

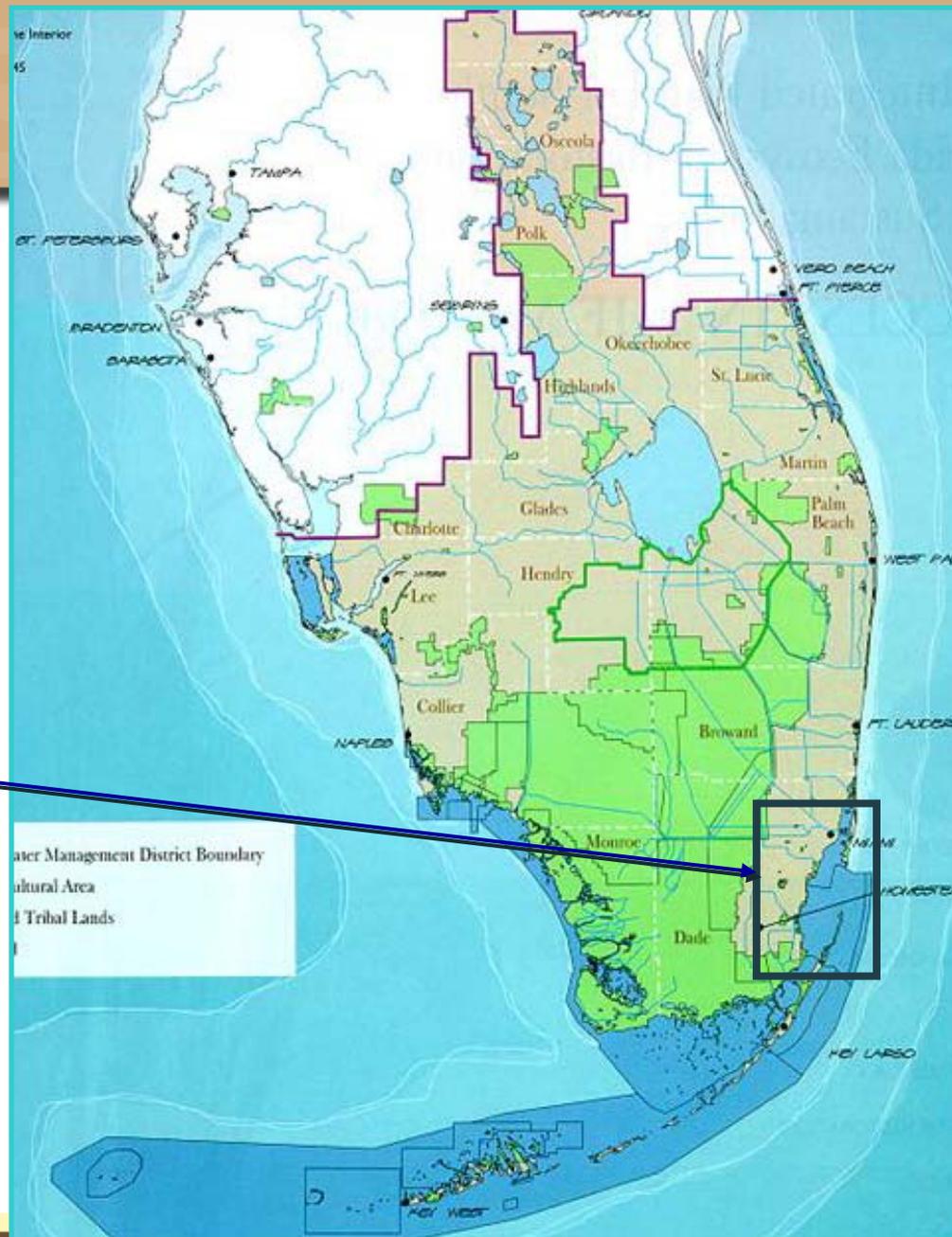


Miami-Dade Canal Agricultural Drawdown Study

February 12, 2008 Governing Board

Dewey Worth – Restoration Planning Division, Everglades Restoration

Agricultural Drawdown Area in Miami-Dade County



Farming and Water Management History

- Extensive farming began in 1900s when local farmers dug and maintained local drainage canals
- Canals expanded and upgraded by C&SF project in 1960s to aid economic output of agriculture and commerce
- Common practice is to lower water levels at beginning of dry season
- This practice has been acknowledged since 1981 by SFWMD

“Governing Board gave no guarantee for flood protection – operate system to minimize impacts”

EVERGLADES

Biscayne Bay Coastal Wetlands

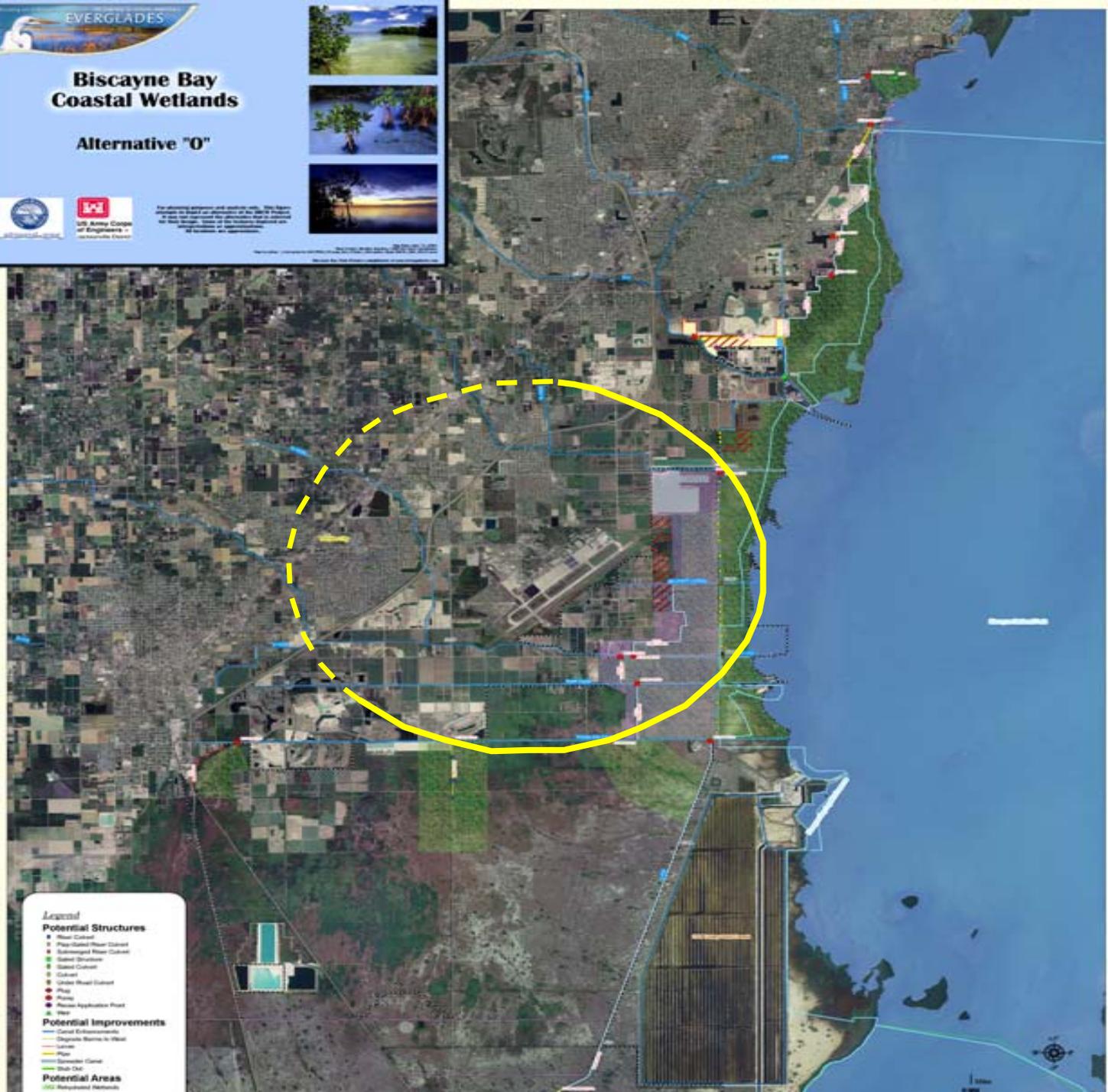
Alternative "O"



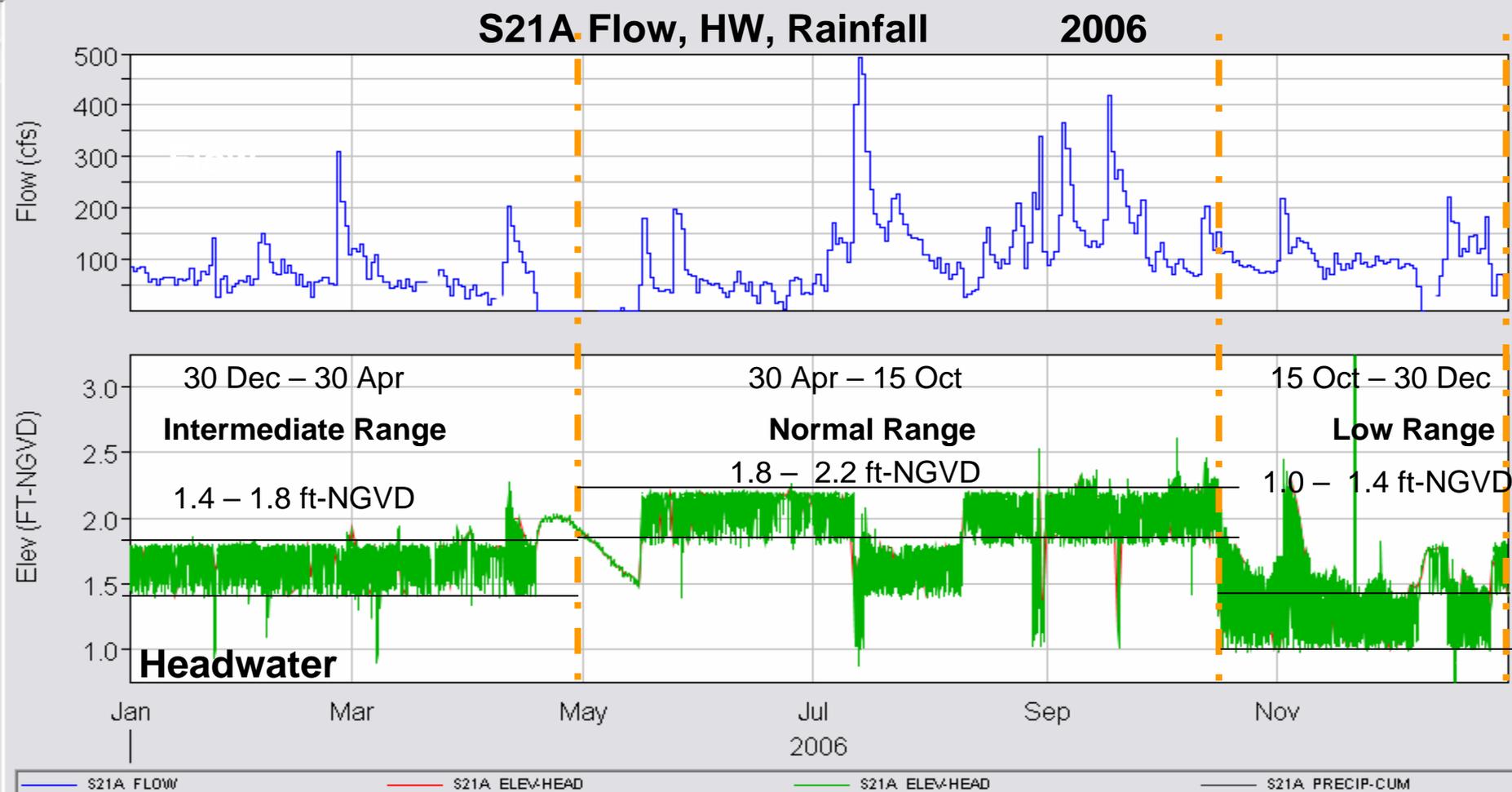


 An approved permit and construction plan for the proposed project is available on the USACE website at www.usace.army.mil. For more information, contact the project manager at URS@usace.army.mil.

Region impacted by agricultural drawdown



Edit View



Three modes of operation based on field conditions and agriculture:

- Normal Range Operation (April 30th to October 15th)
- Intermediate Range Operation (December 30th to April 30th)
- Low Range Operation (October 15th to December 30th)

Drawdown Impacts to Biscayne Bay

- **Lowering canal levels at the start of the dry season releases water to Biscayne Bay at the wrong time**
- **Biscayne National Park estimates 63,000 acre-feet annually (average) lost that could provide dry season groundwater flow**
- **Biscayne Bay often experiences high salinities later in the dry season which this water could help mitigate**



Stakeholder Issues Discussed at WRAC

- **Biscayne Bay Coastal Wetlands Project recommends eliminating the drawdown practice (part of phase 2 plan) – provides significant environmental benefits**
- **Farming intensity has diminished and crop types have changed from historical**
- **Conversion of crop lands to urban development**
- **Farming still active part of local economy and practice still needed**



Other Emerging Issues

- **Increased evidence of regional salt water intrusion within the Biscayne Aquifer**
- **Increased mining activity that could accelerate mixing of surface water and salt-intruded aquifers**
- **Florida Power and Light expanded power facility at Turkey Point and affect on regional water resources**
- **Proximity of wellfields to saltwater intrusion line and future wellfield sustainability**



Agricultural Drawdown Study

- **Fact-finding effort**
- **Work with local agricultural representatives to identify drawdown practices and future needs**
- **Identify temporary opportunities to change seasonal practice in the short term**
- **Identify potential operational or structural improvements to lessen water losses and address other water resource needs throughout the basin**





Questions

Biscayne Bay Coastal Wetlands Seasonal Agricultural Drawdown Evaluation

- Phased for implementation as part of PIR-2 Recommended Plan
- Sr. management approved concept to investigate as a responsibility of SFWMD water stewardship

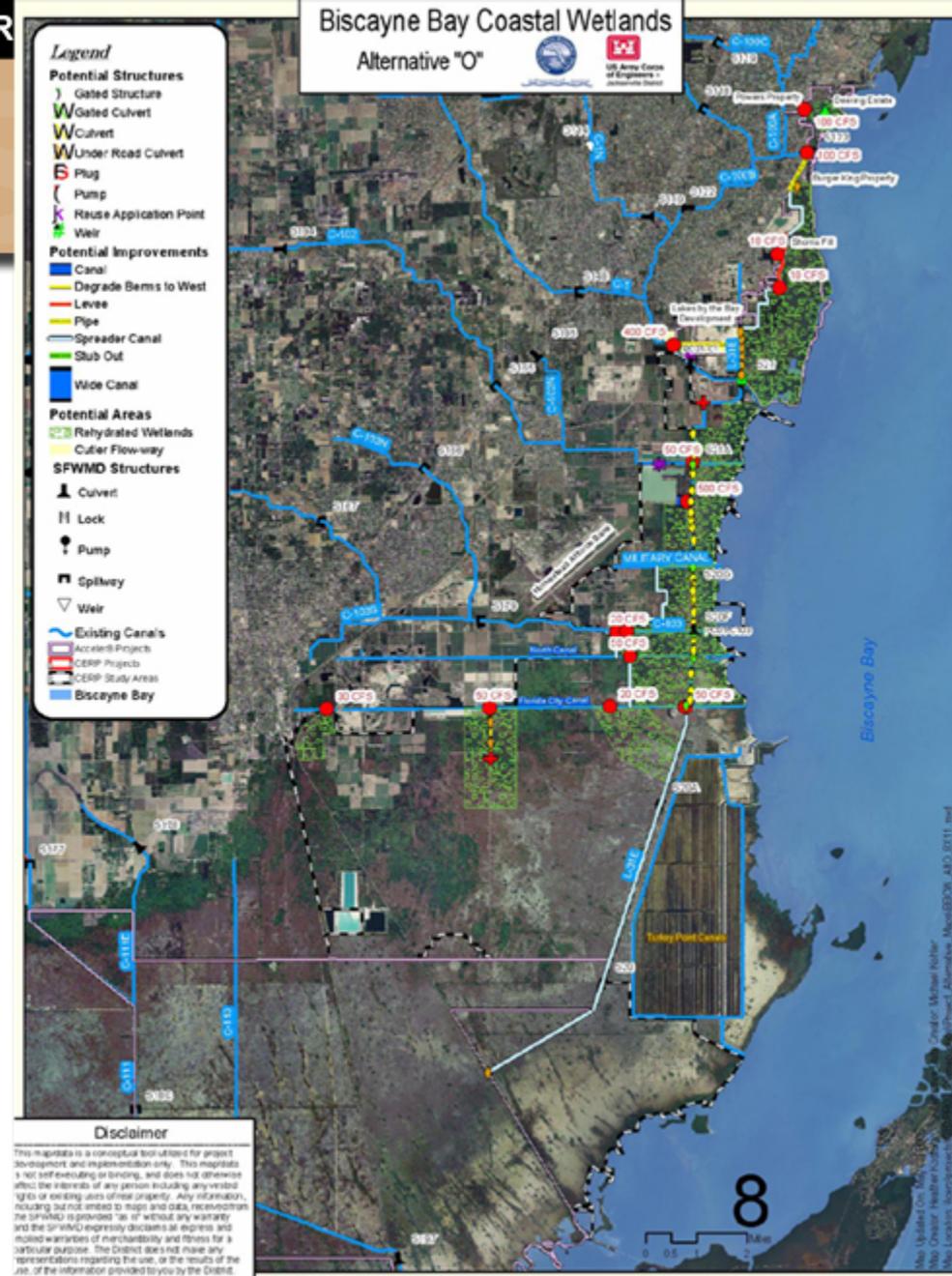
- **Study Components**
 - Quantify existing land uses – actual vs tax rolls – real acres of production by crop type throughout the C102 and C103 basins
 - Evaluate current practices – what is on the books vs what we do for each sub-basin
 - Conduct hydrologic model evaluation - baseline and future without
 - Alternatives analysis – operational and structural changes to protect future ag uses and reduce seepage losses – environmental benefit vs costs
 - Identify preferred plan

- **Process for Implementation**
 - WRAC Issues meetings for periodic updates on findings and progress
 - Local ag meetings
 - Ag Extension Service assistance for crop vulnerability
 - Soil and Conservation Service

Study Duration – Approximately 2 years, beginning FY09

Alternative O

- **Major Features**
 - **Canal discharge redistribution**
 - **13 Pump Stations**
 - **4,700 feet of piping**
 - **7 miles of spreader canals**
 - **5 miles of levees**
 - **Flow ways**
 - **Estimated 10,134 acres of land**
- **Project cost \$498,190,000**



Saltwater Intrusion Line Location 1995

