C51 Reservoir Update

Broward County Water Resources Task Force
April 1, 2011
Why the Reservoir?

- Mounting Pressures on Traditional Water Resources
- Population Growth
  - Extended time frame
  - Improved conservation
- Competing Demands for “Cheap” water
  - Environmental Restoration
  - Irrigation (Agricultural, Residential, Commercial)
  - Electrical generation
  - Municipal utilities
Current Alternative Water Supplies

- High energy use, high carbon footprint and high cost
  - Reclaim Water for irrigation
    - Limited area
    - Dry season use
  - ASR wells
    - Low recovery %
    - Arsenic concerns
  - Reverse Osmosis Plant
Storage is the Solution

- CERP recognized need for additional water storage
- In Florida: DIFFICULT
  - Flat
  - Expensive
  - Pervious
- One area is suited!
  - Tight geology
  - Location near STA, WCA
  - Room for 75,000 acre-feet
C-51 Reservoir Overview
Sustainable Alternative Water Solution: Capture and Store Stormwater

- Storage Facility
- Reservoir
- Pump Stations
- Conveyance to users
- STA/WCA-1
- LWDD
Original Feasibility Study published in February 2009

- Joint effort – local governments / SFWMD
- Sponsored by 7 “Participating Utilities”
  - Palm Beach County
  - Broward County
  - Pompano Beach
  - Plantation
  - Sunrise
  - Fort Lauderdale
  - Hollywood
- All other utilities in Study Area can benefit
Who Can Benefit?

- Environment
  - Water for environmental restoration
  - Reduced nutrients to Lake Worth Lagoon
- Municipal Utilities
  - Palm Beach County
  - Broward County
- Agriculture?
- Industry?
What are Environmental Benefits?

- Manage Flows to WCA-1 for Environmental Restoration
- Decreased Sediment Load to Lake Worth Lagoon
  - Reduced Turbidity
  - Increased Light Penetration
  - Improved Bio-Diversity
  - Improved Water Quality
Municipal Utility Benefits?

- Additional water supply
- Existing wellfields recharged w/ fresh water
- Use existing water plants
  - Less energy use
- Lower carbon footprint
- Lower cost
- Sustainable from rainfall
Governing Board October 13, 2010 –
presentation on the Broward County Water Resources Task Force Report

Proposed C-51 reservoir project study was highly ranked

Board discussed potential benefits to Everglades restoration efforts to meet water quality obligations

Board directed staff to take the lead in developing consensus for this major regional water supply project
Current and Future Actions

Memorandum of Understanding

- Water Availability: SFWMD modeling
- Potential Users: Utilities future water needs
- Natural System Needs: SFWMD to identify
- Initial Feasibility Determination
- Governance and Permitting Decisions
- Conveyance Decisions
- Public Communication
Memorandum of Understanding

- Non-binding
- Signatories
  - Lake Worth Drainage District
  - Palm Beach County Utilities
  - City of Fort Lauderdale
  - SFWMD
- Joinder – Allows other parties to participate
- Initial Feasibility Determination
  - Does project meet participants objectives
Future Agreements

Funding Participation

- Preliminary Project Design and Cost Estimate: All Parties
  - Conveyance Routes:
  - Storage and Treatment
  - Report
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- **Phase I:**
  - Water Availability
  - Water Beneficiaries
  - Natural Systems Needs

- **Phase II:**
  - Conveyance / Transmission
  - Storage / Treatment
  - Costs

- **Phase III:**
  - Governance
  - Financing
  - Regulatory Program

**Communication Plan**
Pending Activities

- SFWMD Board approval of the MOU: April 14, 2011
- Formation of the Steering Committee
  - SFWMD Senior Staff
  - LWDD
  - Utilities
- SFWMD Modeling
  - Water Availability
  - Reservoir Operations
- Water Needs
  - Utilities, Environment
Thank you

Comments and Questions