Implementation Status of Planned Restoration Projects

Matt Morrison, Federal Policy Chief
Office of Everglades Policy & Coordination
South Florida Water Management District

Florida Keys National Marine Sanctuary
Advisory Council
April 19, 2016
Five Water Management Districts were created by Water Resources Act in 1972

- **Flood Control**
  - Operate & maintain largest water management system in the world

- **Water Supply**
  - Ensure sustainable water resources for South Florida’s environment and economy

- **Natural Systems**
  - Protect and restore the Northern and Southern Everglades

- **Water Quality**
  - Improve water quality in the Everglades
South Florida Overview

- SFWMD lands stretch 240 miles from Orlando to the Keys
- 18,000 square miles, encompassing one of the most diverse ecosystems in the world
  - ~2,000 miles of canals
  - ~2,800 miles of levees
  - More than 650 water control structures and 700 project culverts
  - Nearly 70 pump stations
  - 7.7 million residents
  - More than 3 million acres of agriculture
- Florida’s commitment: Protected/Managed natural areas
Hurricanes in 1926 and 1928 resulted in extensive flooding around Lake Okeechobee

Hurricane in 1947 resulted in widespread flooding throughout South Florida

State of Florida requested federal assistance in 1947

Congress authorized the C&SF Project in 1948
Major C&SF Project Components

- River Channelization
- Herbert Hoover Dike
- Water Conservation Areas
- Protective Levees
  - Everglades Agricultural Area
  - Lower East Coast
- Drainage Network
  - Salinity Structures
Changes in Hydrology

Pre-drainage Flows

Managed System Flows
2012
- 57,000 ac of STA

2012-2016
- L-8 FEB (45,000 ac-ft)
- A-1 FEB (60,000 ac-ft)

2013-2018
- STA (4,700 ac)

2018-2024
- STA (1,800 ac)
- C-139 FEB (11,000 ac-ft)
- STA Earthwork (800 ac)
Comprehensive Everglades Restoration Plan (CERP)

- Includes 68 components to be implemented over 30+ years

Features include:

- Aquifer Storage & Recovery
- Surface Water Storage Reservoirs
- STAs for Water Quality
- Seepage Management
- Removing Barriers to Flow
- Revised Operations
Project Implementation

**Pre-CERP Foundation Projects**
- Kissimmee River
- C-111 South Dade
- Modified Water Deliveries

**1st Generation CERP**
- Picayune Strand
- IRL-South
- Site 1 Impoundment

**2nd Generation CERP - Authorized 2014**
- C-43 Reservoir - Under Construction
- Broward County WPA
- C-111 Spreader Canal - Operational
- Biscayne Bay Coastal Wetlands - Partially Constructed and Operational

**3rd Generation CERP**
- Central Everglades Planning Project
- Loxahatchee River Watershed Restoration Project
Kissimmee River Restoration is Nearing Completion
Kissimmee River Restoration Progress to Date

**Status:**
- 3 construction phases complete
  – 1 to go with completion expected 2017

**Project completion will provide 100,000 ac-ft of storage:**
- 30,000 ac-ft in restored floodplain
- 100,000 ac-ft through revised Chain-of-Lakes regulation schedules

McArthur Ditch Restoration July 7, 2015

Modified Water Deliveries to Everglades National Park

- Modifications to the existing C&SF project to improve the natural water flows to Shark River Slough
- Restoration of more natural hydrologic conditions using timing, location and volume of water
- Four major components:
  - 8.5 Square Mile Area (SMA) Flood Mitigation
  - Conveyance and Seepage Control Features
  - Tamiami Trail Modifications
  - Project Implementation Support

1 mile bridge construction completed
2.6 mile bridge groundbreaking April 2016
C-111 South Dade Project

- Restores more natural hydrologic conditions in Taylor Slough and the panhandle of Everglades National Park
- Provides flood protection for urban and agricultural lands to the east
- North Detention Area connects C-111 South Dade project to the Modified Water Deliveries Project
- L-31 Canal plugs reduce drainage out of Everglades National Park
C-111 Spreader Canal Western Project

- Restores the quantity, timing and distribution of water delivered to Florida Bay via Taylor Slough
- Improves the Southern Glades and Model Lands wetlands
Central Everglades Planning Project

- Increases storage, treatment and conveyance of water south of Lake Okeechobee
  - Sends ~200,000 ac-ft of water south from the Lake
- Removes and/or plugs canals and levees within the central Everglades
- Improves hydroperiod and flow through Everglades National Park while protecting urban and agricultural areas to the east from flooding
Next Generation Projects

- Planning Projects in the Integrated Delivery schedule
  - Lake Okeechobee Watershed Project
  - Western Everglades Restoration Project
  - C-111 Spreader Canal Eastern
  - Biscayne Bay Coastal Wetlands Phase II

Lake Okeechobee

Big Cypress National Preserve
Florida Bay

Osprey nest on Red Mangrove in Florida Bay

Islands in Florida Bay

Florida Bay Everglades National Park
High Water Stages in WCA-3A

- WCA-3A stages have been extremely high.
- District/USACE Temporary Emergency Deviation to lower stages in WCA-3A
  - Raise L-29 stage limit from 7.5 to 8.5 feet
  - Allow higher flows through S-333 into L-29
  - Increase flows to NESRS
  - Use S-334 to moderate L-29
  - S-26 discharge to tide
  - Send WCA-3A releases through the L-30 canal (S-337, S-335)
  - Temporary pumps at S-355B and S-357 seepage collection canal
From 2011 to 2015, the average total volume into the ENP for the period Jan-Mar was 24.7 billion gallons.

For 2016, the volume for the same three months was 227 billion gallons (~9 times).
Florida Bay Flow Update

365 day moving sum of 5 creek flow on 4/10/2016: 264,595 acre-feet

< 105,000 acre-feet threshold

Salinity gauge
Creek flow gauge
Mangrove ponds: Taylor River (TR) salinity gauge through 4/10/2016

30d Running Average Salinity (psu)

> 30 psu threshold

Salinity gauge
Creek flow gauge
Questions?

Turtle in the Southern CREW area, Collier County

Manatees at S-193, Miami-Dade County

Water Lily in LILA, Palm Beach County

Florida Bay Sunset