

# Canal Recharge Study Approach

Stakeholder Workshop

February 23, 2005

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# Study Goals & Objectives

- Implement Legislative Direction in Section 17 of Chapter 2004-381, Laws of Florida:
- Directs DEP to conduct a study in coordination with the SFWMD to investigate the feasibility of discharging reclaimed water into canals as an **environmentally acceptable** means of augmenting groundwater supplies and enhancing natural systems.

# Study Goals & Objectives

- Legislature recognized potential benefit, but noted that both water quantity and water quality issues existed that must be better understood and resolved.
- Goal: Determine whether the canal recharge concept is feasible.
- Overall Objective: Evaluate both benefits and impacts of discharging reclaimed water into south Florida canals.

# Study Deadlines

➤ **November 1, 2005:**

Preliminary written report containing draft findings and recommendations due for public comment

➤ **January 31, 2006:**

Written report on the results of the study due to the Governor and Legislature (including public comments received)

# Phased Study Approach

- I. Evaluate feasibility
  - Identify & quantify benefits (water quantity)
  - Identify & evaluate impacts (water quality)
  - Evaluate under existing regulatory framework
  - Identify implementation challenges
- II. Evaluate possible management options to address study challenges
- III. Pilot Study?

# Impacts Evaluation (Water Quality)

- Regulatory framework in Chapter 62-610.555(4), F.A.C. requires meeting:
  - Surface water quality: Chapter 62-302, F.A.C.
  - WQBELs: Chapter 62-650, F.A.C.
  - Groundwater quality: Chapter 62-520
  - Minimum Treatment: Chapter 62-610
    - Secondary Treatment, Filtration (TSS < 5 mg/L), High-Level Disinfection, TN < 10 mg/L (annual average)

# Water Quality Evaluation

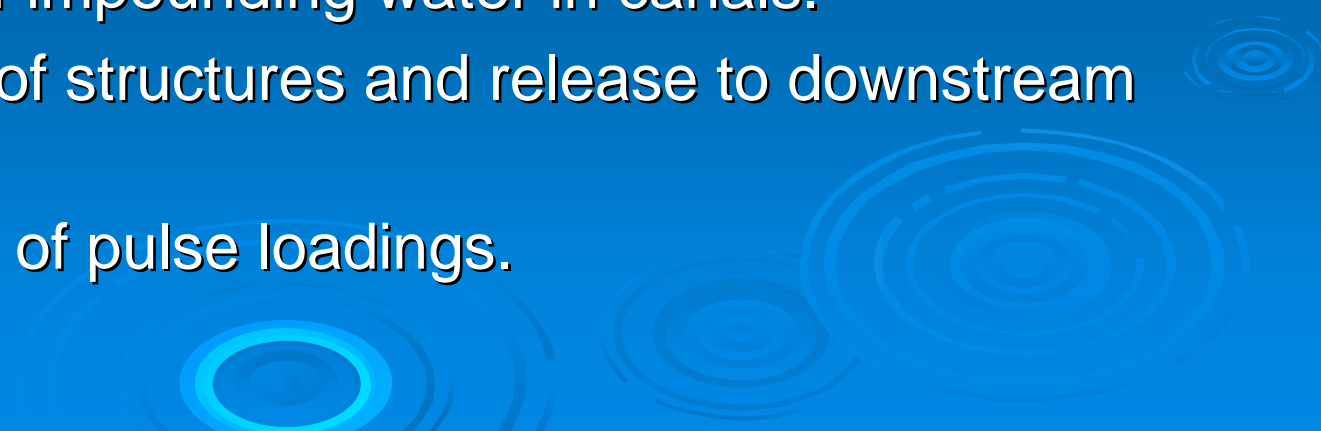
- Evaluate existing water quality in canals and downstream receiving water bodies.
- Evaluate impact of discharging reclaimed water into primary receiving canal, secondary surface water conveyance canals, & downstream receiving waters.
- Evaluate impacts to aquatic life resources.

# Canal Assessment

- Target canals identified based on the source (facility locations).
  - Need input from facilities on specific discharge locations.
- Study will gather information regarding:
  - Available physical, chemical, and biological characteristics of target canals.
  - Information relevant to defining physical constraints that limit the ability of target canals to receive reclaimed water.
  - Operational controls and proposed operation for each of the target canals.



# Canal Operations

- Characterize operations at both regional and local scales.
  - Needed to evaluate benefits and impacts.
  - Impacts: Evaluate biological response to nutrient loading.
    - Duration of impounding water in canals.
    - Operation of structures and release to downstream waters.
    - Frequency of pulse loadings.
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# Southern Palm Beach County

## Palm Beach County Waste Water Treatment Facilities

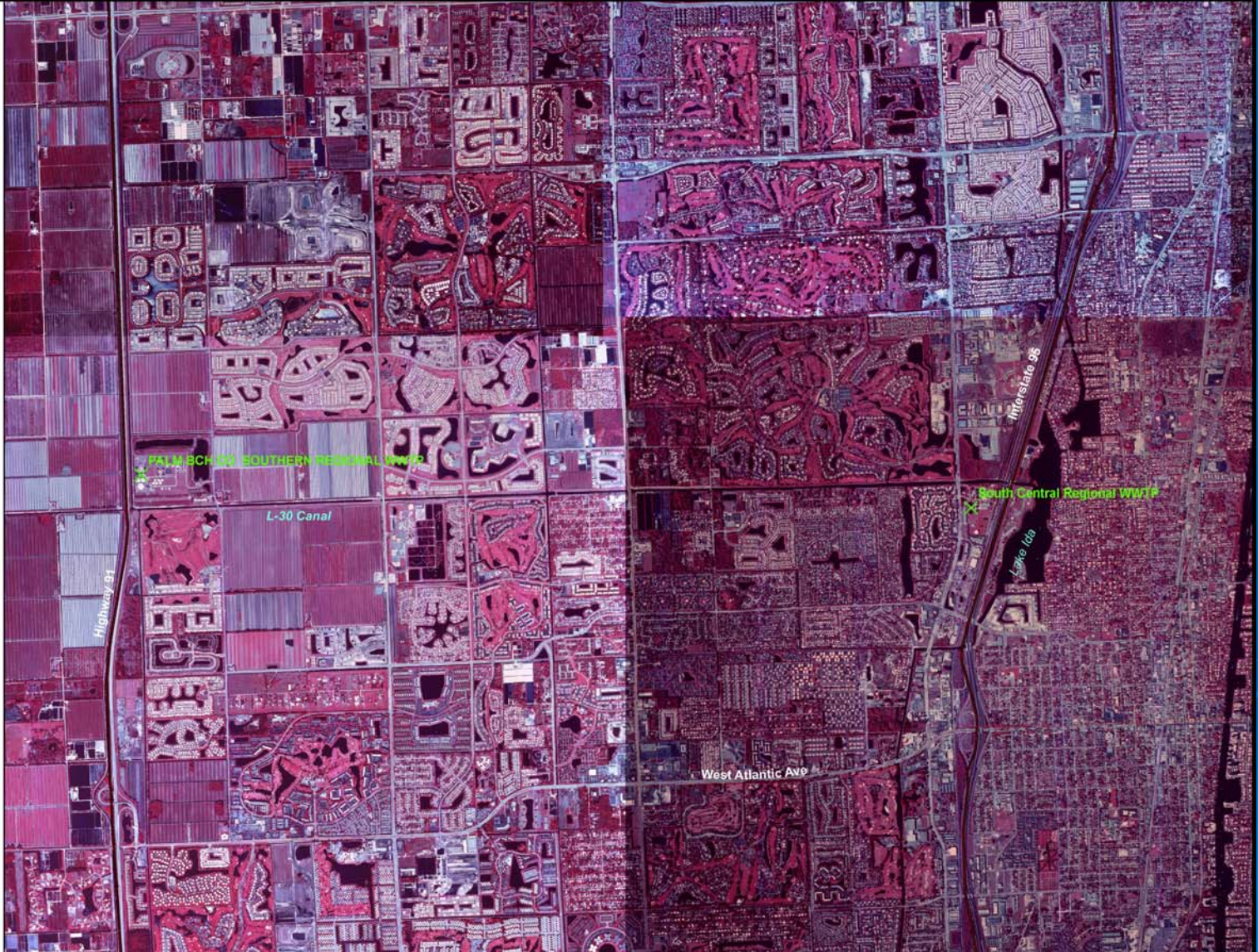
February 17, 2005 This map is for display  
purposed, not analysis. Contact Stacey Feken  
voice: (850) 245 - 8421 for more information.

- X Facility
- Primary road with limited access
- Primary road



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# Miami Dade South Plant

## Miami - Dade South Wastewater Treatment Facility

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✕ South Miami-Dade Facility

— SFWMD Canals

— Aquatic Preserves

### Florida Managed Areas

— Federal

— State

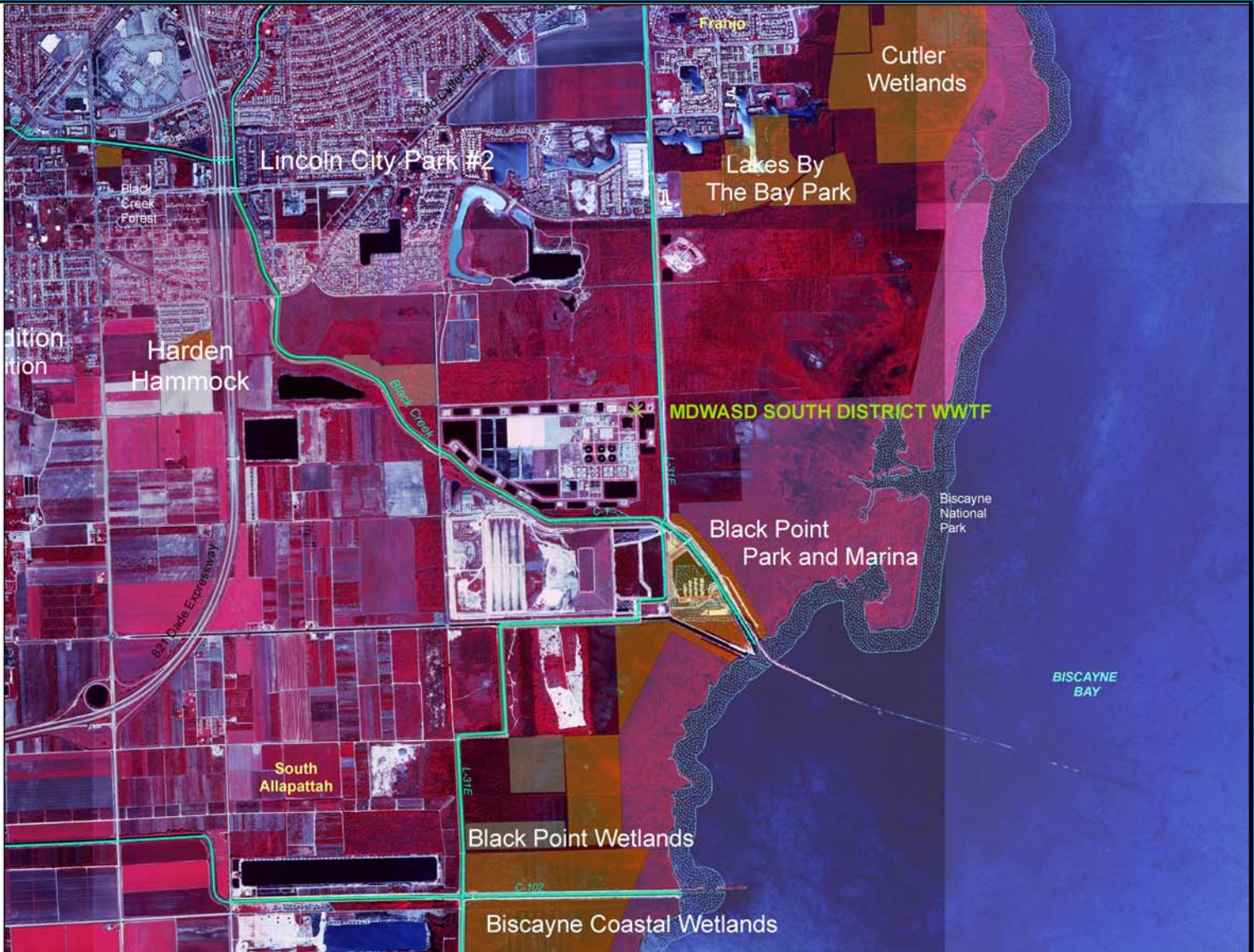
— Local

— Private

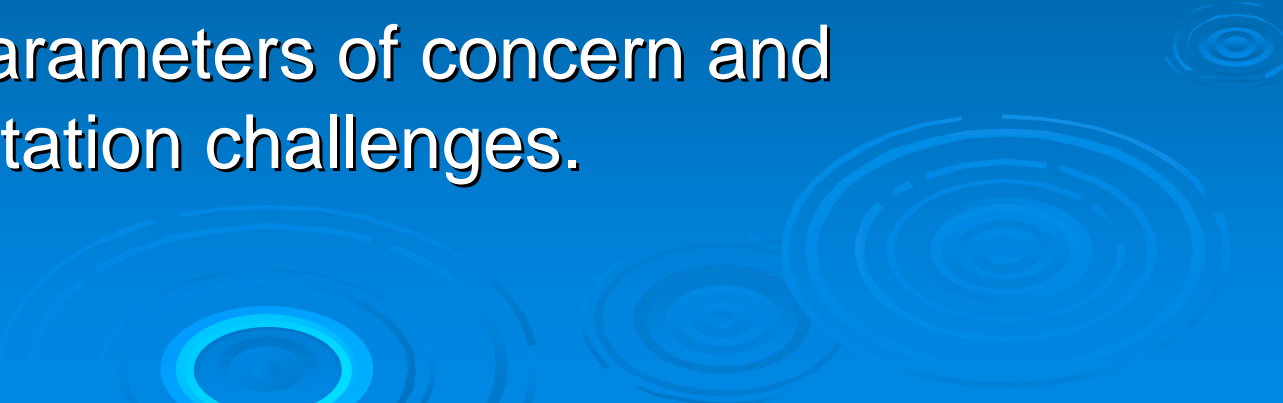


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# Impacts Evaluation

- Will evaluate impacts and assess ability to meet existing water quality requirements.
    - Identify minimum acceptable quality and desired level of treatment.
    - Identify parameters of concern and implementation challenges.
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# Benefits Evaluation

- Quantify benefits: reduction in water supply deliveries from natural system applying known constraints
  - Study to evaluate water deliveries and water management operations and identify constraints
- Quantify aquifer recharge benefits under different drought conditions

# Assess Feasibility

- Assess benefits and impacts
  - Identify site specific considerations
  - Identify regional differences
  - Ability to meet existing requirements
- Determine whether sufficient information exists to assess feasibility of canal recharge
  - Identify remaining questions
  - Identify challenges to address
  - Pilot study needed?
- Decide whether environmental and water supply benefits will be derived from canal recharge

# Phase II

- If environmental and water supply benefits outweigh impacts then move to Phase II:

Identify & Assess Management Options



# Next Steps

- Need assistance from Water Control Districts & Utilities in gathering certain information (e.g. utility & canal operations)
- Would like to meet with interested stakeholder groups to get feedback



# Timeframes

- Public Meeting to Discuss Initial Feasibility Assessment: Summer 2005
- Public Meeting to Present Study Findings and get Stakeholder Input: October 2005
- Distribute Draft Report for Public Comment: November 1, 2005
- Deliver Final Report to Governor & Legislature January 31, 2006

# Study Website

<http://www.dep.state.fl.us/water/wqssp/canals.htm>

