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.websitetooolbox.com/
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.
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

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<td>24 – 36+ months</td>
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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
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

SOUTHERN FLORIDA

Area shown on main map

0 5 10 15 Miles
0 5 10 15 Kilometers

Caloosahatchee River and Estuary Watershed
Caloosahatchee River (C-43) Reservoir
Greater Caloosahatchee Estuarine Area

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

GULF OF MEXICO

ATLANTIC OCEAN

Gulf of Mexico

Northern Everglades
Southern Everglades
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
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
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

LEGEND:
- C433: NAME
- GATED SPILLWAY
- GATED CULVERT
- CREST SPILLWAY
- DIRECTION OF FLOW
- PERIMETER CANAL
- RESERVOIR DAM
- PUMP STATION
- ENTRANCE ROAD

CELL 1

CELL 2

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
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
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

- Establish an operating regime
- Drought proof the natural system
- 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
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?
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
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
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 on 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)

- **Dry Season Flows (Nov. 1 – May 31)**
- **2050 Without Project (cfs)**
- **2050 With Project (cfs)**
- **North Fork Target (cfs)**

**Target met 9% of Time**

**Target met 90% of time**

**Water for Protection of Fish and Wildlife**
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)

Water Made Available (Acre-ft/year)

Water from the Reservoir to be Reserved for the Protection of Fish and Wildlife
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!
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
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
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
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 Caloosahatchee River (C-43) West Basin Storage Reservoir

Rule Language Concepts

Beth Lewis,
Senior Specialist Attorney
Office of Counsel