

ENP Seepage Management Biscayne Bay Coastal Wetlands, C-111 Spreader Canal and Florida Bay Florida Keys Feasibility Study

Project Overview To FKNMS Advisory Committee

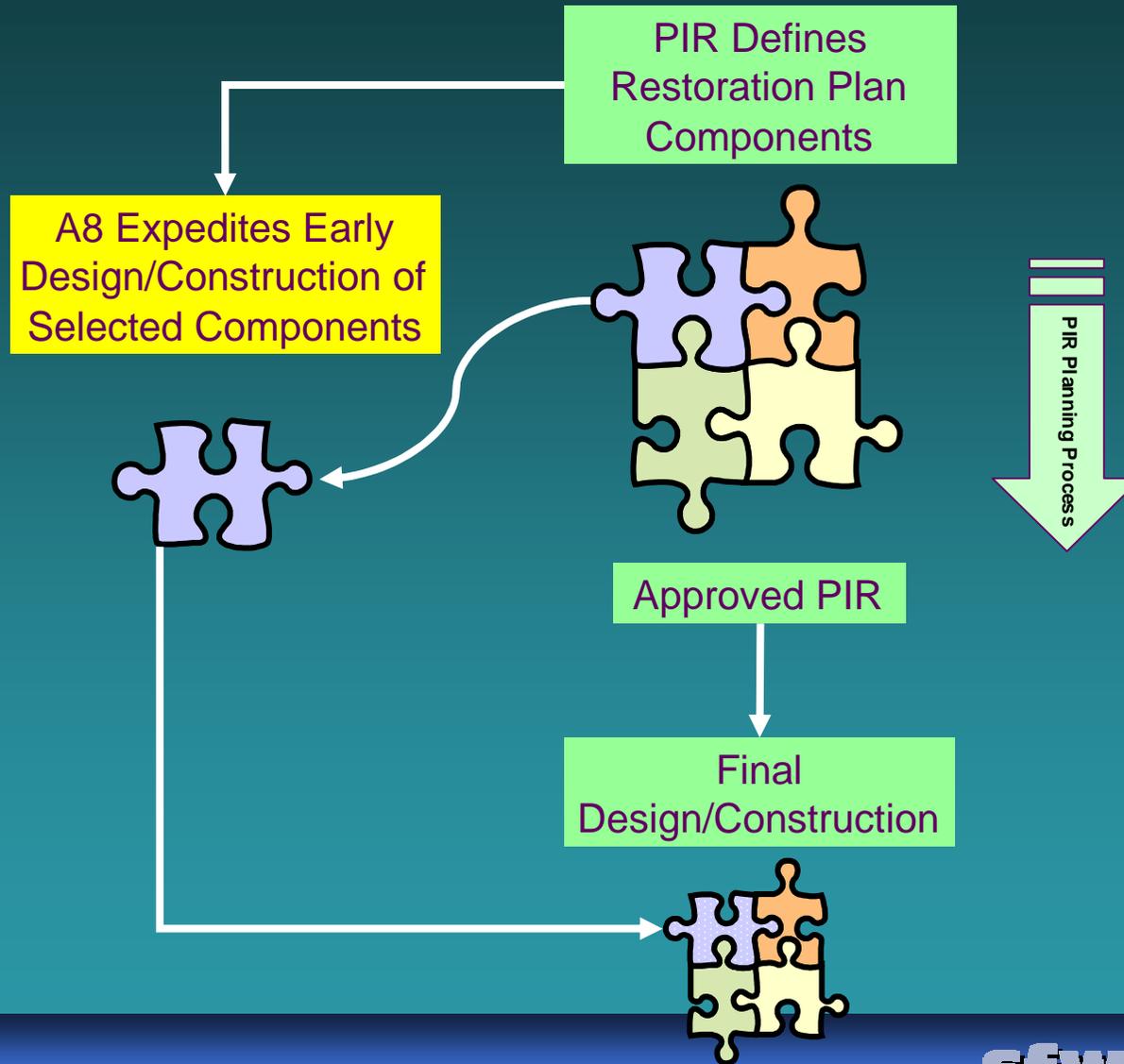
*Tommy B. Strowd, P.E.
Assistant Deputy Executive Director, CERP*

August 15, 2006

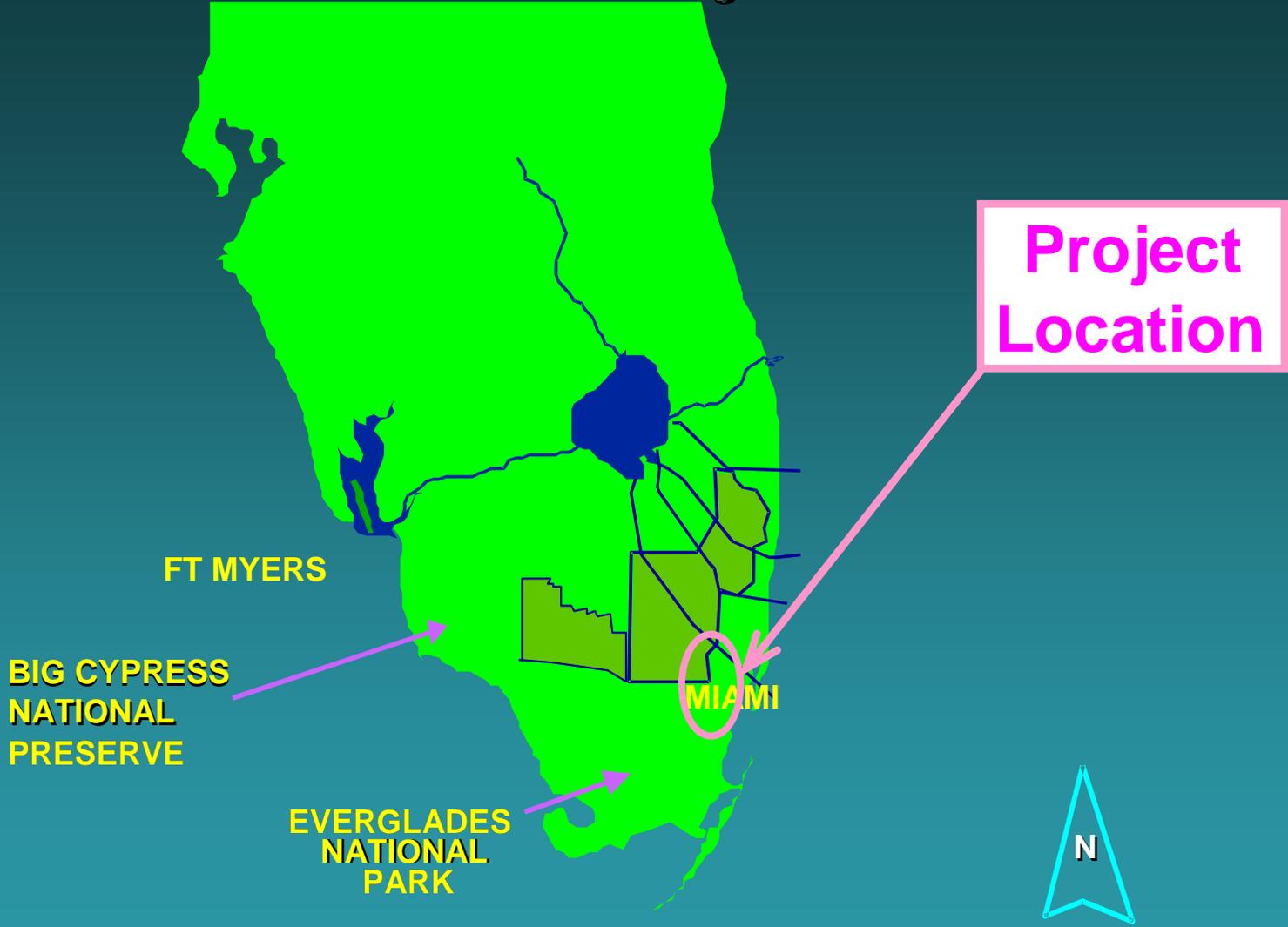


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PIR and Acceler8 Integration



ENP Seepage Management and Pilot Project



ENP Seepage Management / L-30 Pilot Project

- **Capture and return wet season seepage to ENP – major enhancement to ENP water budget**
- **Keeps clean water in ENP & benefits Fla Bay**
- **Savings Clause**
 - **requires part of Seepage be protected as base flow to BB – how much?**
 - **Other water related needs also must be met**

Original Yellow Book Plan



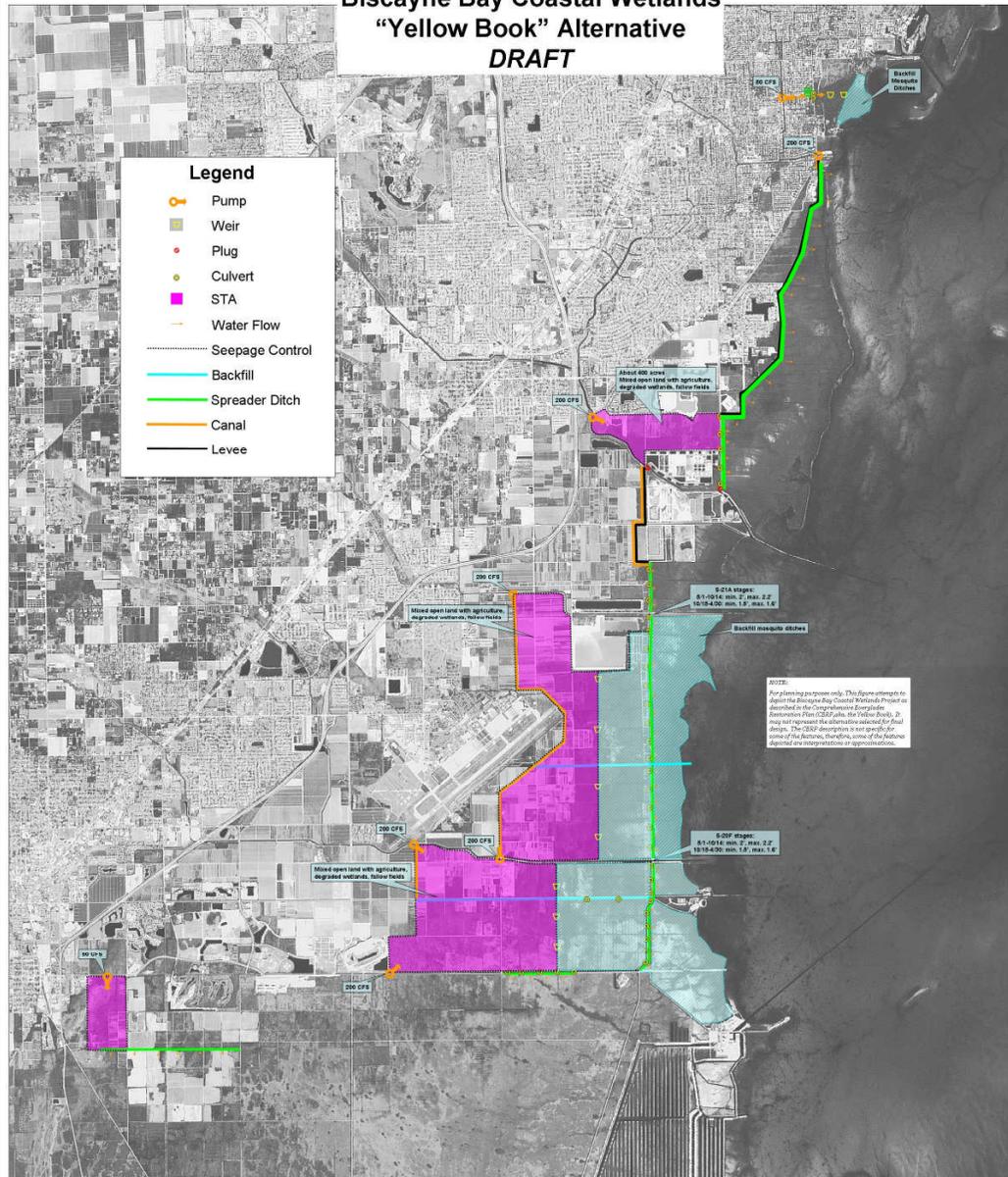
ENP Seepage Management / L-30 Pilot Project

- Seepage control critical to MWD Project – MWD expected to improve ENP hydrology by 2009 – need to keep water gains in the park
- Some interim seepage being provided by L-30 Pilot Study – constructing 1200 ft of curtain wall
- Pilot results to provide cost effective technology for full scale seepage implementation - need technical feedback

Biscayne Bay Coastal Wetlands



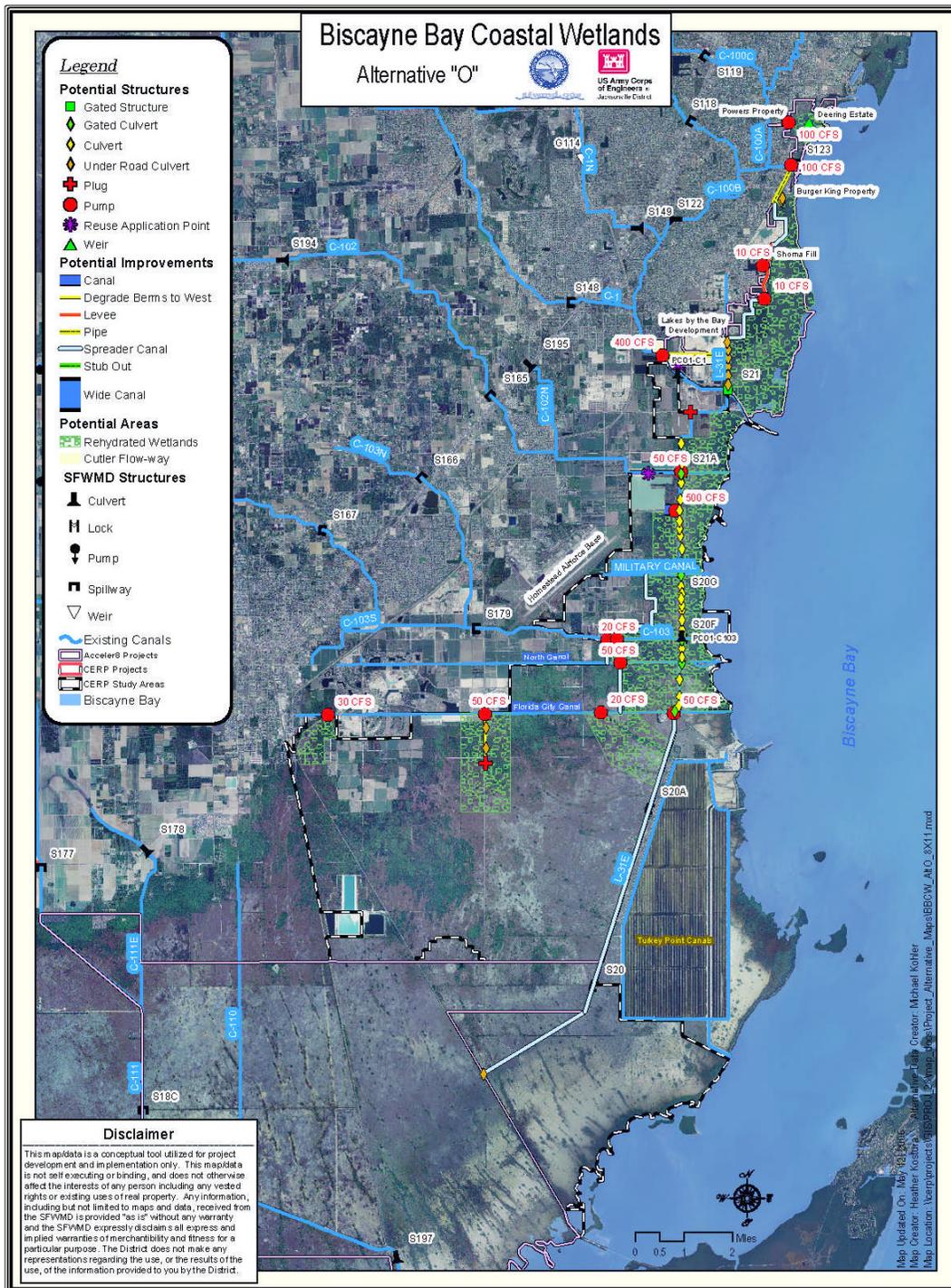
Biscayne Bay Coastal Wetlands
 "Yellow Book" Alternative
 DRAFT



Yellow Book Plan Concept May Not Be Practical

- Extensive Area was projected for Water Quality Treatment
- Water Redistribution will require additional canals and spreader swales
- Lands adjacent to the Bay are most expensive real estate
- Not enough water to meet restoration goals

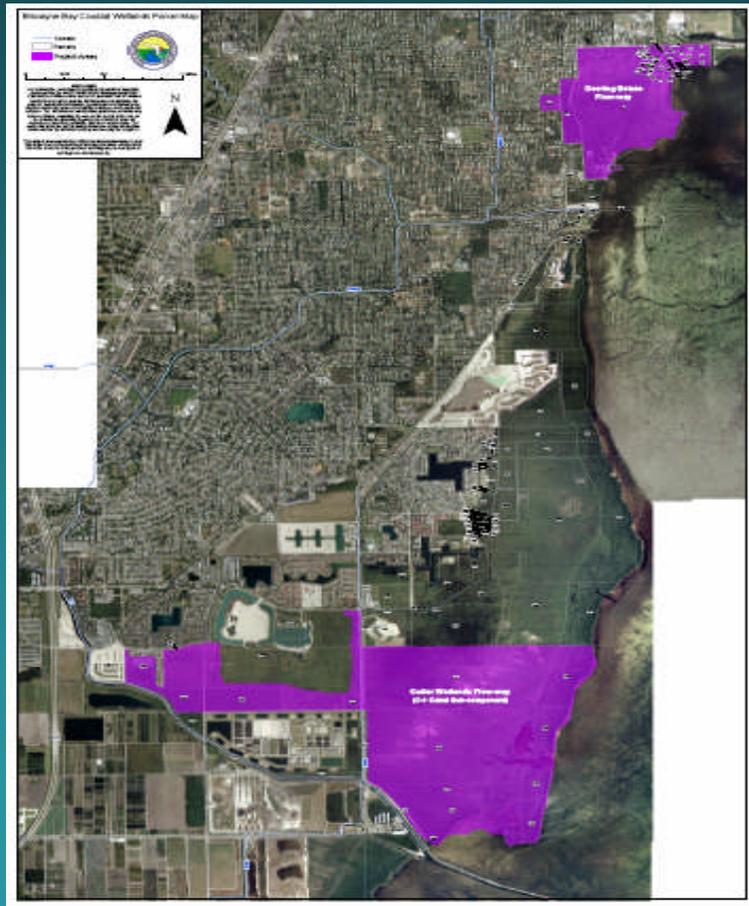
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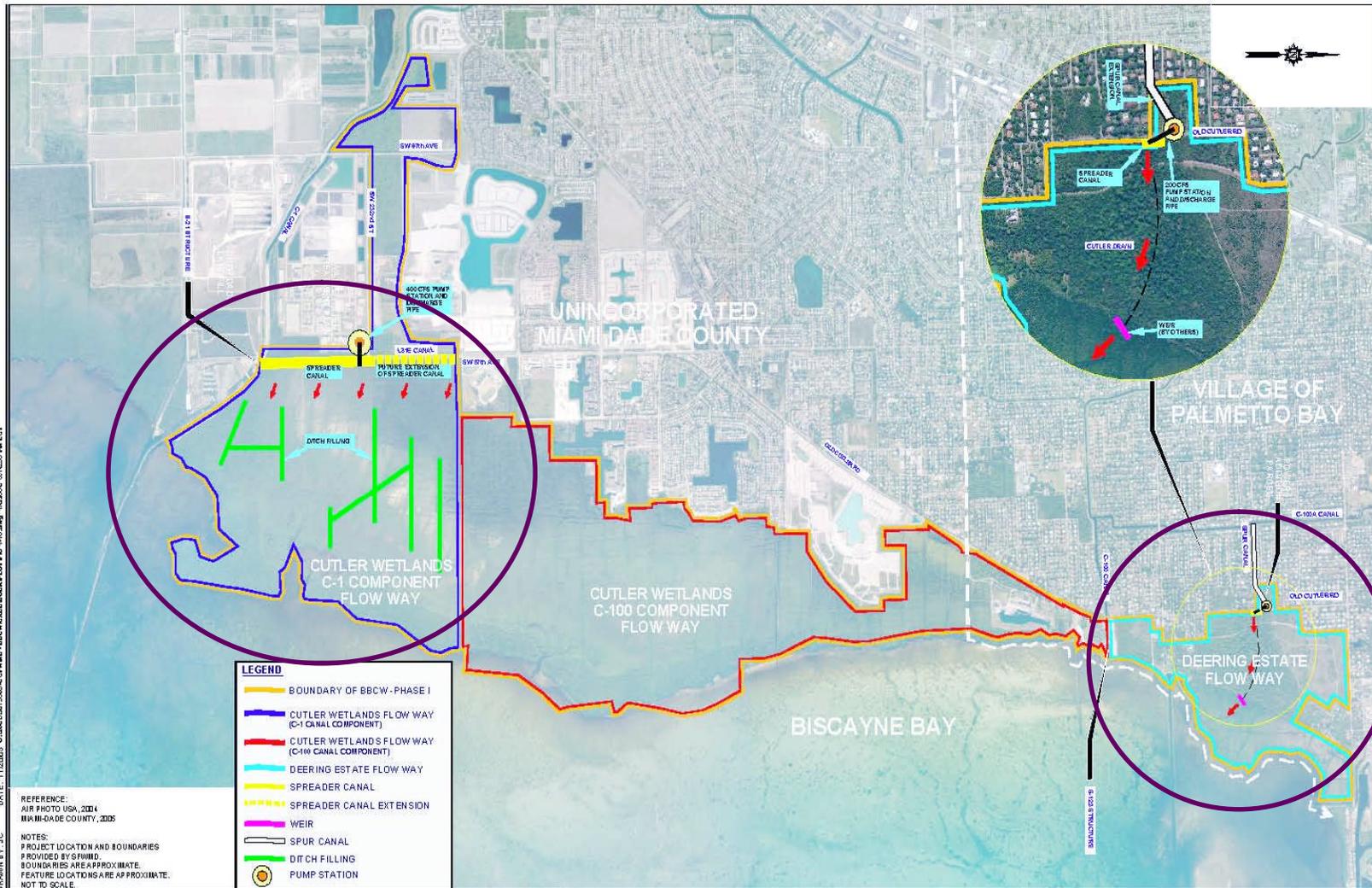
Provisional TSP

- Embodies A8 design for Deering Estate and Cutler Flow way
- Plan is supported by agencies as best practical given existing constraints
- Provides flexibility to make use of existing and future water but will require significant management
- Additional phases of restoration likely contingent on new water

Phase 1 Acceler8 – Will Restore Flows to... Deering Estate and Cutler Wetlands and Flowway (C-1 Canal)



- Divert point source discharges and pulse flows to bay
- Restore tidal creek functions
- Improve coastal salinity distributions
- Create more productive habitat
- Reduce hyper-saline conditions in some areas
- A8 Implements Phase 1 of the PIR Restoration Plan - restore what we can with what we have



CHECKED BY: CV
 DATE: 11/06/05
 PROJECT LOCATION AND BOUNDARIES PROVIDED BY SFWMD. BOUNDARIES ARE APPROXIMATE. FEATURE LOCATIONS ARE APPROXIMATE. NOT TO SCALE.

REFERENCE:
 AIR PHOTO USA, 2004
 MIAMI-DADE COUNTY, 2005

LEGEND	
	BOUNDARY OF BBCW - PHASE I
	CUTLER WETLANDS FLOW WAY (C-1 CANAL COMPONENT)
	CUTLER WETLANDS FLOW WAY (C-100 COMPONENT)
	DEERING ESTATE FLOW WAY
	SPREADER CANAL
	SPREADER CANAL EXTENSION
	WEIR
	SPUR CANAL
	DITCH FILLING
	PUMP STATION

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ACCELER8 PROGRAM
 PHONE: 561.688.3800
 3301 GUN CLUB ROAD
 WEST PALM BEACH, FLORIDA 33406

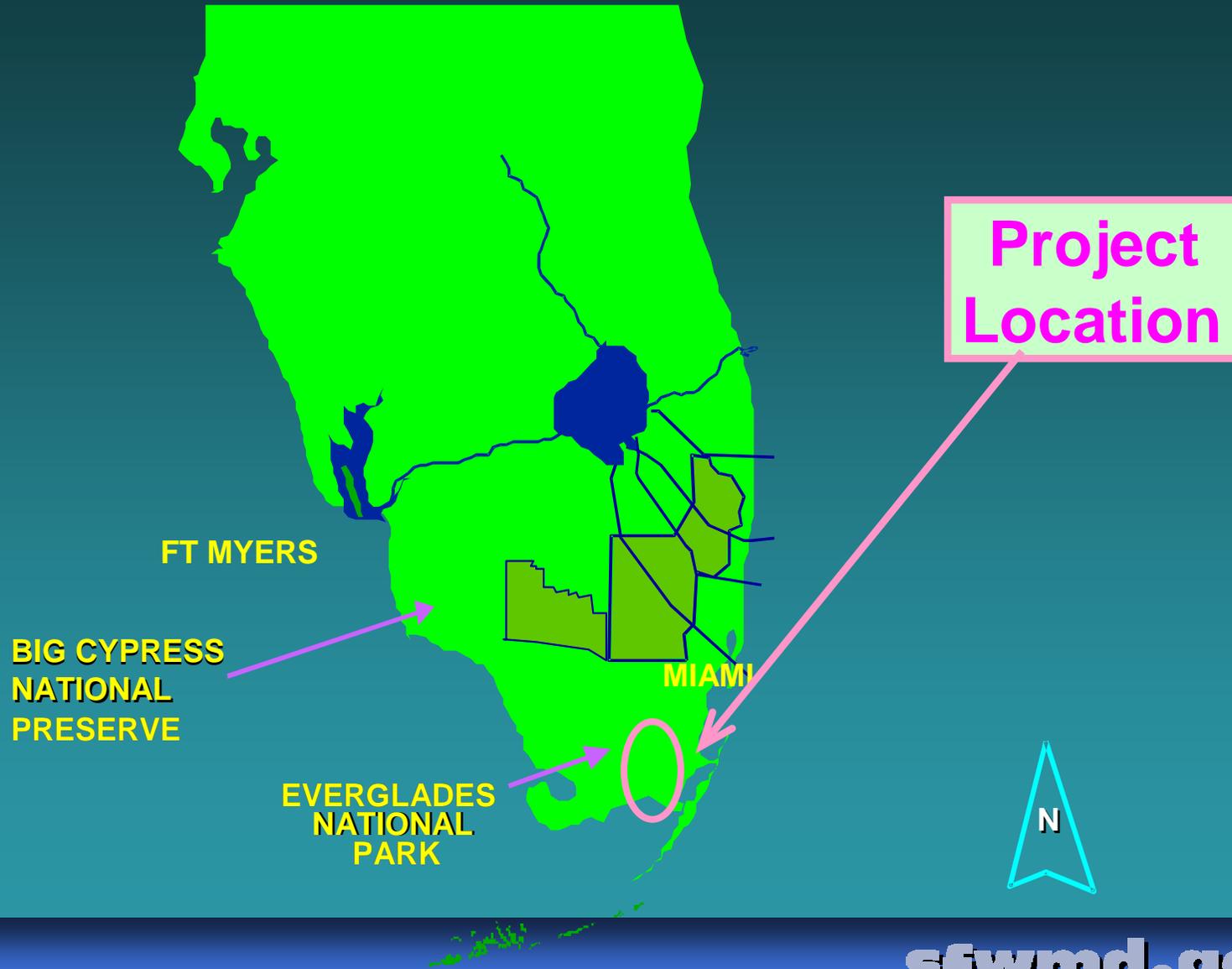


7800 CONGRESS AVE., SUITE 200
 BOCA RATON, FL 33487
 PHONE: 561.994.6000
 FAX: 561.994.6524
 CERT. OF AUTHORIZATION 1213

FIGURE 1-10
SELECTED ALTERNATIVES

BISCAYNE BAY COASTAL WETLANDS - PHASE 1
 CONTRACT NO. CND4036

C-111 Spreader Canal Project



**Project
Location**

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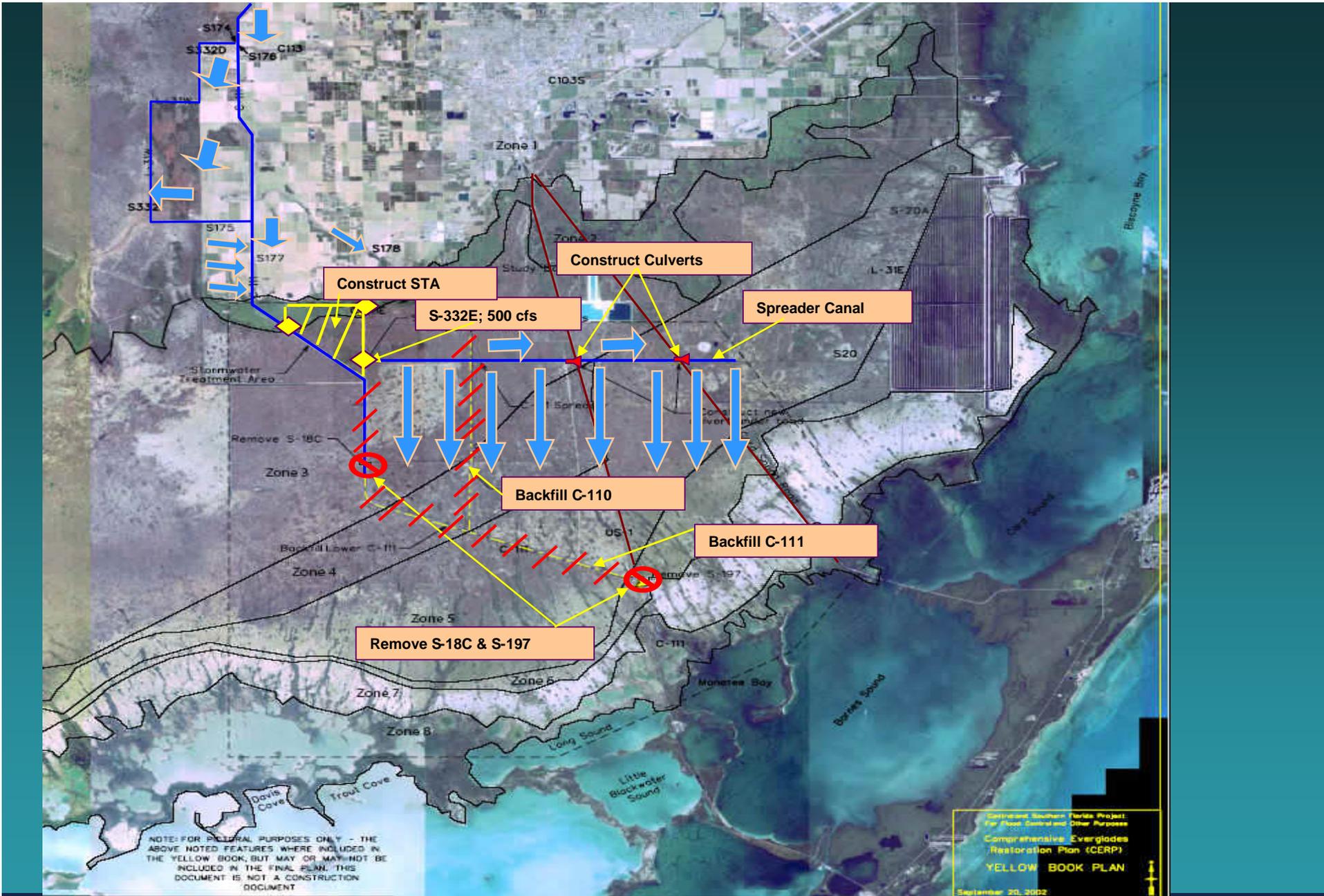
**BIG CYPRESS
NATIONAL
PRESERVE**

**EVERGLADES
NATIONAL
PARK**

MIAMI

N

sfwmd.gov



Yellow Book Concept

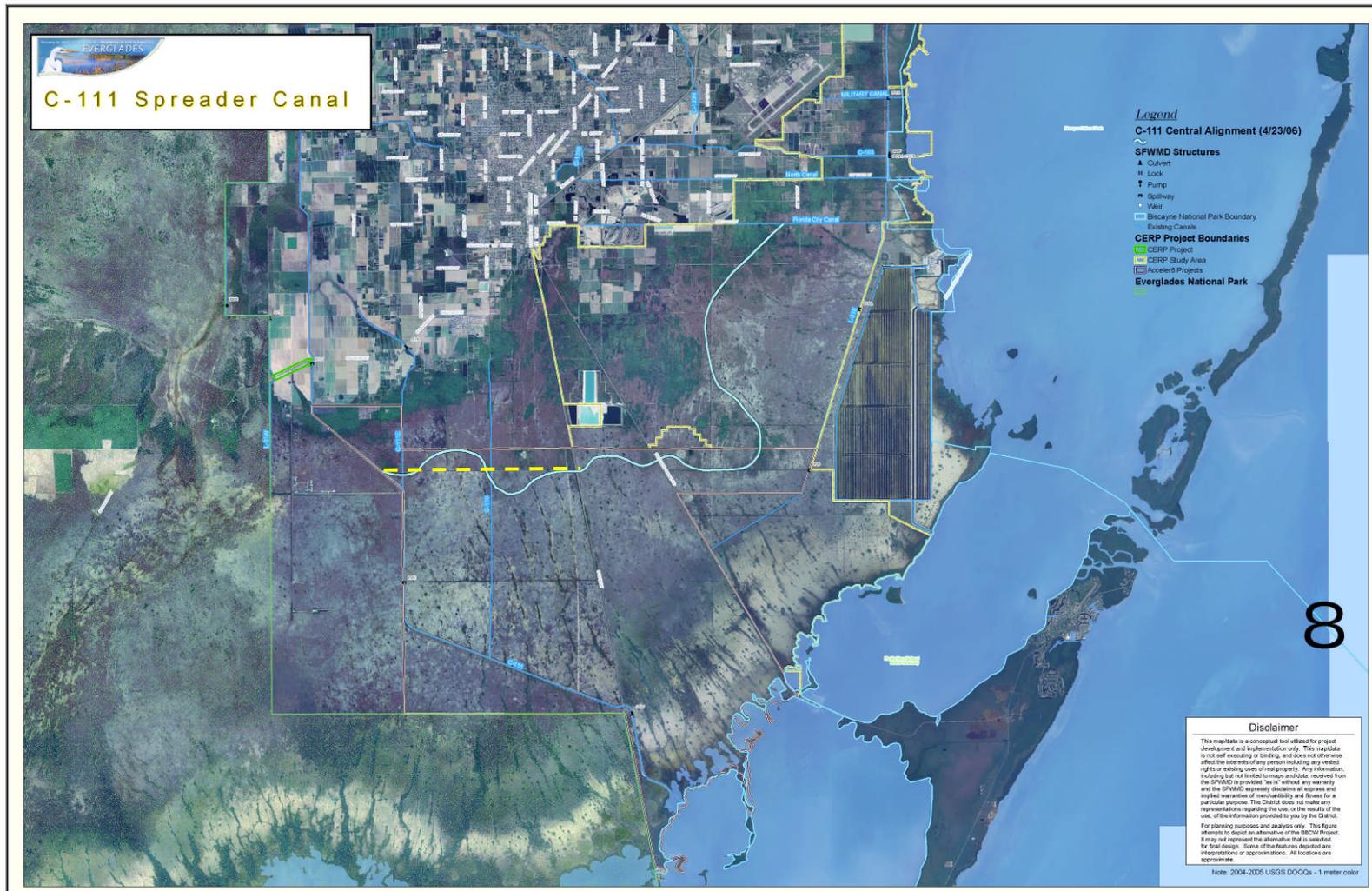
PIR Features Under Consideration



A8 Phase 1 Features Under Consideration



Alignment following 2.4 ft Contour?



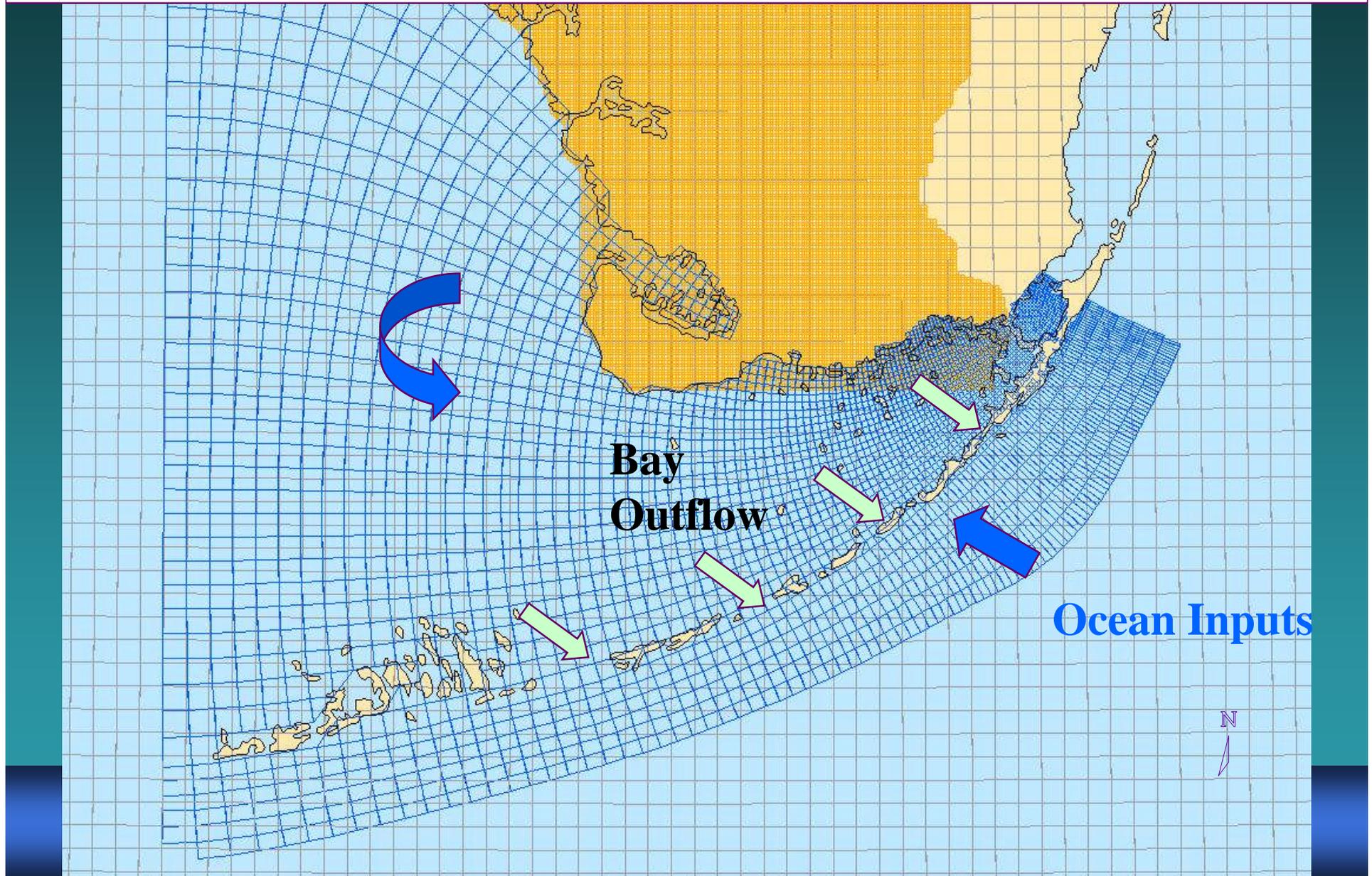
A8 Restoration Benefits

- **Reduced pulse flows to Fla Bay/Manatee Bay**
- **Restored sheetflow for coastal wetlands**
- **Improved WQ for bay by diversion of C-111E**
- **Improved productivity of natural areas**
- **Provides flexible starting point for PIR restoration**
- **Some improvement in Taylor Slough hydrology – less short circuit to panhandle**

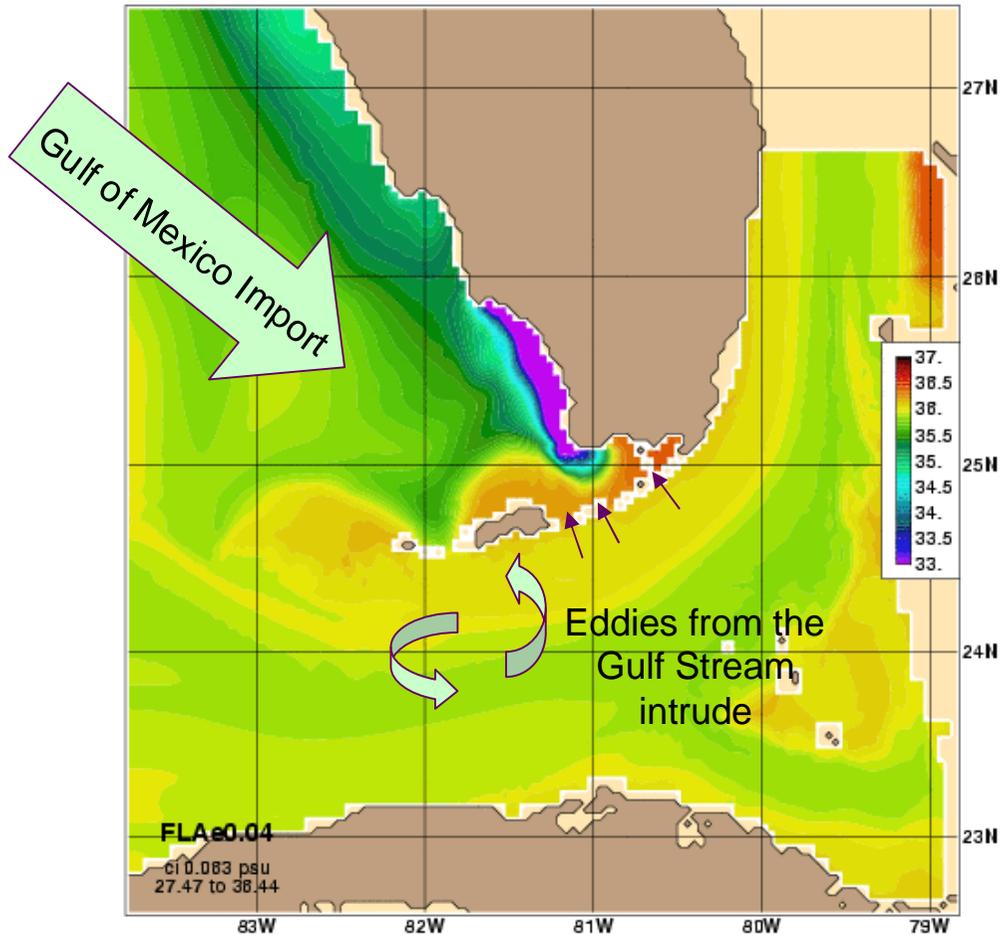
Florida Bay & Florida Keys Feasibility Study



Florida Bay at the Tail of Highly Complex Water Management System – the Feasibility Study is Developing Tools to Analyze How Sources of Water Converge and Mix Within the Bay



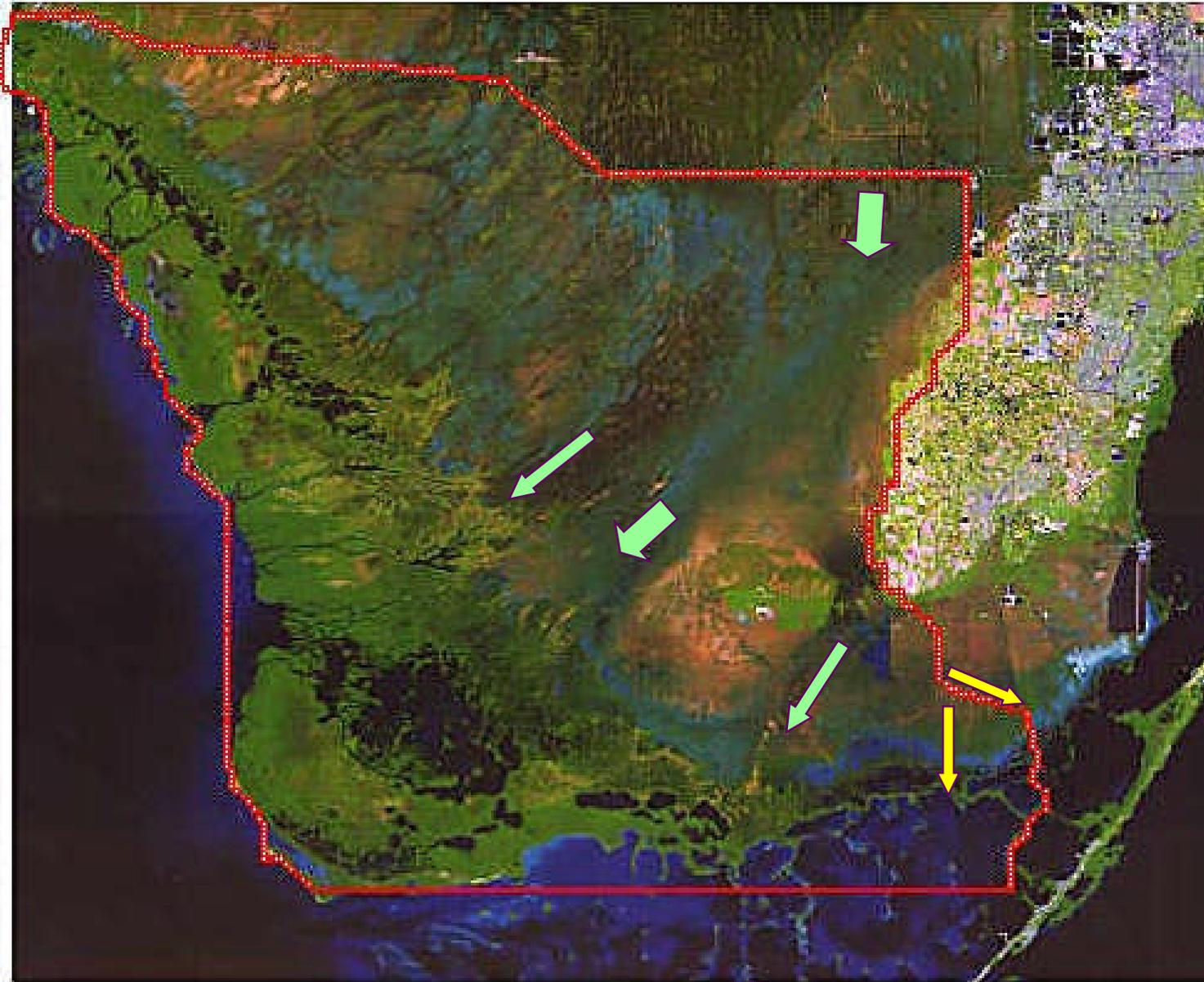
layer=01 salinity date: jan 01, 2000 [01.4H]



Florida Bay is also subject to influences beyond local water management control

Objectives of Feasibility Study

- **Based on best available science**
 - **Define restoration targets for Florida Bay**
 - **Determine potential impacts of CERP and recommend changes – D13R Flow?**
 - **Look at cumulative operating impacts of projects – CSOP, C-111 Spreader, BBCW, Decomp**
 - **Evaluate water quality changes in Florida Bay - seagrass, algal blooms, water quality interactions**
 - **Evaluate sea level rise impacts on coastal resources**



Future Without CERP?

Modwaters /C-111 modifications in place – some benefits

No new sources of Water

Lower C-111 still creates large pulse flows to Manatee Bay

Discussion