



# Seasonal Agricultural Drawdown Study Update

Water Resources Advisory Commission (WRAC)

October 6, 2009



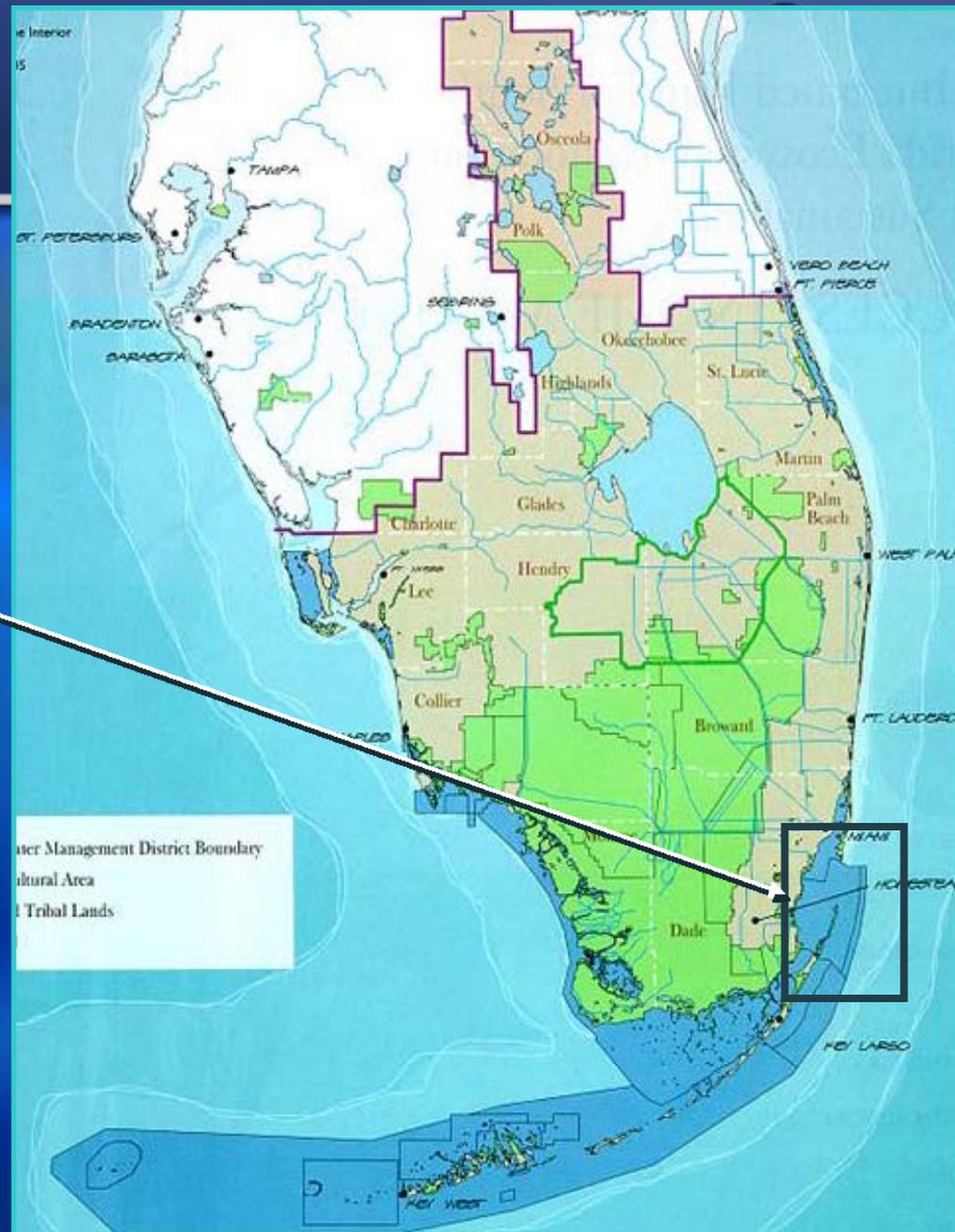
Dewey Worth, Everglades Restoration  
Planning Project Management Division  
South Florida Water Management District



# Agricultural Drawdown Area in Miami-Dade County

Phase I – Early Efforts to Mitigate Effects

Phase II – Permanent Modifications





# 2009 Stakeholder Meetings

- May 8 – Biscayne Bay Regional Restoration Coordination Team
- – Environmental Group Meeting
- June 30 – Agriculture Landowners Meeting
- Aug. 21 – Kickoff Meeting
  - General discussion of purpose
  - Expectations
  - Study process
- Sept. 28 – Agricultural Round Table
  - Potential 2009 adjustments/options

# Governing Board Approval of Practice

- This practice has been acknowledged since 1981 by SFWMD – Board Discussion November 13, 1981

***Staff – “stages had been lowered in the East Glades annually for about the past 15 years”***

***Staff – “salt water intrusion recognized as a threat”***

***Staff – “if the Board approved a lowering of stages, it should be done only for planting, and after that, stages should be held high; the stages should be dropped only to let the farmers get on the land.”***

***GB – “approved a temporary, 45 day lowering of water stages in the East Glades – the same as in previous years. GB gave no guarantee for flood protection – operate system to minimize impacts”***

Region impacted by agricultural drawdown

Perspective changing as new data becomes available

**EVERGLADES**

**Biscayne Bay Coastal Wetlands**

**Alternative "O"**



Engineering projects and standards used: The Region of Interest is located within the Florida Department of Environmental Protection's (FDEP) Biscayne Bay Coastal Wetlands (BSCW) and the US Army Corps of Engineers' (USACE) Biscayne Bay Coastal Wetlands (BSCW) and the US Army Corps of Engineers' (USACE) Biscayne Bay Coastal Wetlands (BSCW).





# Why Drawdown Is Important

## Agricultural Perspective

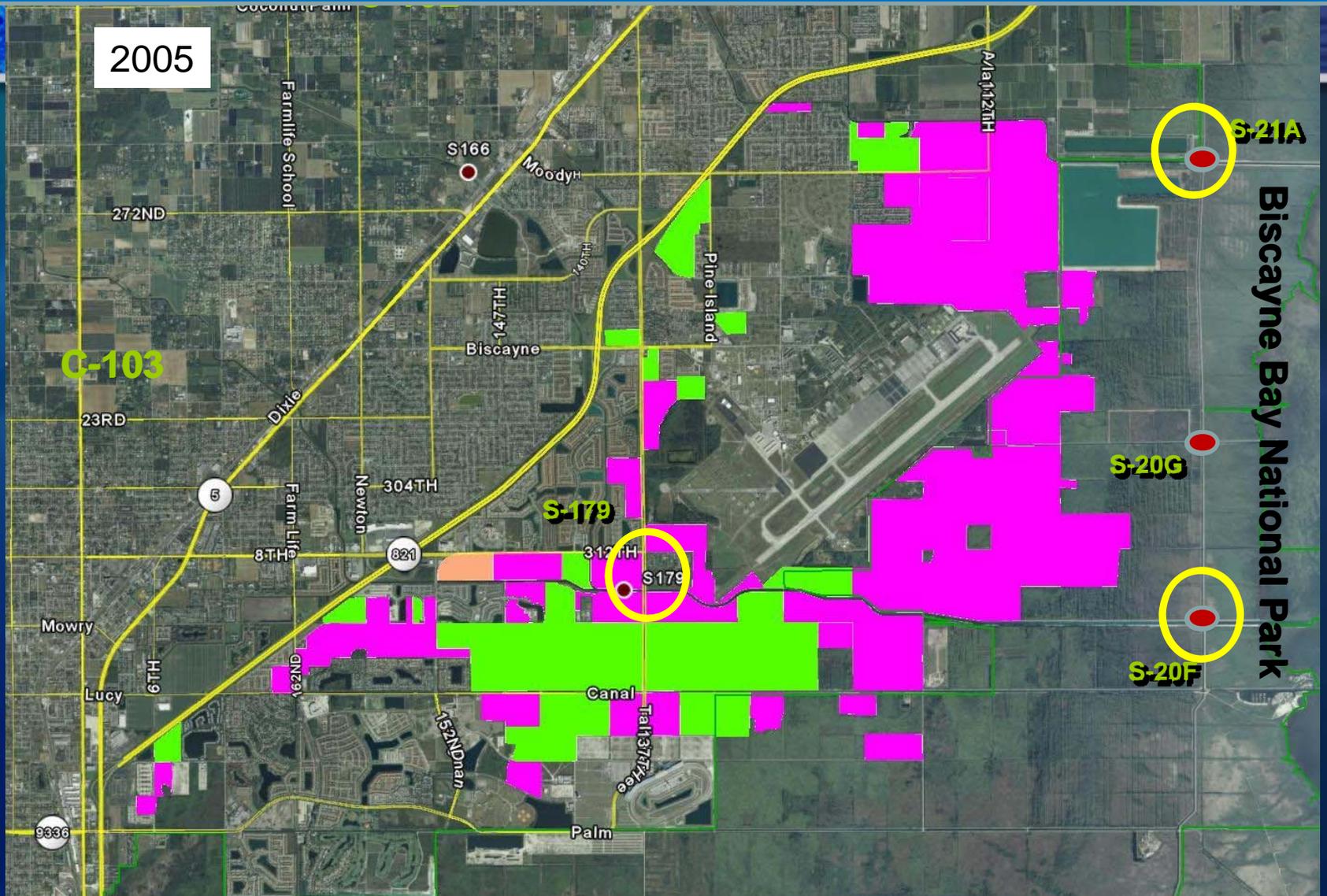
- Vital to crop planting and market timing for row crops
- Ornamental crops benefit but not operated for this purpose – fields mostly flooded except in dry season
- Agriculture land owners want to retain flexibility and change crop usage, depending on markets

## Biscayne Bay/Regional Perspective

- Higher water tables needed at beginning of dry season to sustain groundwater flow to bay
- Drawdown release is out of sync with natural system needs – poor timing
- Prevent further salt water intrusion



# Agricultural Uses in C-102 and C-103 Basins - East of U.S. 1



Miami-Dade County Watershed Sub Basins Affected by Seasonal Drawdown Operations



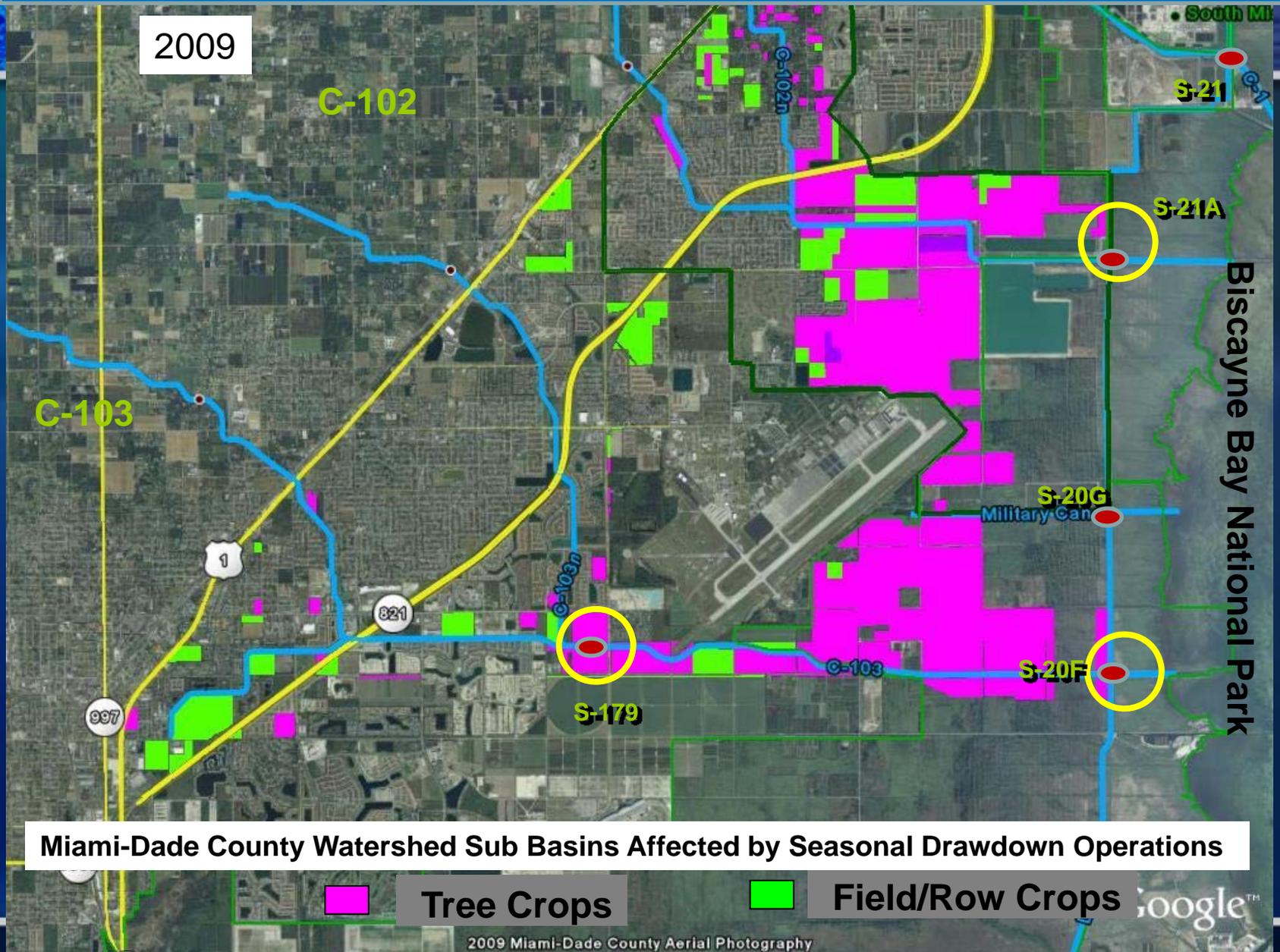
Tree Crops

Photography



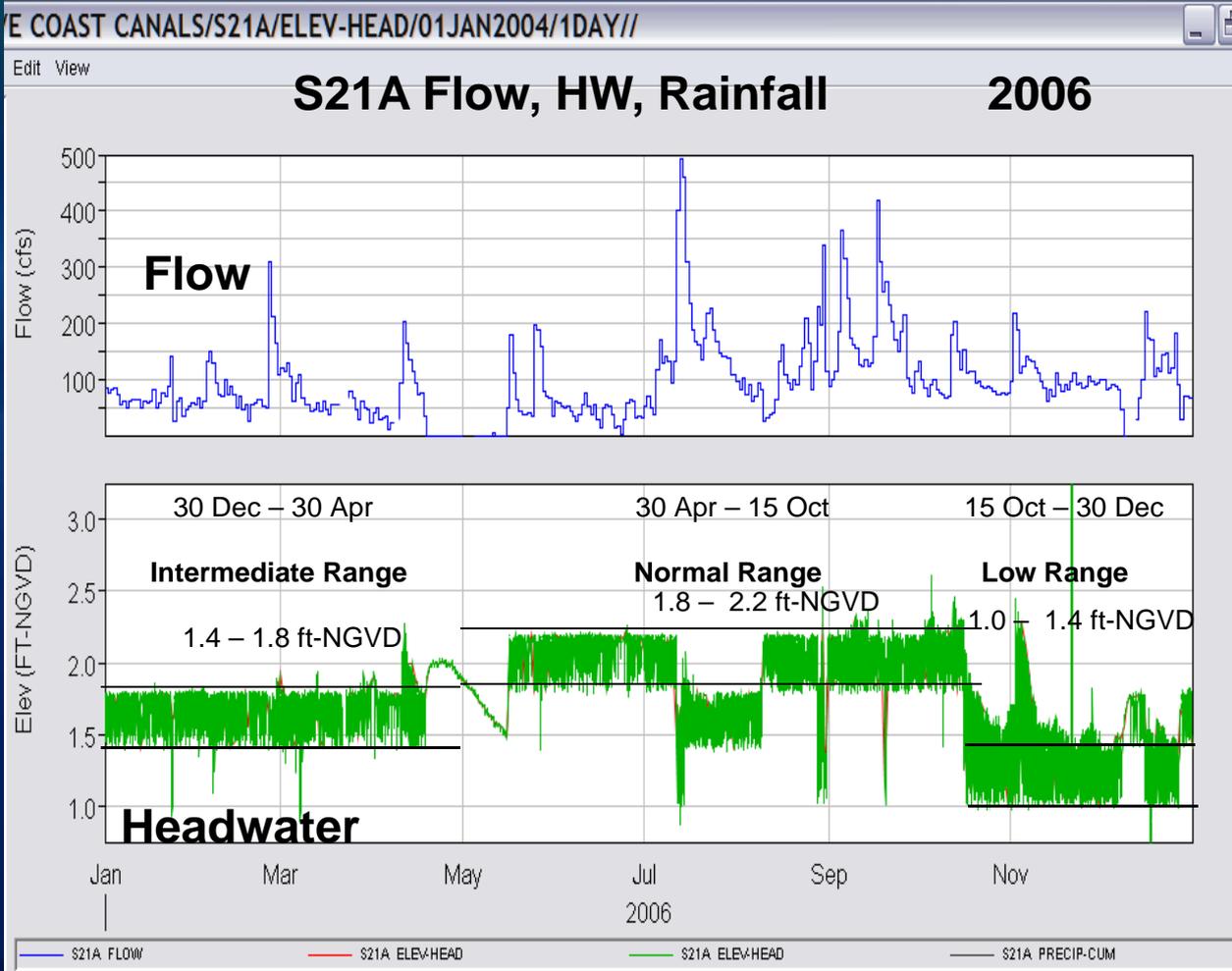
Field/Row Crops

# Agricultural Uses in C-102 and C-103 Basins - East of U.S. 1



Miami-Dade County Watershed Sub Basins Affected by Seasonal Drawdown Operations

# Existing Operations Optimized



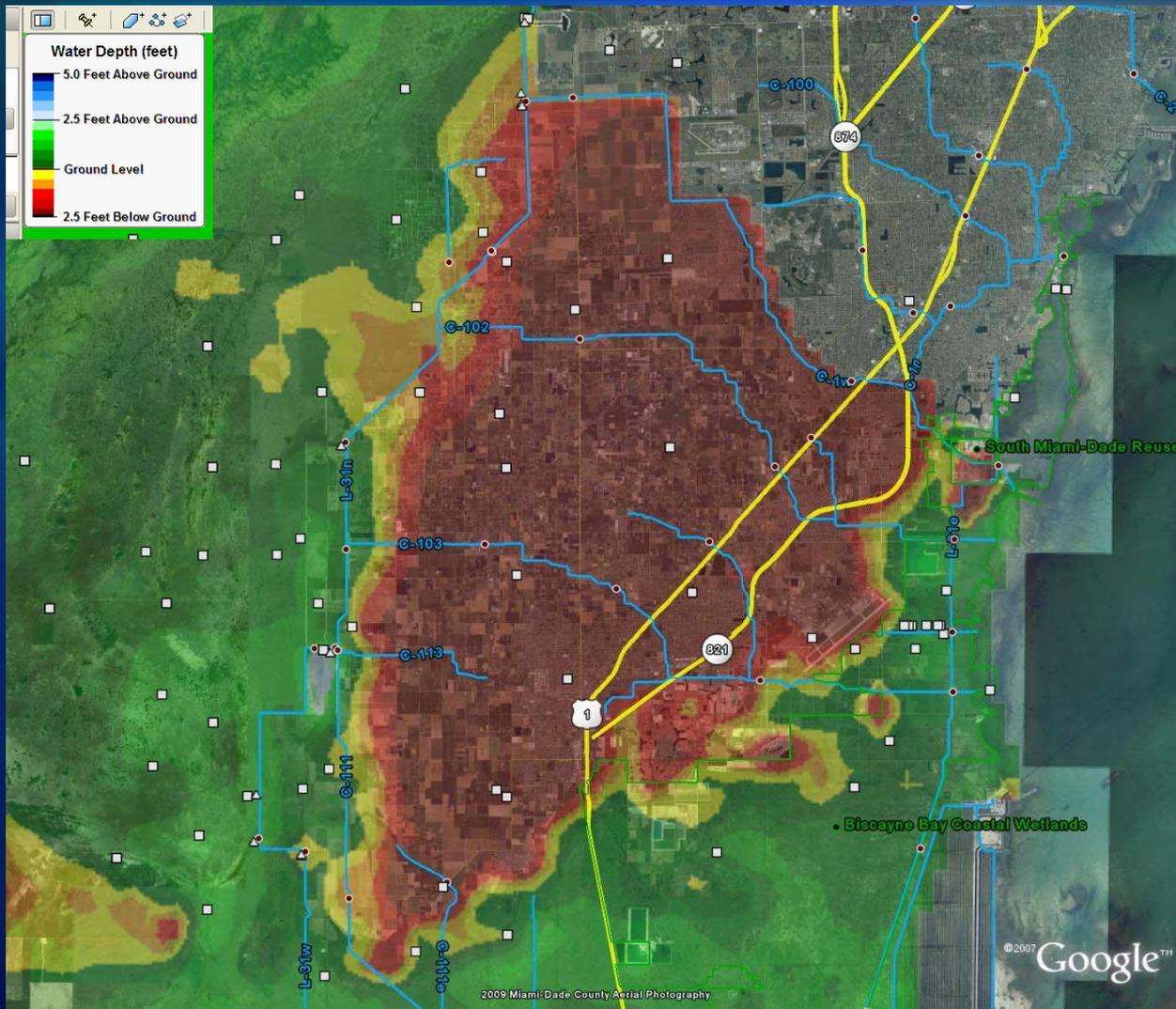
- Homestead Field Station has already optimized operations
- Flexible timing used to lessen impacts on Biscayne Bay
- Utilizes direct feedback from Farmers to adjust to local conditions
- Uses forecasted weather and water levels in the system to temper operational changes

# 2009 Agricultural Drawdown Operation Options

- Conduct a smaller reduction of drawdown
- Start drawdown earlier in season and gradually reduce water levels
- Have farmers use different equipment that can operate in soggy soils
- Fill working areas of farm fields
- Delay drawdown to later in season

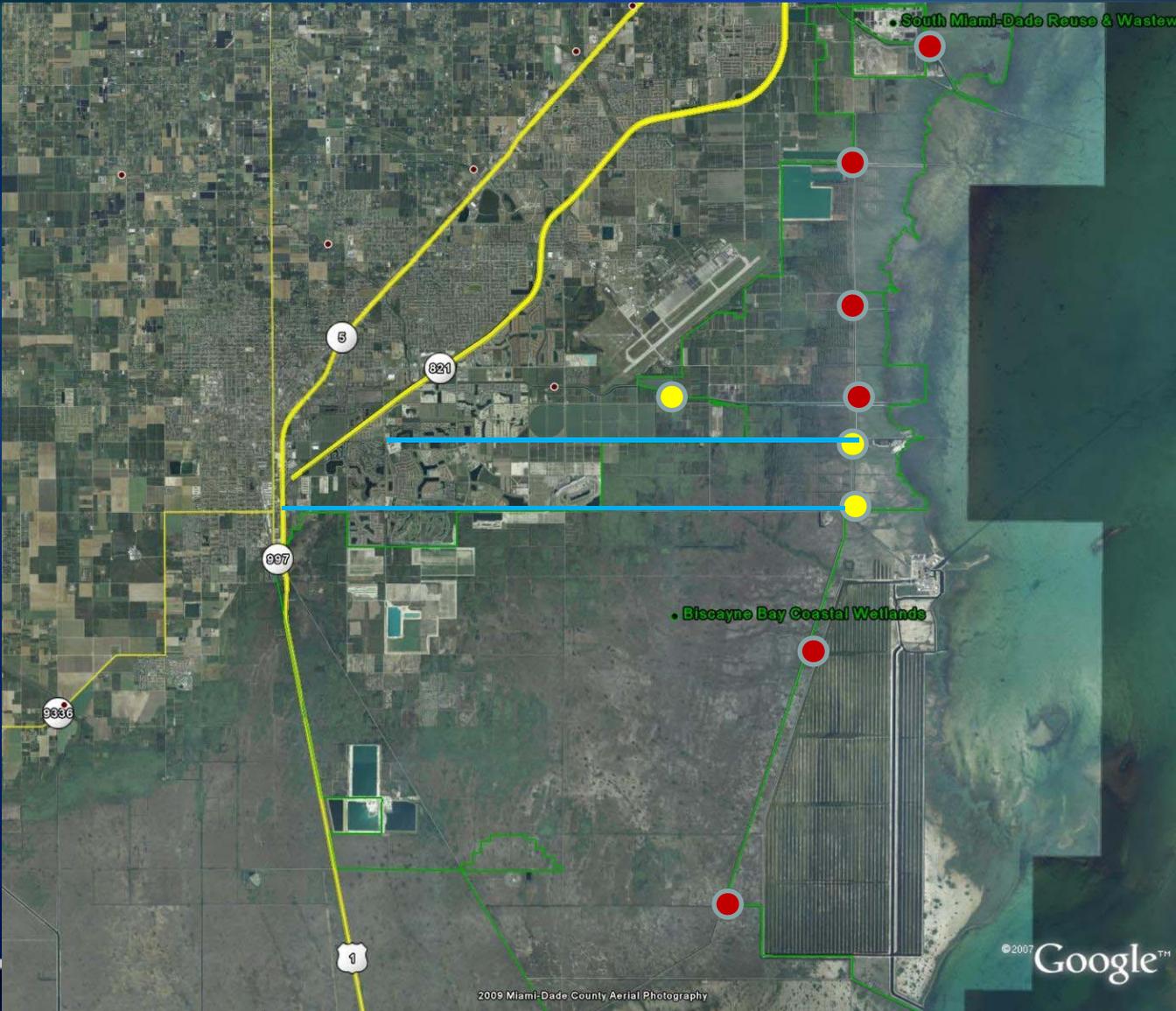


# Documenting 2009 Operations



- Install new gauges to track water level changes
- Provide photo documentation of changing conditions
- Implement new technique for mapping water level changes

# Long Term Potential Mitigation Measures



## New Surface Water Structures

- Florida City Canal
- North Canal

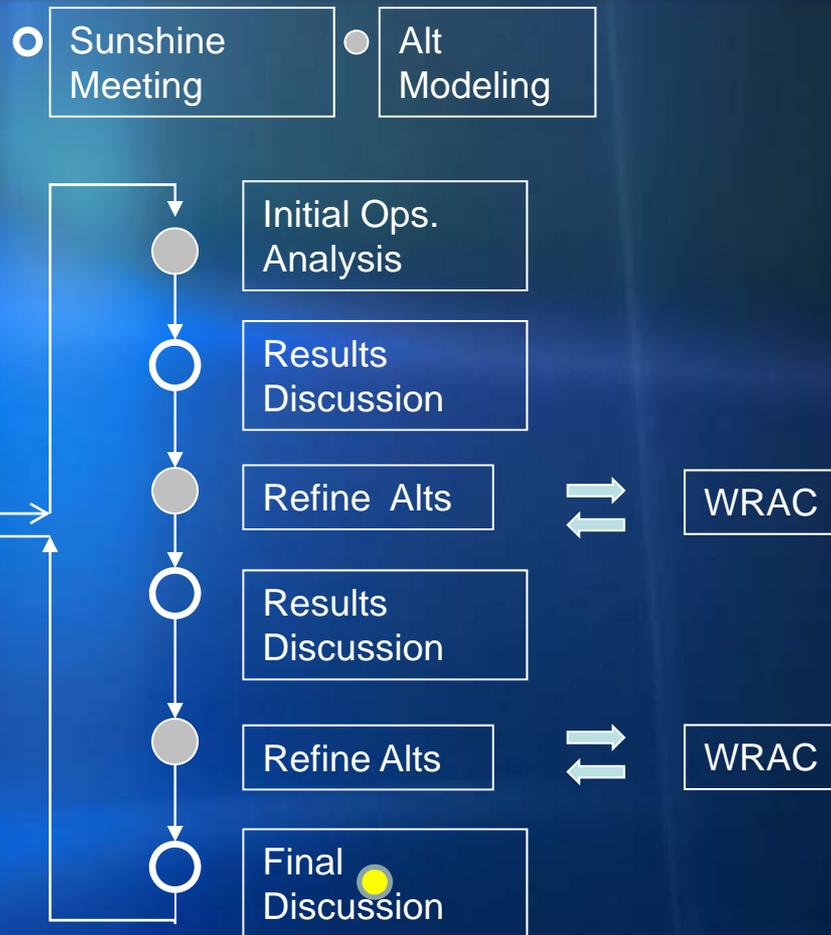
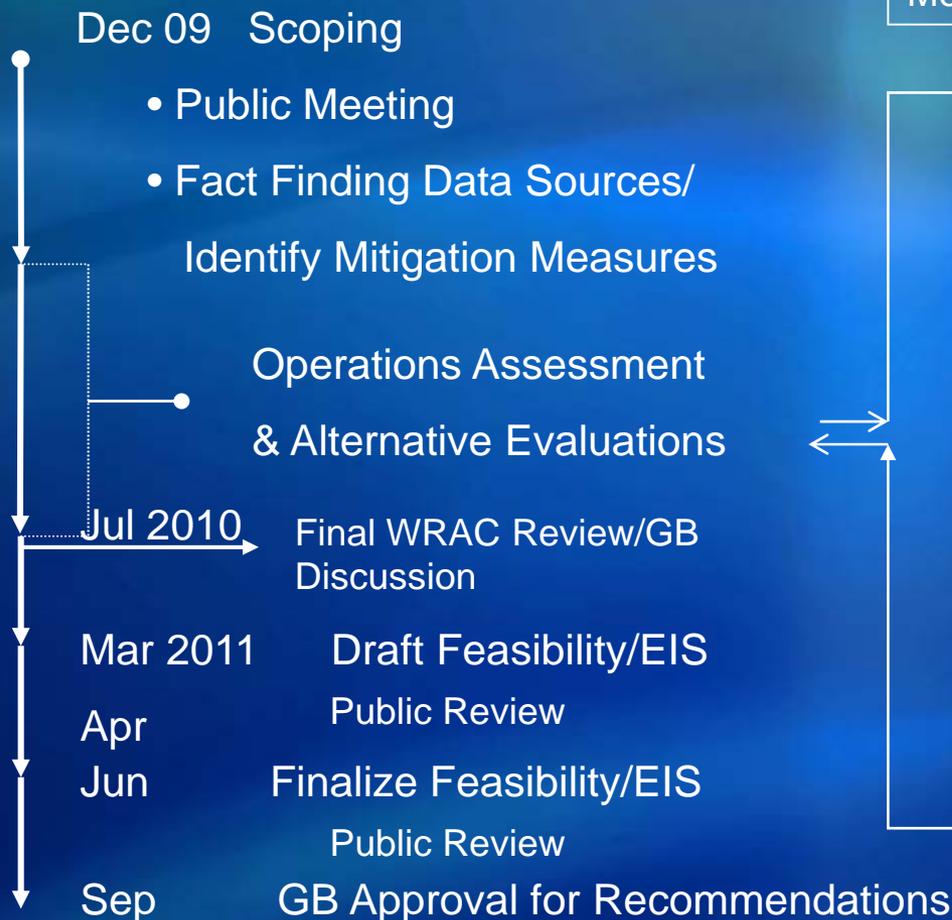
● Existing Structures

● New Structure

- Recommend New Operating Criteria

# Agriculture Drawdown Study Process

## Initiate Feasibility Study





**Questions?**