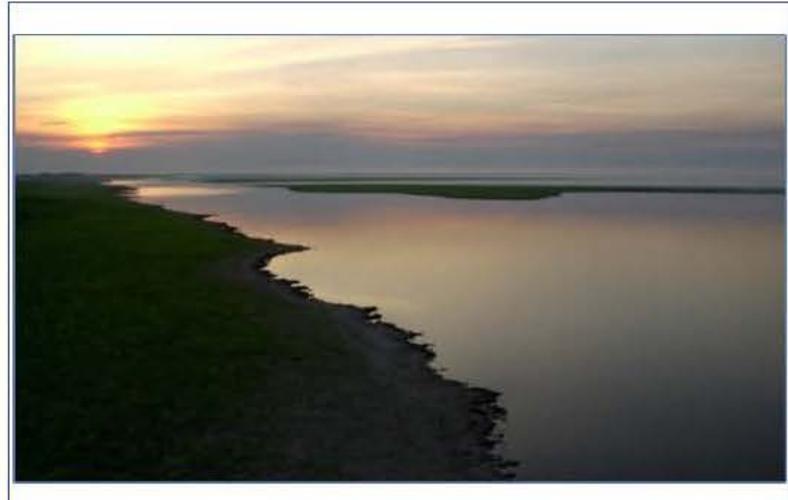


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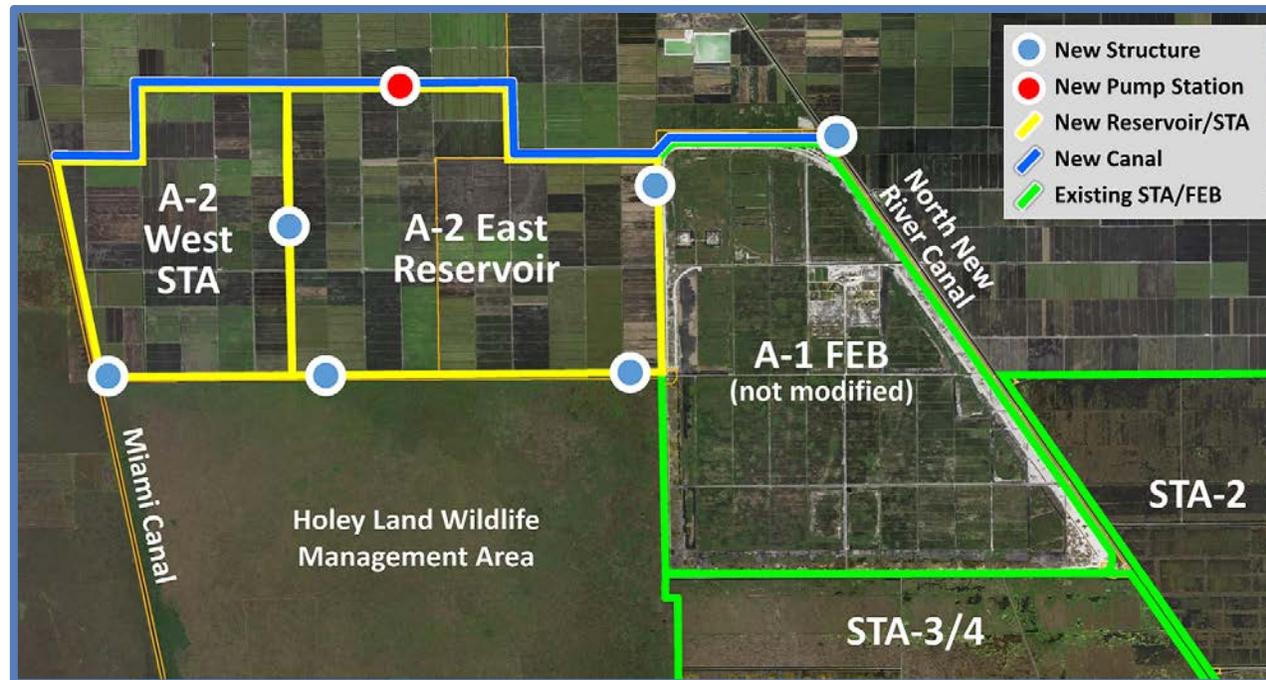


Tentatively Selected Plan

Draft

Alternative C240A:

- 240,000 acre-foot reservoir
- Reservoir ~ 10,500 acres and ~ 23 feet deep
- Stormwater Treatment Area (STA) ~ 6,500 acres
- Multiple purposes operations consistent with Comprehensive Everglades Restoration Plan (CERP) – environmental benefits and other water related needs
- Alternative preserves the A-1 FEB identified in “Restoration Strategies” which is consistent with CEPP



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⁽²⁾Includes CEPP A2 FEB and A2 Recreation Plan

Tentatively Selected Plan

Alternative C240A

Lake Okeechobee

Promotes Sustainability

- Improves amount of time lake is in preferred ecological stage envelope
- Decreases the number of extreme low lake events
- Improves water shortage cutback performance



Tentatively Selected Plan

Draft

Alternative C240A

Northern Estuaries: Promotes Resiliency

- Approaches CERP goal in reducing damaging discharges from Lake Okeechobee
- Provides a **40%** reduction in high-flow discharge events lasting longer than 60 days in the Caloosahatchee Estuary
- Provides a **55%** reduction in high-flow discharge events lasting longer than 42 days in the St. Lucie Estuary
- Provides a **55%** reduction in discharge volumes from Lake Okeechobee to the Northern estuaries with authorized projects
- Provides a **63%** reduction in discharge events from Lake Okeechobee to the Northern estuaries with authorized projects
- Improves the salinity conditions in the St. Lucie Estuary by reducing the number of Lake Okeechobee events that exceed the preferred salinity envelope by **39%**
- Improves the salinity conditions in the Caloosahatchee Estuary by reducing the number of Lake Okeechobee events that exceed the preferred salinity envelope by **45%**

Tentatively Selected Plan

Alternative C240A

Central Everglades

Promotes CERP flow patterns and sheet flow

- Increases flows to approximately 370,000 ac-ft (average annual)
- Improves slough depths and durations
- Restores vegetative communities and habitat for fish and wildlife
- Reduces dry-outs
- Increases overland flow into ENP
- Provides some benefit to salinity in Florida Bay

State Compliance Report

- Final Order approving the CEPP PACR received March 5, 2018
- ***“In issuing this Order, the Department finds that the District has provided sufficient information to demonstrate compliance with the criteria outlined in Section 373.1501(5), F.S., for the amendments to CEPP as set forth in Alternative C240A.”***
- Project produces important environmental benefits for the natural system by reducing harmful discharges to the northern Estuaries and specifies flows to the central Everglades that will be protected
- Project planning demonstrates that required project aspects have been analyzed and evaluated
 - Water quality, flood protection, threatened and endangered species, water supply
 - Project determined to be feasible, and consistent with applicable laws and regulations
- Evaluation provides reasonable assurance that existing levels of water supply and flood protection will not be diminished

DEP #18-0054

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In re: Post Authorization Change Report to the Central Everglades Planning Project OGC No. 18-0138

FINAL ORDER APPROVING THE CENTRAL EVERGLADES PLANNING PROJECT
POST AUTHORIZATION CHANGE REPORT
EVERGLADES AGRICULTURAL AREA RESERVOIR

Pursuant to Sections 373.026(8)(b) and 373.1501(9) of the Florida Statutes (F.S.), the State of Florida Department of Environmental Protection (Department) enters this Final Order in response to the South Florida Water Management District's (District) submittal of the Final State Compliance Report for the Comprehensive Everglades Restoration Plan (CERP) - Central Everglades Planning Project (CEPP) Post Authorization Change Report (PACR). The submittal accompanies the Draft PACR proposing the Tentatively Selected Plan for the Everglades Agricultural Area Reservoir (Alternative C240A) for the CEPP located in Palm Beach County, Florida. The submittal and associated materials have been reviewed for compliance with the criteria in Section 373.1501(5), F.S., as outlined below.

1. Alternative C240A is an ecosystem restoration project designed to improve the quantity, quality, timing, and distribution of water flows to the central Everglades Water Conservation Area (WCA) 3 and Everglades National Park (ENP). The proposed plan also provides flexibility in Lake Okeechobee operations by increasing storage, treatment and conveyance to the south, which will reduce harmful discharges from Lake Okeechobee to the St. Lucie and Caloosahatchee Estuaries. The principle features of Alternative C240A are a 10,500-acre reservoir, approximately 23 feet deep (240,000 acre-feet); a 6,500 acre Stormwater Treatment Area (STA); and conveyance improvements to

Submitted for Federal Approval

- CEPP Post Authorization Change Report Approved by SFWMD Governing Board – March 8, 2018
- CEPP Post Authorization Change Report Submitted to Assistant Secretary of the Army for Civil Works - March 28, 2018
- CEPP Post Authorization Change Report Published on SFWMD website - March 30, 2018



Volumes comprise the Central Everglades Planning Project Post Authorization Change Report

Current Status

Section 203 federal review period underway

Next Steps

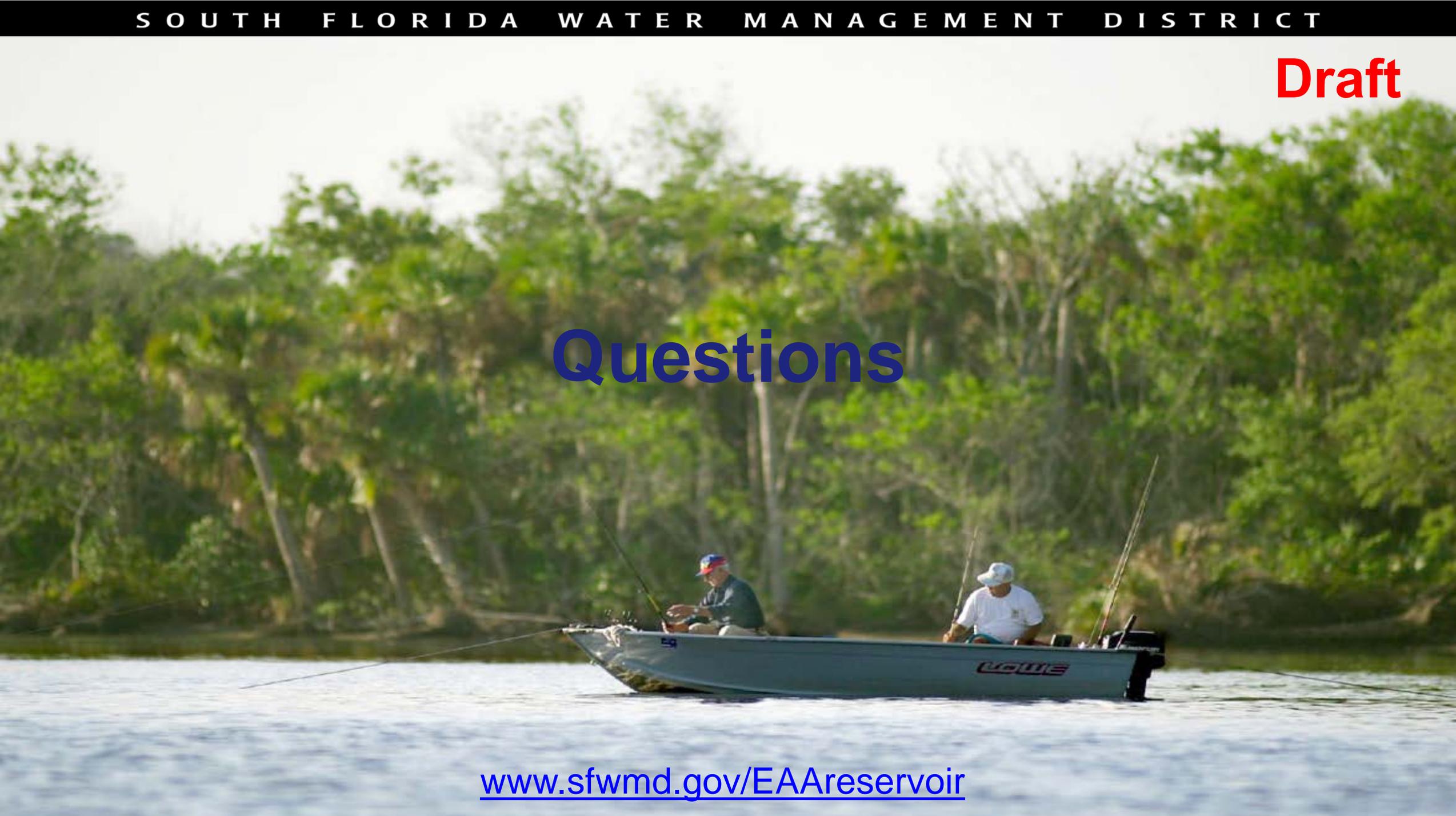
Secretary of the Army for Civil Works issues report to Congress with recommendations

Senate Committee on Environment and Public Works

House Committee on Transportation and Infrastructure

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Questions



www.sfwmd.gov/EAAreservoir