

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

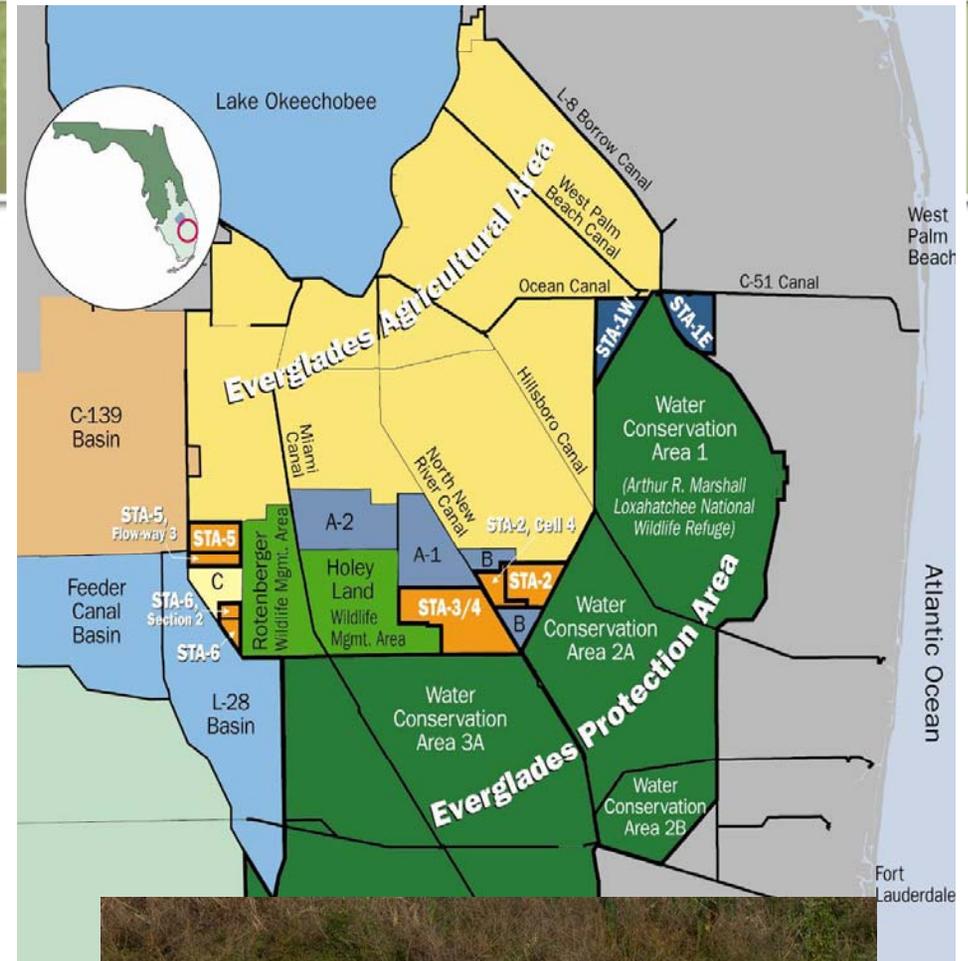
# South Florida Ecosystem Restoration Task Force June 24, 2010

## Everglades Water Quality

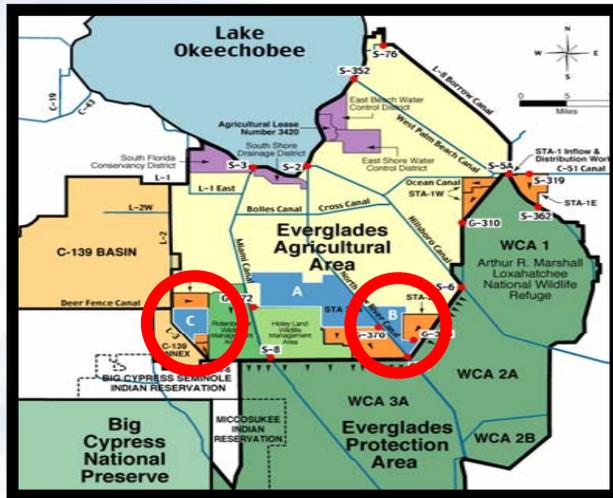
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Everglades Restoration & Capital Projects

# Long Term Plan

- Since 1994, more than 50,000 acres of effective treatment area of STAs constructed
  - **\$1.8 billion investment**
- An additional 11,470 acres of effective treatment areas are under construction (Compartments B and C)
  - **\$350 million investment**
- In Water Year 2009, over 1,200,000 acre-feet of water treated
  - reduced total phosphorus loads by 82%
- Combined with BMPs, prevented more than 3,200 metric tons of phosphorus from entering the Everglades to date



# STA Expansion Compartment B and C Buildouts



- Results in total expansion of 18,000 acres to complement existing Everglades Agricultural Area STAs
- Compartment C design and permitting complete; construction began April 2009
- Compartment B design and permitting complete; construction began June 2009
- Construction of pump stations started September 2009

# STA Performance Data

Updated March 1, 2010 – Contains Preliminary Data

*Period of Record*

	<b>STA-1E</b>	<b>STA-1W</b>	<b>STA-2</b>	<b>STA-3/4</b>	<b>STA-5</b>	<b>STA-6</b>
	<b>Sep. 2004 - May 2010</b>	<b>Oct. 1993 - May 2010</b>	<b>June 1999 - May 2010</b>	<b>Oct. 2003 - May 2010</b>	<b>Oct. 1999 - May 2010</b>	<b>Oct. 1997 - May 2010</b>
<b>Average Inflow TP (ppb)</b>	<b>187</b>	<b>173</b>	<b>106</b>	<b>119</b>	<b>229</b>	<b>98</b>
<b>Average Outflow TP (ppb)</b>	<b>64</b>	<b>53</b>	<b>23*</b>	<b>18</b>	<b>96*</b>	<b>35*</b>
<b>TP Retained (m tons)</b>	<b>80</b>	<b>446</b>	<b>238</b>	<b>381</b>	<b>201</b>	<b>56</b>

*Table contains preliminary data.*

\*Performance does not reflect Compartment B and C Buildouts

## Loxahatchee National Wildlife Refuge (Refuge) Water Quality Limits

- An “exceedance” is defined as 2 monthly excursions within 12 consecutive sampling events based on samples collected at the 14-station interior monitoring network
- A “violation” is an unexcused “exceedance”
- Recent violations/exceedances
  - 2009 - November 2008 (0.2 ppb) and June 09 (1.1 ppb)
  - 2004 - September 2003 (0.5 ppb) and August 2004 (2.1 ppb)

## Loxahatchee National Wildlife Refuge Planning Effort - Initial Focus

- In recognition of the State's admission that the 2009 exceedance in the Refuge resulted in a violation, the Settling Parties agreed to work cooperatively to identify additional strategies necessary to achieve applicable water quality requirements to the Refuge
- State and Federal parties began meeting regularly in January

## Status of Refuge Planning Effort

- Initial discussions focused on additional phosphorus reduction measures necessary to achieve phosphorus water quality standard for the Refuge
- Various strategies for achieving the phosphorus water quality standard are being evaluated, including source controls, expansion of STAs, and storage
- Combinations of sub-basin, basin, and regional scale projects are being considered

## Status of Refuge Planning Effort Basin Scale Studies

- Basin scale studies are underway for
  - S-5A/East Beach Water Control District
  - C-51W/L-8
- Assess existing water quality, soil and other data and identify phosphorus sources
- Evaluate phosphorus reduction potential of various phosphorus abatement measures at farm and sub-basin scale
- Stakeholder involvement
- Develop cost estimates and evaluate cost effectiveness of measures

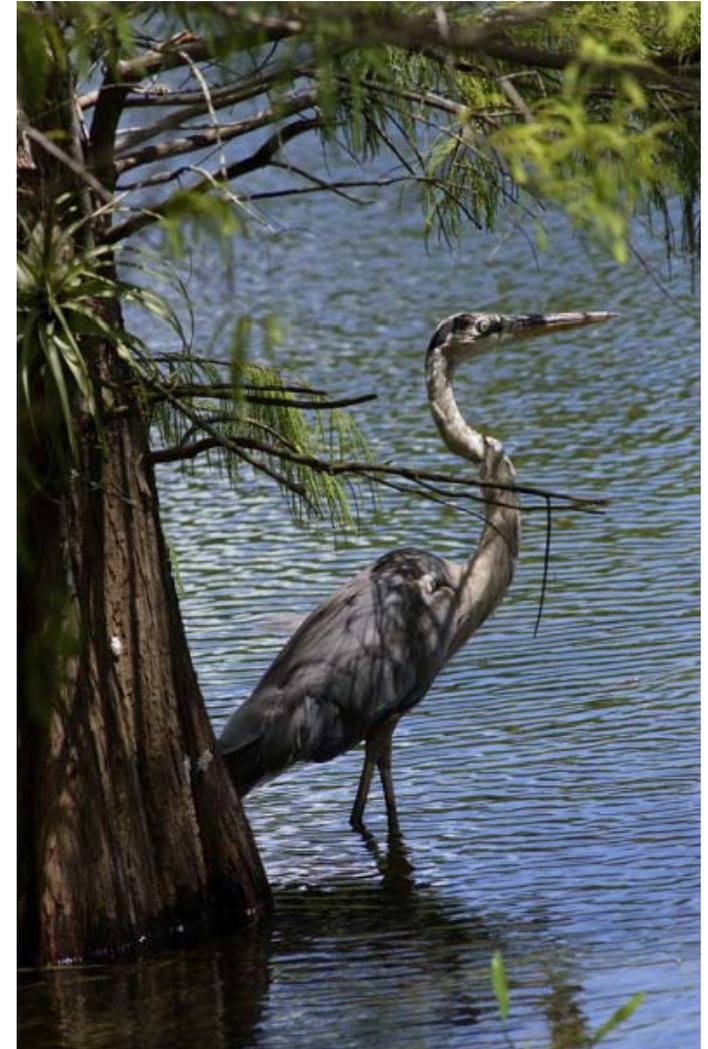
## Status of Refuge Planning Effort Regional Evaluation

- Regional scale evaluation has focused on
  - Identifying key assumptions
  - Developing datasets
  - Developing evaluation tools and criteria
  - Evaluating potential combinations of projects



## Conceptual Plan: Expedited Schedule

- Due to recent Judge Gold ruling, planning effort has been expanded and expedited
  - Now relates to all ECP STAs and associated NPDES Permits
- All parties to the litigation have been invited to participate
- Objective: Identify a suite of technically feasible projects to meet a long term flow-weighted mean of 11-12 ppb for total phosphorus

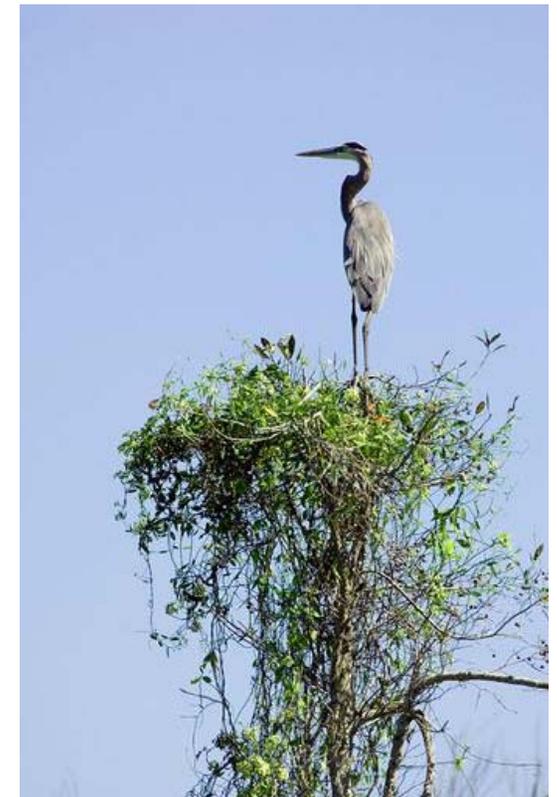


## Conceptual Plan

- Various strategies being evaluated including; source controls, expansion of STAs, storage/flow equalization, and diversion
  - Evaluation of each STA complex being performed
  - C-139 Basin Study underway since 2008
- Expedited schedule is being driven by Order's requirement that EPA file an Amended Determination with the Court by September 3<sup>rd</sup>

# Status Updates

- Status updates and opportunities to provide input and comments will be provided to:
  - Senior Leadership of the Settling Parties
  - SFWMD Governing Board
  - Water Resources Advisory Commission
  - Technical Oversight Committee
  - South Florida Ecosystem Restoration Task Force
  - The Court and Parties to the USA v. SFWMD lawsuit
  - Other Stakeholders



# Future Challenges

- Water quality treatment of existing flows
  - Optimizing source control, basin level, and regional solution
  - Operations due to endangered species and migratory birds
  - STA 1E rehabilitation
- Restoration flows
  - Significant increase in volume
  - Natural system flow variability
  - Need for additional storage and treatment

## Future Challenges

- Legacy Phosphorus in Okeechobee and Everglades watersheds
  - Legacy phosphorus will continue to hinder efforts to reduce loads and concentrations for many years
- CERP Water Quality Cost Sharing
  - While cost-share is authorized by Congress, Corps Headquarters is determining cost-share eligibility on case by case basis
    - » Eligibility has been an issue when a TMDL is established
  - Creates uncertainty in determining long-term cost estimates and budget formulation
- State and SFWMD funding uncertainties



# Questions