

AGENDA
Rule Development Workshop
Rule 40E-10 and Section 3.11 of the Basis of Review for Water Use
Reservation of Water Identified for Protection by the C-43
Caloosahatchee West Basin Storage Reservoir Project

February 27, 2012 – 10:00 A.M.
South Florida Water Management District
Lower West Coast Service Center
2301 McGregor Boulevard
Fort Myers, FL 33901

1. Introductions – (10 min.)
2. Scope and Purpose – Don Medellin (10 min.)
3. C-43 West Basin Storage Reservoir Project Background – Janet Starnes (10 min.)
4. Overview of Water Reservations and Rulemaking Process – Beth Lewis (10 min.)
5. Draft Technical Document Overview and Water to be Reserved – Don Medellin (10 min.)
6. Initial Concepts for Rule Language–Beth Lewis/ Steven Memberg (15 min.)
7. Public Discussion on Concepts for Rule Language - All
8. Next Steps – Don Medellin (5 minutes)

THIS WORKSHOP IS OPEN TO THE PUBLIC
COMMENTS ON THE DRAFT RULE LANGUAGE ARE REQUESTED TO BE SUBMITTED BY
MARCH 15, 2012, TWO WEEKS BEFORE THE NEXT WORKSHOP SCHEDULED FOR
MARCH 29, 2012 TO:

Jan Sluth, Senior Paralegal, Office of Counsel, South Florida Water Management District, P.O. Box 24680, West Palm Beach, FL 33406; (800) 432-2045, ext. 6299; (561) 682-6299; jsluth@sfwmd.gov or submit comments directly to the Rule Development Forum of the SFWMD web conferencing board available at: <http://sfwmd.websitetoolbox.com/>



WORKSHOP
February 27, 2012

Water Reservation for the Caloosahatchee River (C-43) West Basin Storage Reservoir

Scope and Purpose

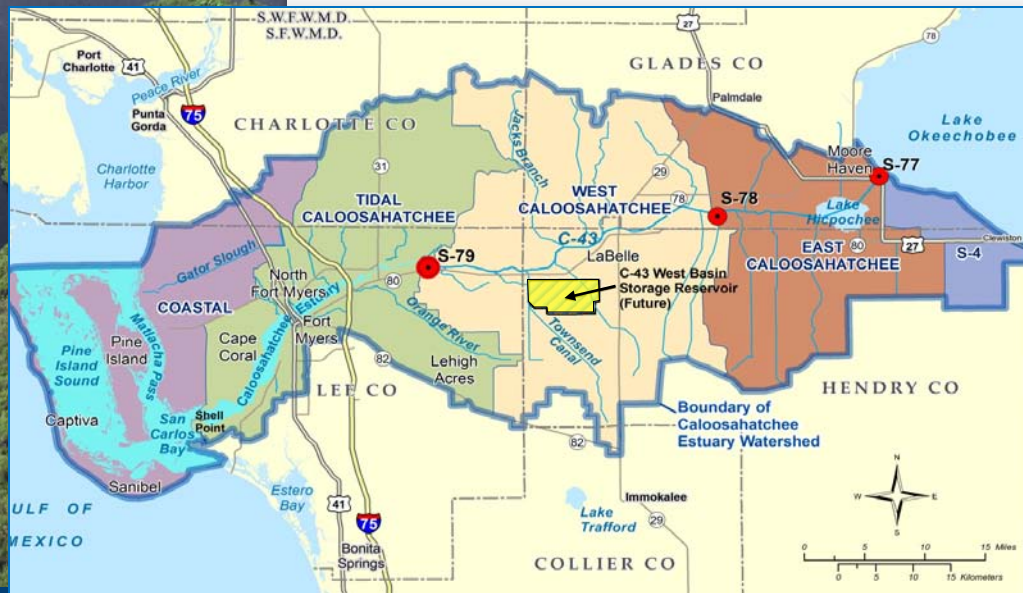
Don Medellin

Principle Scientist

Coastal Ecosystems, Applied Sciences Bureau

History of Water Reservation For the Caloosahatchee River and Estuary

- Governing Board authorized Notice of Rule Development for the Caloosahatchee Estuary in December 2009
- Staff began investigating options



- ✓ Meet CERP project requirements
- ✓ Broader scope to protect local basin runoff (Caloosahatchee East, West and S-4 basins)



History of Water Reservation for Caloosahatchee River and Estuary

- In November 2010, the Florida Legislature enacted amendments to the Florida Administrative Procedures Act which established new requirements for rulemaking
- In January 2011, Office of Fiscal Accountability and Regulatory Reform established to review all District existing rules and ongoing rule development activities
 - Required submittal of Regulatory Plan by July 1, 2011 identifying proposed new and ongoing rule developments
 - Governing Board direction to be sought before rule development workshops could continue after coordination with OFFAR
 - Regulatory Plan timely submitted by the District

History of Water Reservation for Caloosahatchee River and Estuary

- In October and November 2011, District Staff undertook series of educational presentations to prepare Governing Board for direction on scope of water protection
 - Coordination with the Water Resources Advisory Commission also took place in November 2011
- In December 2011, the Governing Board considered the following factors in determining scope of water reservation



Options Considered at December 2011 GB Meeting – Caloosahatchee Water Protection

Factors	CERP Project Only Reservation	Reservation
Fish & Wildlife Linkages – Hydrology / Science	PIR – Science work completed	Ongoing studies & data collection
Modeling	PIR - Completed	Multiple Models
Peer Review	Public and agency review process completed	Peer review anticipated
Regulatory Implications	Project water protected; no effects on permit applicants	Surface water flows from large geographic area protected; potential effects on permit applicants
SERC Issues	Limited economic effects on regulated entities/small business	Potential economic issues and affected entities TBD
Legislative Ratification	Not anticipated	Anticipated
Timeline	9 – 12 months	24 – 36+ months

Scope and Purpose

- Governing Board directed staff at December 2011 meeting to proceed with water reservation for the CERP project as a first phase for protecting water for the Caloosahatchee River and Estuary
- Purpose of this rule development process is to reserve water identified to be protected for the natural system in the CERP Caloosahatchee River (C-43) West Basin Storage Reservoir Project Implementation Report





Discussion / Questions?

**Workshop: Water Reservation for the
Caloosahatchee River (C-43) West Basin Storage Reservoir
Scope and Purpose**

Don Medellin
Principle Scientist
Coastal Ecosystems, Applied Sciences Bureau

An aerial photograph of a large water reservoir, likely the West Basin Storage Reservoir. A long bridge spans across the water, connecting different land masses. The surrounding area is lush with green vegetation, and there are some developed areas visible on the left side. The sky is clear and blue.

WORKSHOP
February 27, 2012

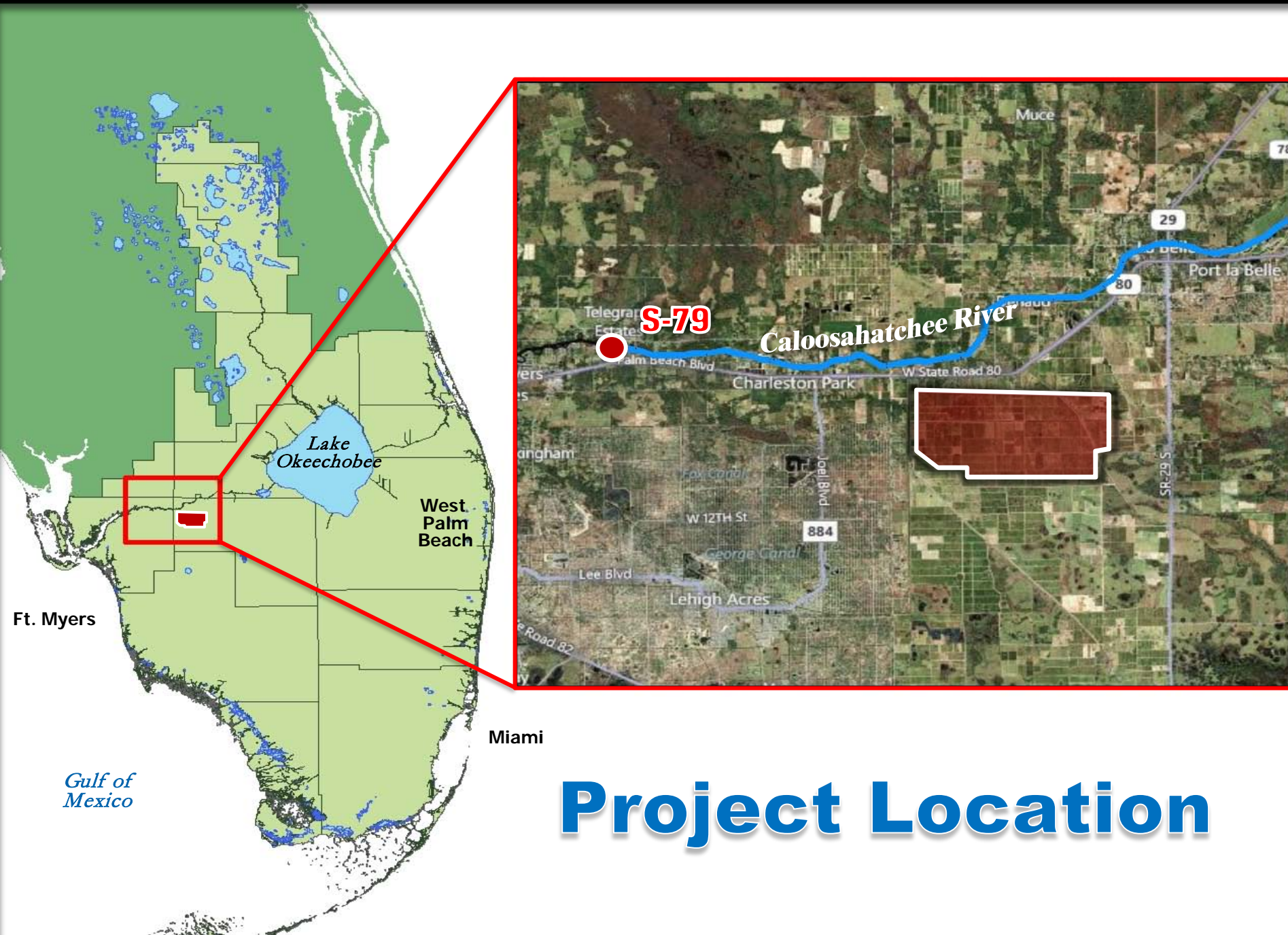
**Water Reservation for the Caloosahatchee River
(C-43) West Basin Storage Reservoir**

Background

Janet Starnes

Principle Project Manager

Office of Everglades Policy and Coordination



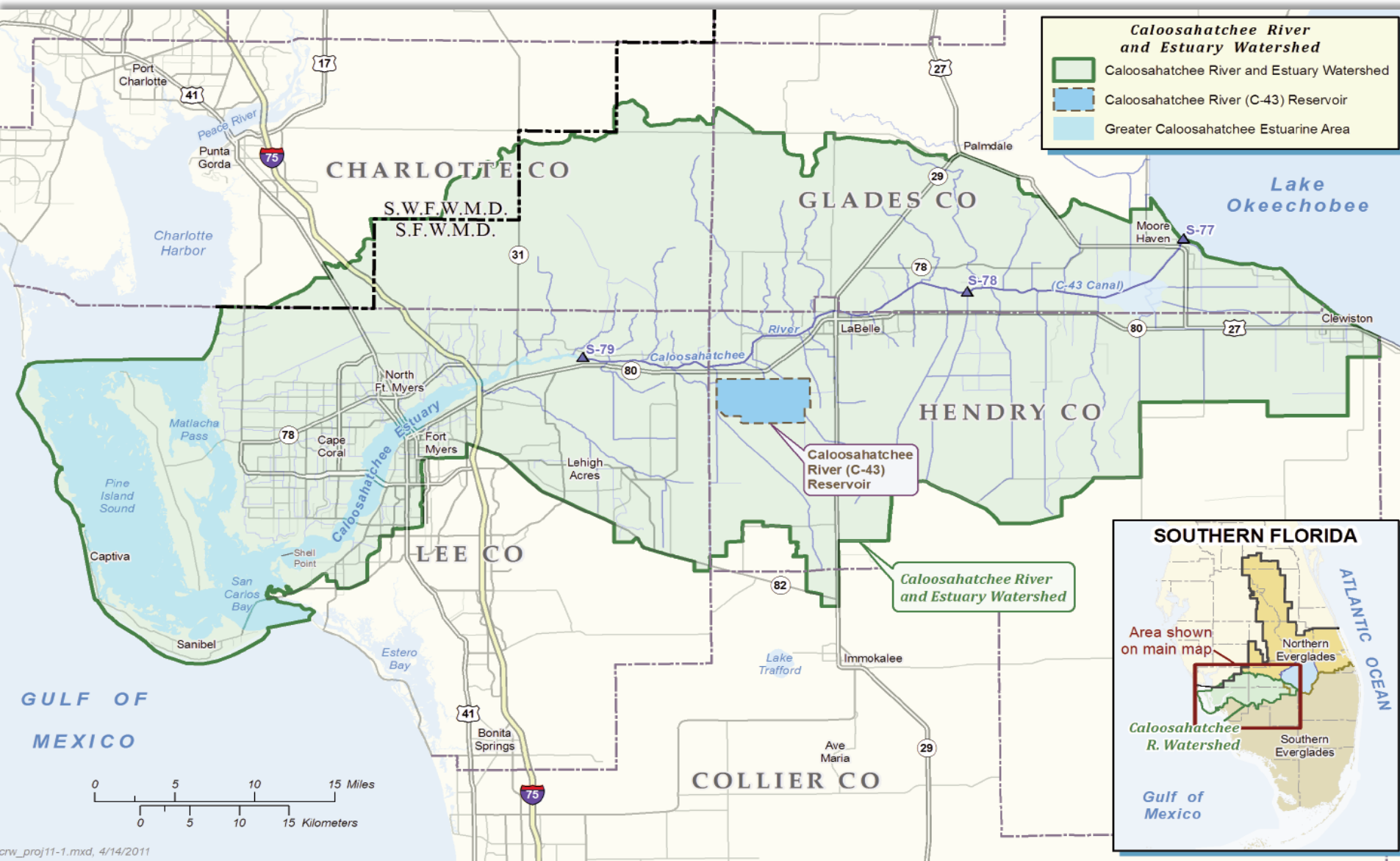
Project Location

Project Purpose

- Improve the quantity and timing of freshwater flows to the Caloosahatchee Estuary
- Capture excess flows and help prevent damaging high flows to the Estuary during the wet season
- Release water to the estuary when needed during the dry season
- Improve more natural salinity regime
- Improve habitat function for estuarine biota



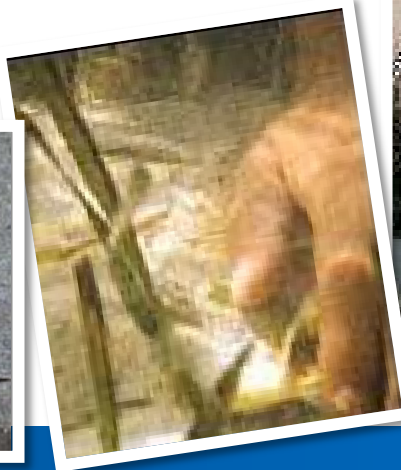
Caloosahatchee River Watershed



Problems in the Caloosahatchee Estuary

Estuary degradation:

- ✓ High flow events due to Lake Okeechobee regulatory releases and basin runoff
- ✓ Low flow in dry season
- ✓ Results in diminished aquatic vegetation, oysters, seagrass, and associated fish and wildlife



Existing Conditions

Caloosahatchee River and Estuary are a highly altered system

- Artificial connection to Lake Okeechobee
- Dredging and channelization
- Three water control structures in place
- Land use changes
- Major source of surface water supply for the Lower West Coast region



Existing Conditions



Existing Conditions

Ecological Resources –

- **Vegetative Communities**

- 15 major types of plant communities, based on characteristics relevant to the hydrology of the region

- **Fish and Wildlife**


- Abundance of invertebrates, amphibians and reptiles, fish, birds, and mammals

- **Threatened and Endangered Species**

- 19 federally listed species are known to occur in the study area



Future-Without-Project Condition

- 
- **Hydrology**
 - Regulatory releases continue
 - Insufficient dry season flows, excessive wet season flows
 - **Ecology**
 - Extreme and rapid variability in estuary salinity levels
 - Reductions in spatial extent of valued ecosystem components such as freshwater SAV, oyster reefs
 - Detrimental impacts to threatened & endangered species (manatee, wood stork)
 - Reduced ecological diversity
 - **Socioeconomics**
 - Diminished recreation activities
 - Population growth leading to increased competition for water resources



Plan Formulation: Evaluation of Alternatives

Alternative plans were evaluated for:

- **Hydrologic Outputs**

- Performance of alternatives in achieving a flow target at S-79

- **Ecological Outputs**

- Calculated to demonstrate “worth” of selected plan
- Cost Effectiveness / Incremental Cost Analysis

Recommended Plan

Alternative 3B: Major Project Features

- Reservoir with 170,000 acre/feet of storage
- Perimeter canal to convey off-site drainage
- 1500 cfs pump for filling reservoir
- Recreation features
- 10,700 acre Project footprint

Ecosystem Benefits:

- Oysters
- Tape Grass
- Seagrasses



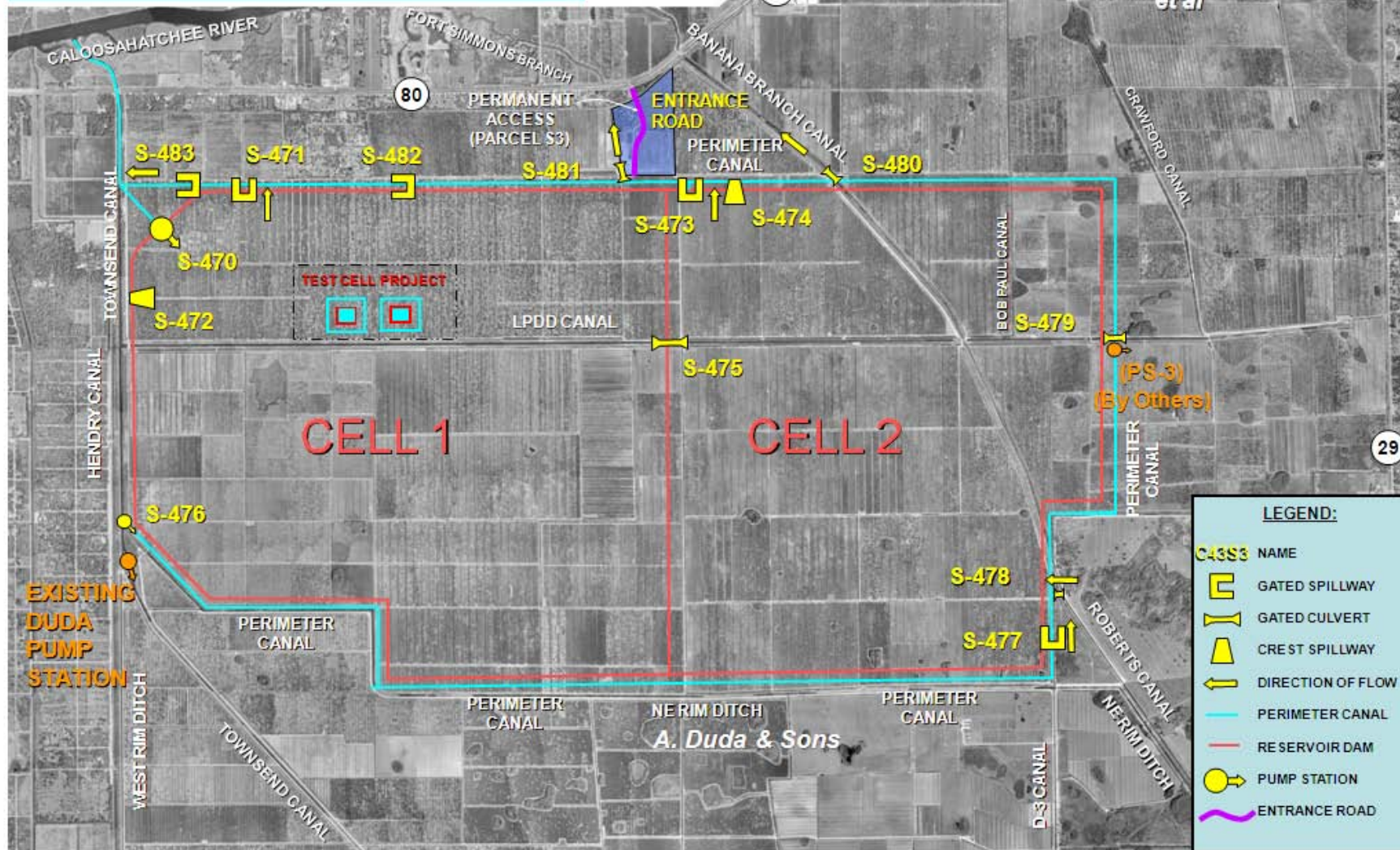
Caloosahatchee River (C-43) West Basin Storage Reservoir Project



May 2007



Not to Scale



C-43 TEST CELL CONSTRUCTION

- Evaluation Completed June 2006:

- Using On-Site Materials
- Two Embankment Designs
- Construction Methods

- Monitor through June 2007:

- Seepage through Embankment:
 - Embankment Settlement
- Water Quality



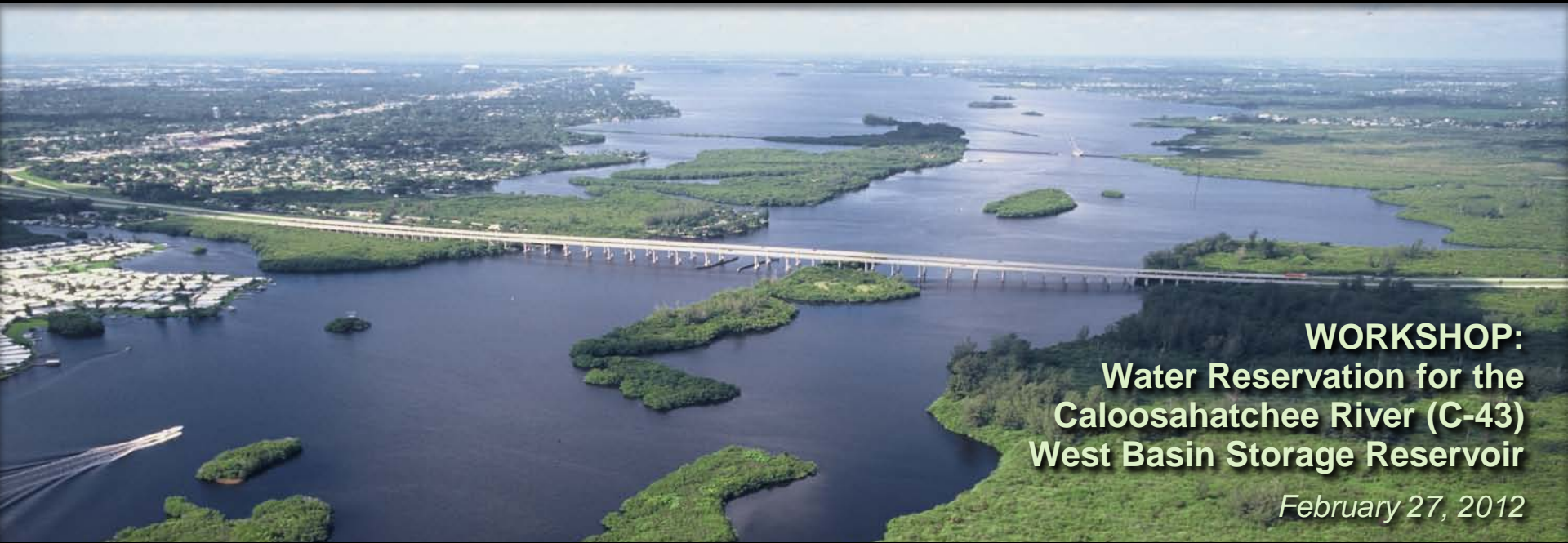
Project Timeline

- Draft PIR/EIS in Federal Register April 2007
- Final PIR submitted to HQ/SAD July 2007
- Civil Works Review Board August 2007
- Final PIR in Federal Register September 2007
- Pre-Partnership Credit Agreement August 2009
- Chief's Report March 2010
- Record of Decision April 2011
- Submitted to Congress April 2011





Questions



WORKSHOP:
Water Reservation for the
Caloosahatchee River (C-43)
West Basin Storage Reservoir

February 27, 2012

Overview of Water Reservations and Rulemaking Process

Beth Lewis
Senior Specialist Attorney
Office of Counsel

Presentation Overview

- What is a Water Reservation?
- How is a Reservation Established?





What is a Water Reservation?

A water reservation is a legal mechanism to restrict water for the protection of fish and wildlife or the public health and safety (authority: F.S. 373.223(4))

What is a Water Reservation? (cont.)

- Withholds water from allocation for consumptive use
 - Protection of existing condition
 - Protection of a restored system
 - Protection of waters associated with a project to be constructed
- Water quantities reserved have a location and timing component based on natural system needs



Why is a Water Reservation Needed?

- The Rule is acceptable to U.S. Army Corps of Engineers (Corps) to demonstrate water provided by Comprehensive Everglades Restoration Plan projects is protected
- The Rule must be effective in order for the District to enter into a Project Partnership Agreement to obtain construction funding for the C-43 Reservoir Project



What Does a Water Reservation Do?

- Prevents new consumptive uses from accessing reserved water
- Existing legal uses that are not contrary to the public interest are protected



What a Water Reservation Does Not Do

- x Establish an operating regime
- x Drought proof the natural system
- x Ensure wildlife proliferation



How is a Water Reservation Established?

By Administrative Rule – Public Process

- Rule Development Phase
 - Notify Office of Fiscal Accountability and Responsibility about proposed rule
 - Work with stakeholders to identify issues of concern
 - Draft and refine rule language
 - Draft Statement of Estimated Regulatory Costs (SERC)
 - Draft Technical Report identifying the water to be reserved
 - Intent is to resolve issues prior to Governing Board considering the rule for adoption



How is a Water Reservation Established? (cont.)

- Proposed Rule
 - Governing Board authorizes publication of proposed rule and final SERC
 - Rule sent to Florida Department of Environmental Protection (DEP), Joint Administrative Procedures Committee (JAPSC), Small Business Regulatory Advisory Council and Department of Economic Opportunity for Review
 - Notices sent to all interested parties
 - After 21 days, consider any additional comments and proposals for lower regulatory cost alternatives (LCRA) to the proposed rule



How is a Water Reservation Established? (cont.)

- Rule Adoption
 - Rule is presented to Governing Board at public hearing
 - Additional opportunity for public input
 - Board notified of any changes made since publication
 - Additional changes can be made at the public hearing
 - If no changes made since publication, rule becomes effective 20 days after filing with the Department of State unless rule requires ratification by the Florida Legislature
 - If changes made, additional coordination required with JAPSC, FDEP and with any person who submitted a LCRA
 - SERC must be revised to show whether LCRA are adopted or rejected

How is a Water Reservation Established? (cont.)

Legislative ratification required if:

1. Rule is likely to have an adverse impact on economic growth, private sector job creation or employment, or private sector investment in excess of \$1 million in the aggregate within 5 years after the implementation of the rule;
2. Is likely to have an adverse impact on business competitiveness, including the ability of persons doing business in the state to compete with persons doing business in other states or domestic markets, productivity, or innovation in excess of \$1 million in the aggregate within 5 years after the implementation of the rule; or
3. Is likely to increase regulatory costs, including any transactional costs, in excess of \$1 million in the aggregate within 5 years after the implementation of the rule.

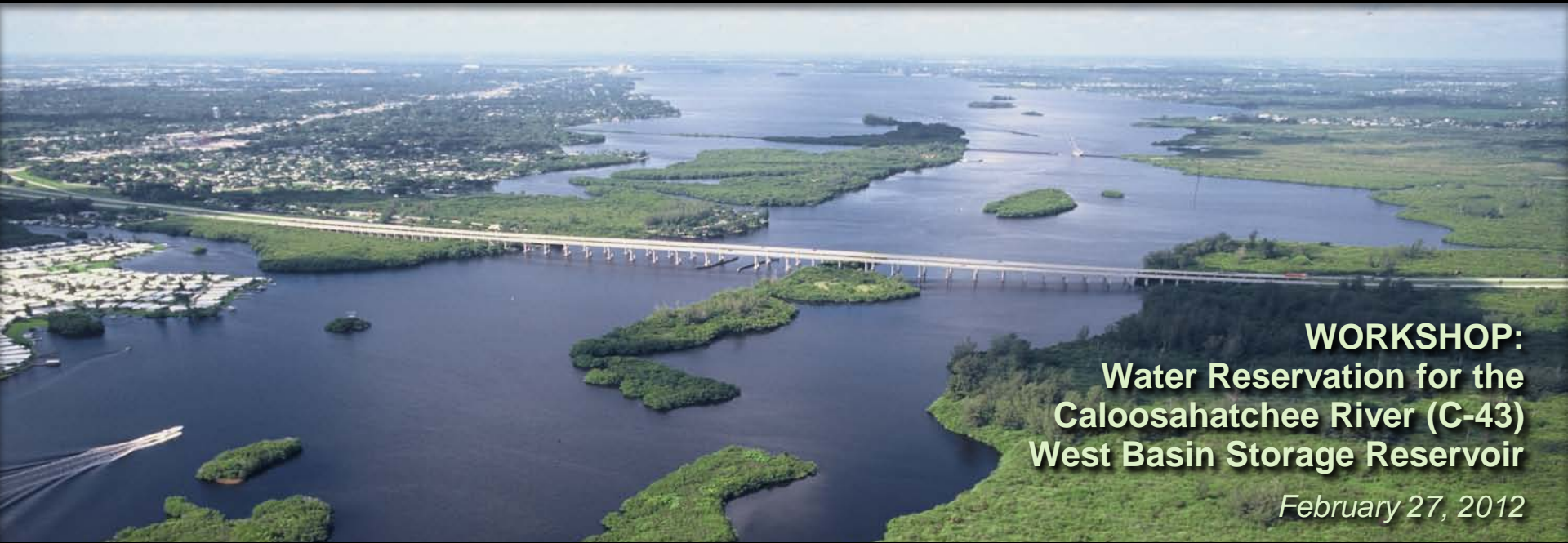
What Does the Rule Look Like?

- 40E-10, F.A.C. – Water Reservations
 - Chapter containing reservations by geographic area
- Section 3.11 – Water Reservations in the “Basis of Review for Water Use Permit Applications”
 - Contains any specific criteria developed as part of the rulemaking process that consumptive use permit applicants must meet to demonstrate compliance with each water reservation



Questions?





WORKSHOP:
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Document to Support Rule and Water to be Reserved

Don Medellin

Principle Scientist

Coastal Ecosystems, Applied Sciences Bureau

Presentation Overview

- How the document which summarizes the Project Implementation Report (PIR) was developed
- Overview of sections within the document
- How the quantification of water was derived
- Water to be reserved for rule



Development of Document to Support Rule

- Summary of the selected sections from the PIR
- No new information added
- PIR information is available at the following links:
 - ✓ www.evergladesplan.org OR
 - ✓ http://www.evergladesplan.org/pm/projects/docs_04_c43_pir_final.aspx
- Only the sections that support the water reservation rulemaking are included



Overview of the Document to Support Rule

- Introduction
 - Purpose
- Basis for the Reservation
- Project Area and Scope
 - Goals & Objectives
 - Project Features
 - Operational Strategy



Overview of the Document to Support Rule (cont.)

- Description of Watershed
 - Hydrology
 - Description of Estuary
- Fish and Wildlife
- Project Benefits
- Quantification of Water
- Literature Cited





Quantification of Water

Project Planning

Goals and Objectives

Help Restore Ecosystem Function to the Caloosahatchee Estuary

- **Improve quantity and timing of freshwater flows to the Caloosahatchee Estuary**
- **Improve salinity balance in the Caloosahatchee Estuary**
 - Capture excess basin runoff and discharges during the wet season
 - Provide an additional source of water during the dry season during low flow periods
- **Improve the spatial extent and functional quality of habitat for estuarine biota**
- **Increase plant and animal diversity and abundance in the estuary**

Analytical Method Used to Quantify Water

A simplified spreadsheet analysis of C-43 Reservoir was conducted –

- Centered on a water budget or mass balance
- Spreadsheet model has no hydrologic or ecological component – used flow over S-79
- Used output from SFWMM (2X2 Model) used for input into spreadsheet model
 - **Without** project condition 2000 – Baseline
 - **With** project condition - (C-43 Reservoir)
- Purpose of the analysis was to evaluate the performance of the C-43 Reservoir as compared to the S-79 flow target

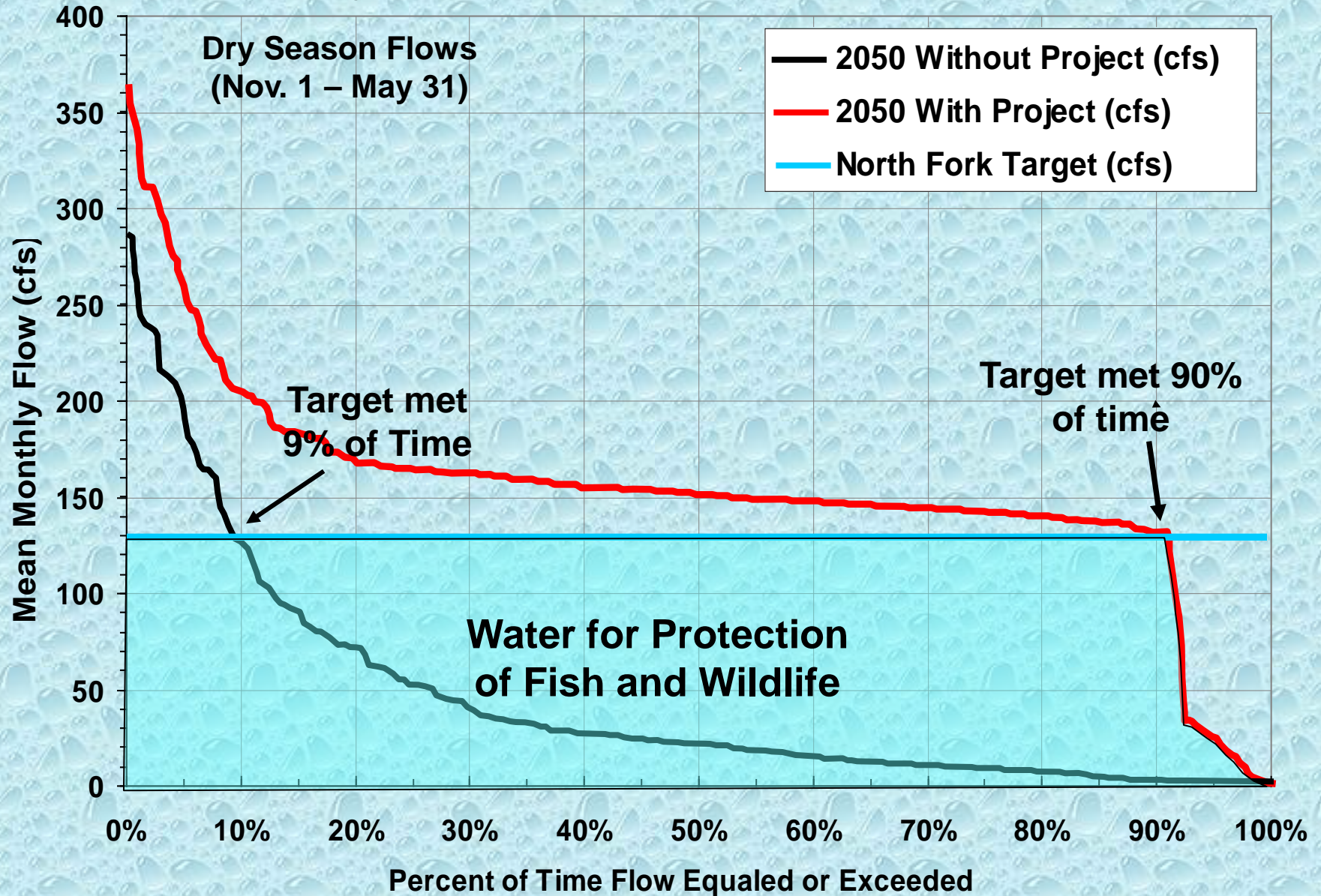


Flow Target for Restoration

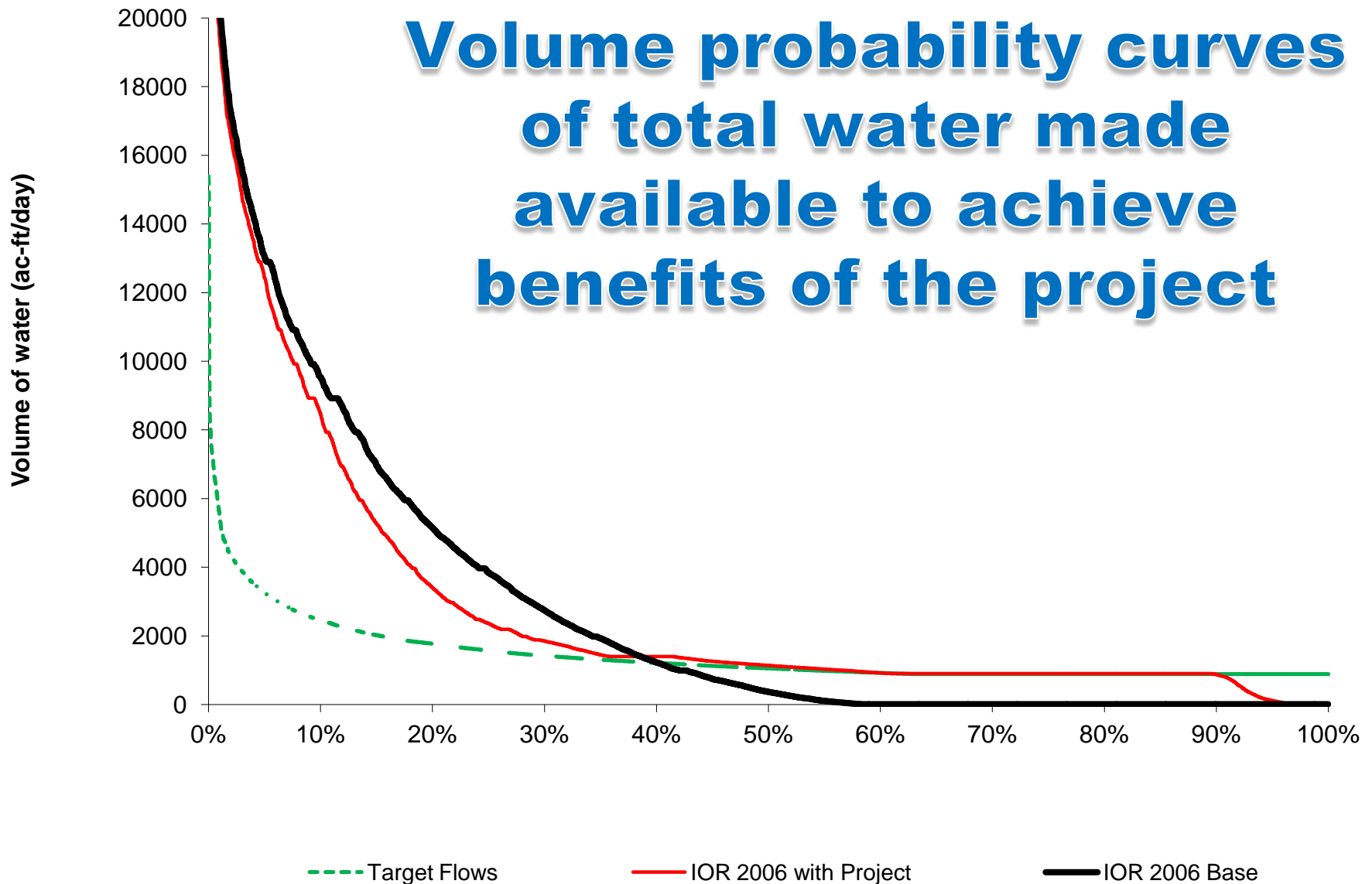
- EST05 was the flow target for restoration
- EST05 is an ideal time series of discharge at S-79 that optimizes salinity conditions in the downstream estuary for several indicator species
 - Reflects mean monthly flow distribution based numerous species salinity tolerances;
 - Targeted daily restoration flows do not fall below 450 cfs
 - This ideal time series target was used to evaluate performance of the reservoir



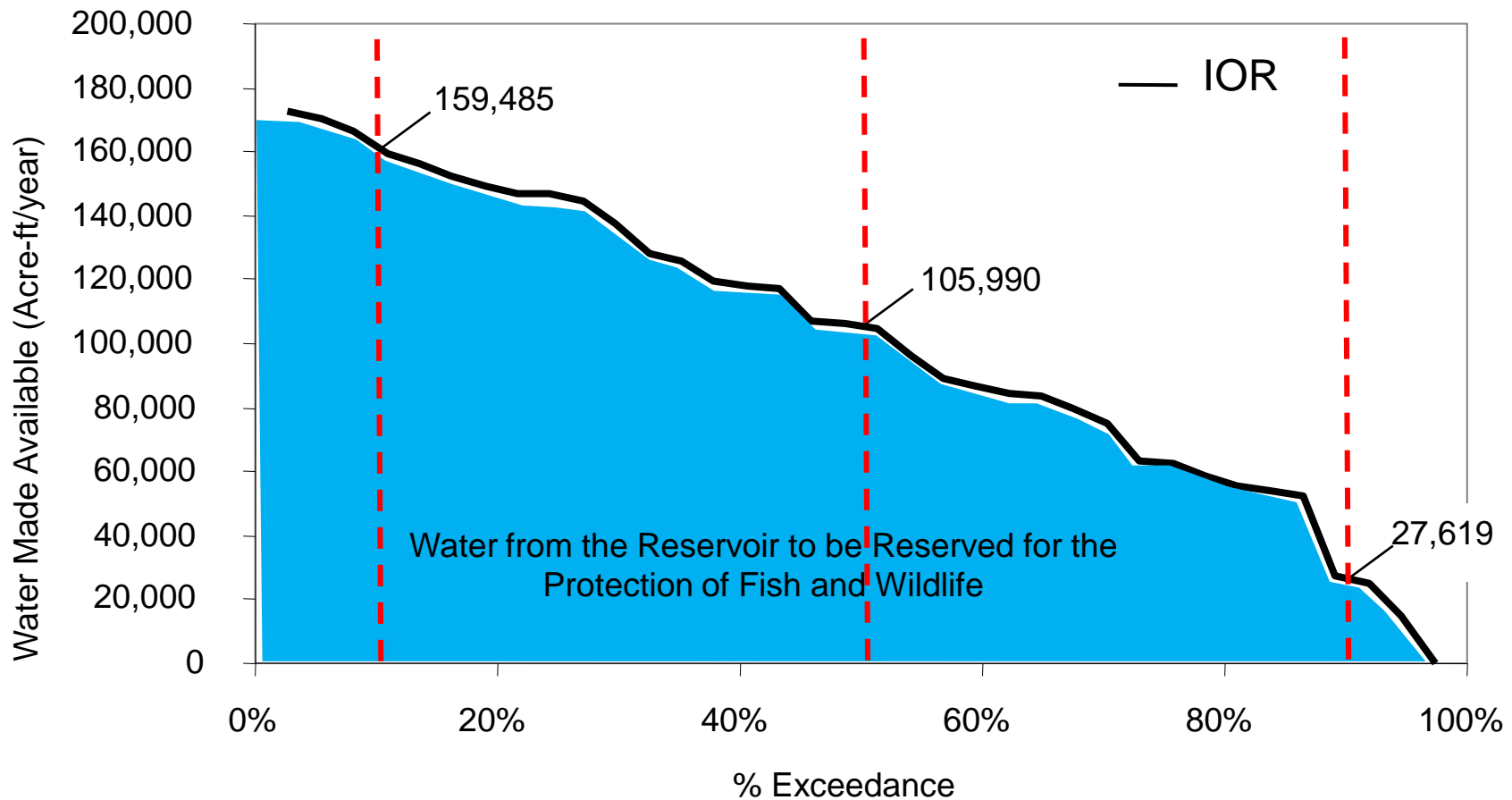
Volume Probability Curve for North Fork, St. Lucie River (1965-2005)



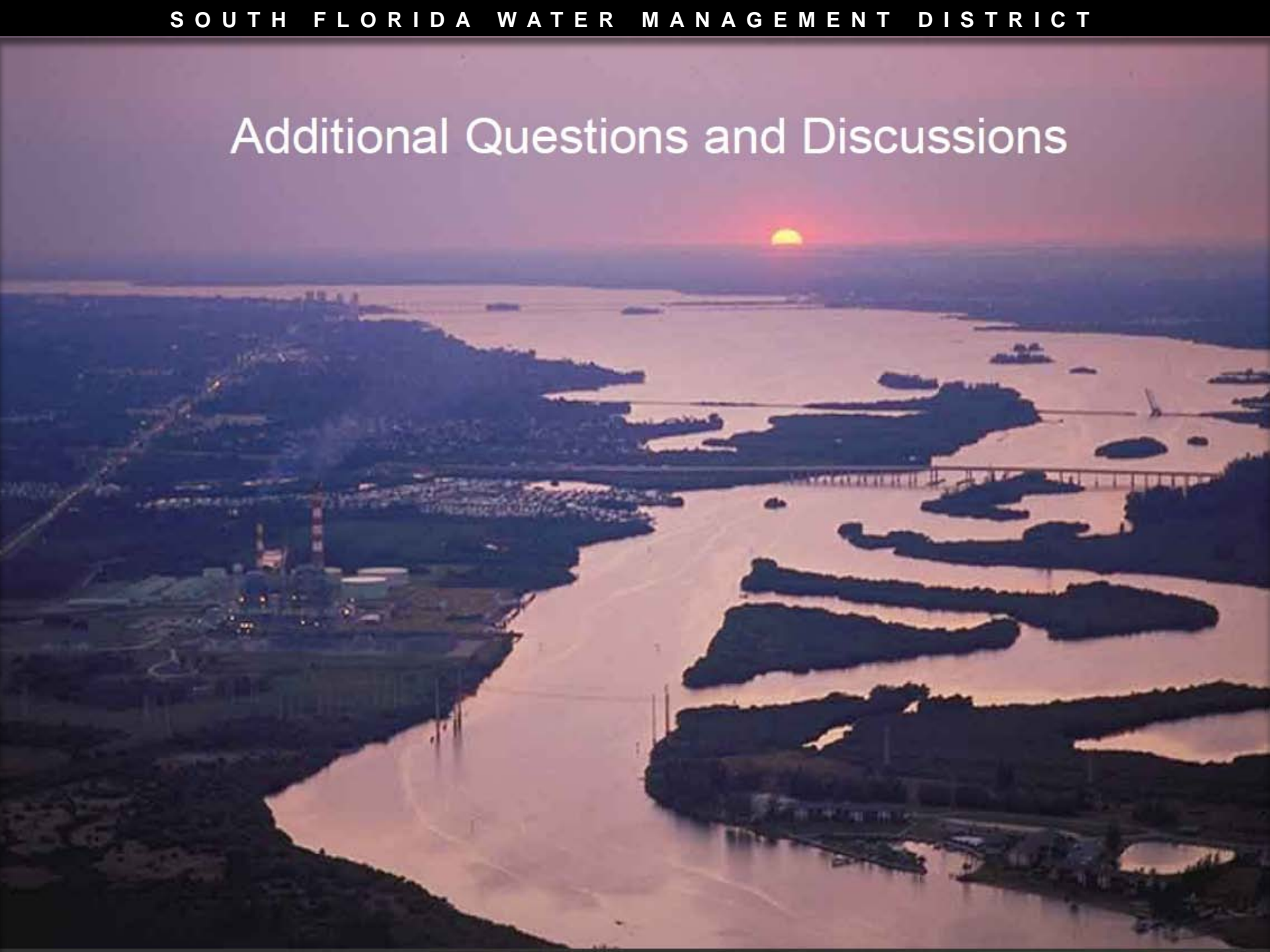
Volume probability curves of total water made available to achieve benefits of the project



Variability of water made available by the project for the Initial Operating Regime (IOR)



Additional Questions and Discussions





Next Steps

Next Steps

- Website provides information for your review

www.evergladesplan.org OR

http://www.evergladesplan.org/pm/projects/docs_04_c43_pir_final.aspx

- Provide comments on the proposed rule language
 - *Contact information on agenda*



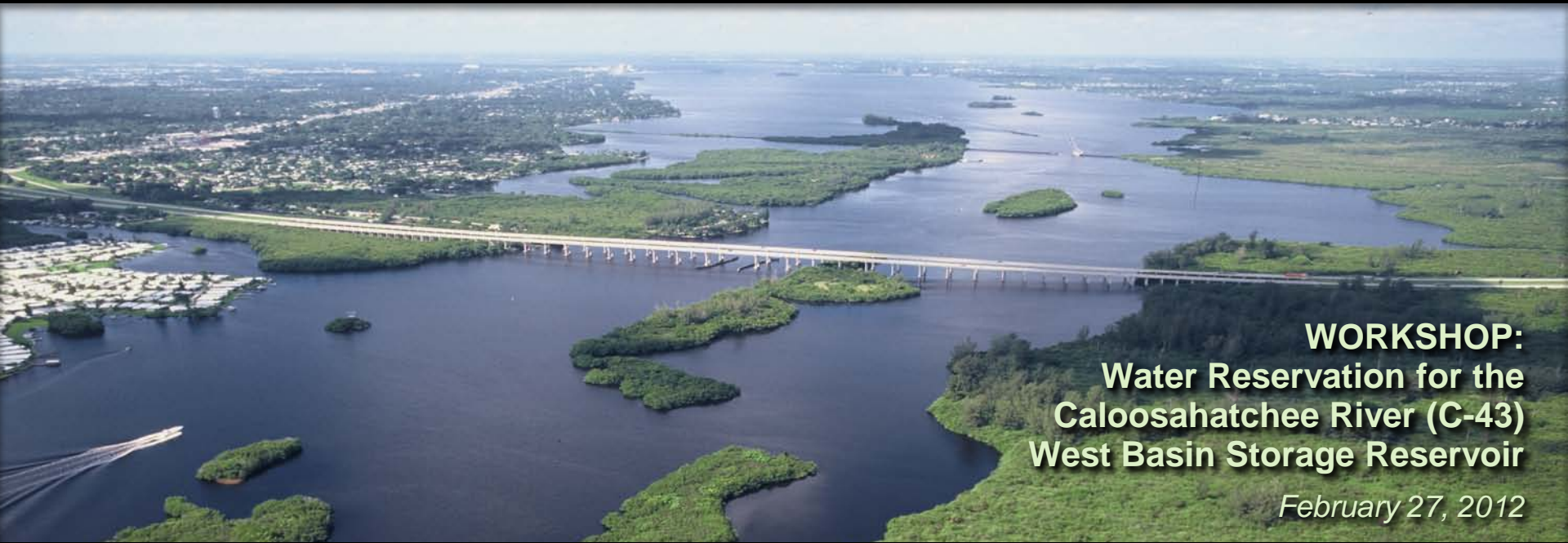
Important Dates

- **March 15th - Distribution of DRAFT Document**
 - *Public Comments Due*
- **March 29th - Workshop #2**
 - Same Time and Location
 - Any outstanding issues on draft document and proposed rule language will be discussed





**Thank You for Your
Participation!**



WORKSHOP:
Water Reservation for the
Caloosahatchee River (C-43)
West Basin Storage Reservoir

February 27, 2012

Rule Language Concepts

Beth Lewis,
Senior Specialist Attorney
Office of Counsel

Overview of Presentation

- Rule language concepts based on Florida Department of Environmental Protection Water Resource Implementation Rule Guidance
- Other rule language concepts





FDEP Water Resource Implementation

Rule: Ch. 62-40, F.A.C

- Provides programmatic guidance on establishing water reservations: 62-40.474, F.A.C.
- Water reservations for the protection of fish and wildlife may be used to:
 - Aid in the restoration of natural systems that provide fish and wildlife habitat
 - Prevent withdrawals in any other circumstance required to protect fish and wildlife
- C-43 reservoir project objectives are to contribute to restoration of the Caloosahatchee River and Estuary by capturing high volume harmful discharges of fresh water and redistributing it to meet desired salinity levels in the estuary

FDEP Water Resource Implementation

Rule: Ch. 62-40, F.A.C (cont.)

- Prospective Reservation
- Allows water to be identified and reserved in advance of its availability
 - Rule to identify water anticipated to be made available at a future date
 - Rule to provide for updating the quantity anticipated to be made available if actual quantity of water identified is a different amount
- New information will exist at the time the C-43 Reservoir is constructed
 - Current identification of water for the C-43 Reservoir is based on model assumptions and projected operations
- District must protect the water identified for the natural system in the C-43 Reservoir Project Implementation Report prior to construction to obtain Federal funding



FDEP Water Resource Implementation

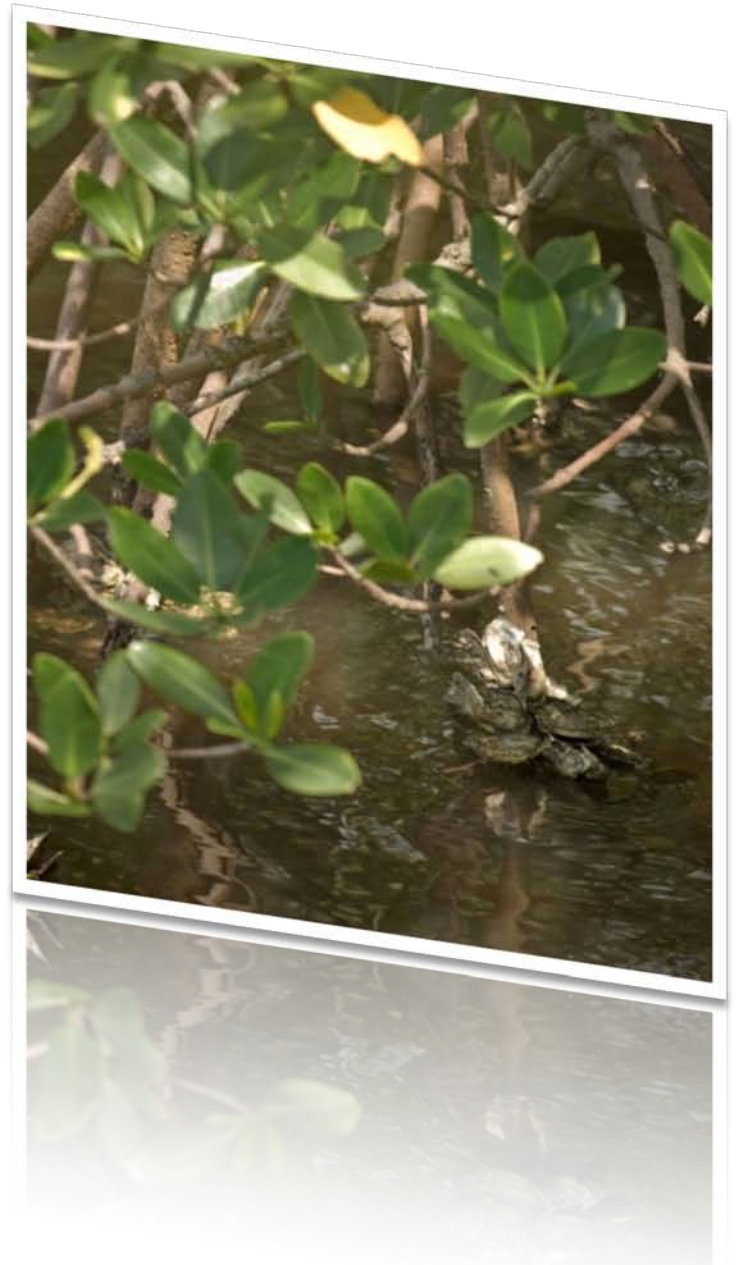
Rule: Ch. 62-40, F.A.C (cont.)

- Basis for reservation developed from information taken from approved CERP Project Implementation Report (PIR)
 - PIR subject to U.S. Army Corps of Engineers Independent Technical Review (ITR) of assumptions, methods, procedures, appropriateness of data and its application, alternatives evaluated, and reasonableness of results
- Scientific Peer Review
 - District has the discretion to determine whether to conduct scientific peer review



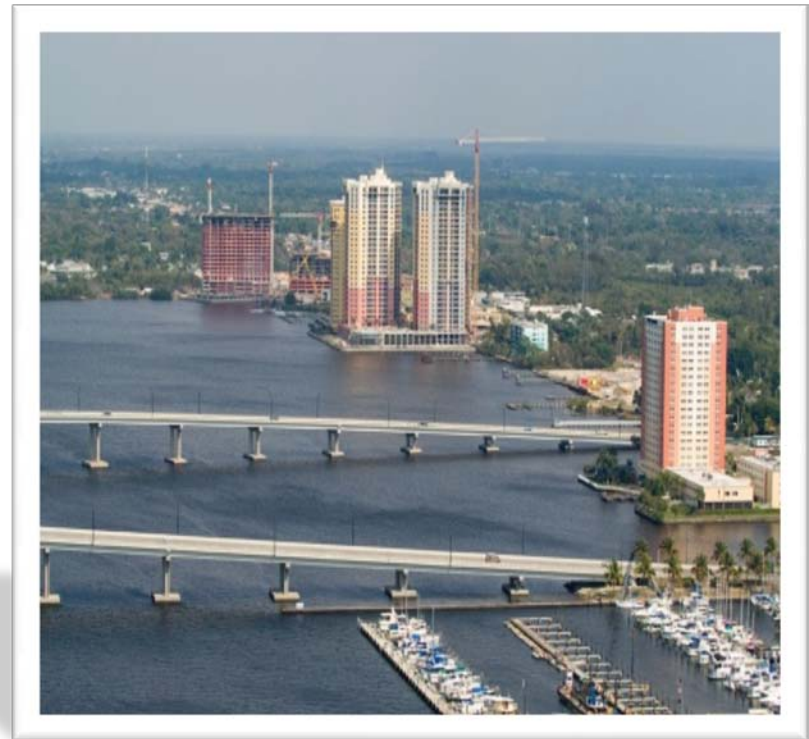
Other Rule Concepts

- PIR identifies that all water in the C-43 Reservoir is dedicated to the natural system
- Simplify approach by protecting all water in the reservoir and water that is delivered via operation of the reservoir to the Caloosahatchee River



Other Rule Concepts (cont.)

- Permitted users existing prior to effective date of rule will be protected consistent with other reservations



Questions?

**Workshop: Water Reservation for the
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Rule Language Concepts

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