Everglades Restoration

L-8 Reservoir

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- Existing
- Northwestern Palm Beach County
- Former 950-acre rock mine
- 46,000 ac/ft of storage
- Benefit South Florida’s ecosystem
- Assist in sustaining regional water supplies
C-51 Reservoir

- Proposed
- Located in western Palm Beach County
- 75,000 ac/ft of storage
- Capture and store excess surface water from C-51 basin
- Increased water storage and delivery to help benefit South Florida’s regional water supplies
- Reduce harmful discharges to the Lake Worth Lagoon
Restoring America’s Everglades
Three-Part Strategy

Part 1: State-Federal Partnership
- Comprehensive Everglades Restoration Plan (CERP)
- Kissimmee River Restoration

Part 2: State Projects and Programs
- Northern Everglades and Estuaries Protection Program (source controls, Dispersed Water Management, construction projects, Alternative Treatment Technologies)

Part 3: Water Quality
- Stormwater Treatment Areas (57,000 acres)
- Best Management Practices
Key Projects
Existing Treatment

- 5 Stormwater Treatment Areas
- 57,000 acres of effective treatment
- 11,500,000 acre-feet (3.75 Trillion gallons) of water treated
- 1,470 Metric Tons of phosphorus removed
- Total phosphorus discharge concentrations for best performing STA (3/4) is 17 ppb for period of record

Areas in gray marked with a “B” or “C” represent the current expansion of existing Stormwater Treatment Areas
Water Quality
Key Projects

- Proposed projects developed to meet discharge limit necessary to achieve 10 parts per billion ambient water quality criterion established in rule for Everglades Protection Area
  - More than 100 modeling simulations

- Project Types
  - STA expansions
  - Flow equalization basins (FEBs)

- Additional Components
  - Sub-regional source controls
  - Habitat restoration
Stormwater Treatment Areas
Optimized Conditions

Inflow + seepage

Stormwater containing phosphorus

Phosphorus storage in sediment

Uptake by emergent plants

Rainfall

Plant litter accumulation, chemical precipitation, particle settling

Phosphorus uptake by floating plants

Algae and periphyton P uptake

Uptake by submerged aquatic vegetation

Water with less phosphorus content

Outflow + seepage
Stormwater Treatment Areas

Dry Out - No Flow Conditions

No Inflow or seepage

Phosphorus stored in sediment

Sediment Oxidizes

No Outflow or seepage
Stormwater Treatment Areas
Deep Water or Rewetting after Dry Conditions

Excessive Inflow + seepage

Reduced phosphorus removal

Outflow + seepage

Temporary phosphorus flux from sediment following dry out
Stormwater Treatment Areas
Optimized Conditions

- Rainfall
- Stormwater containing phosphorus
- Inflow + seepage
  - Plant litter accumulation, chemical precipitation, particle settling
  - Uptake by emergent plants
  - Phosphorus storage in sediment
- Water with less phosphorus content
- Outflow + seepage
  - Algae and periphyton P uptake
  - Uptake by submerged aquatic vegetation
Restoration Strategies
Proposed Projects – June 2012

- **Central Flowpath**
  - FEB: ~11,000 ac-ft
  - STA Earthwork: ~800 ac

- **Eastern Flowpath**
  - STA: ~6,500 ac
  - FEB: ~45,000 ac-ft
  - FEB: ~54,000 ac-ft

- **Western Flowpath**
  - C-139 Annex Restoration
  - STA 5/6

- **Locations**
  - Lake Okeechobee
  - WCA-1
  - Loxahatchee National Wildlife Refuge
  - WCA-2A
  - WCA-3A

- **Replacement Features**

**Sub-Regional Source Controls**

**Proposed Projects**

- **Replacement Features**

**Features**

**Projects**

**June 2012**
Replacement Features
Loxahatchee River Watershed Restoration
• Comprehensive Everglades Restoration Plan (CERP) Project

• Designed to capture, store and treat excess water that is currently discharged to the Lake Worth Lagoon and use that water to enhance the Loxahatchee River and Slough

• CERP project is the MFL recovery plan for the Loxahatchee River

DRAFT – Project still under development in planning phase
Additional Components
Replacement Features

- Acquire and construct replacement storage to capture flows from C-18 western basin and then discharge those flows down Flow-way 2 to the Loxahatchee River
  - Non-binding letter of Intent to Negotiate submitted to Palm Beach County
  - Initiate discussions regarding Mecca property
  - Utilize L-8 reservoir as Flow Equalization Basin
• Continue North Palm Beach Project Implementation Plan
  • Formulate for all three flow ways

  § In the interim, L-8 serves multiple functions while Mecca Reservoir is constructed

  § Ultimately, utilize L-8 Reservoir primarily as Flow Equalization Basin for Everglades Water Quality

  § C-51 Reservoir remains a viable alternative water supply