

12 YEARS OF EVERGLADES RESTORATION

Idealism, Realism, War, Elections, Recession and Reform – Where are We Going Now?

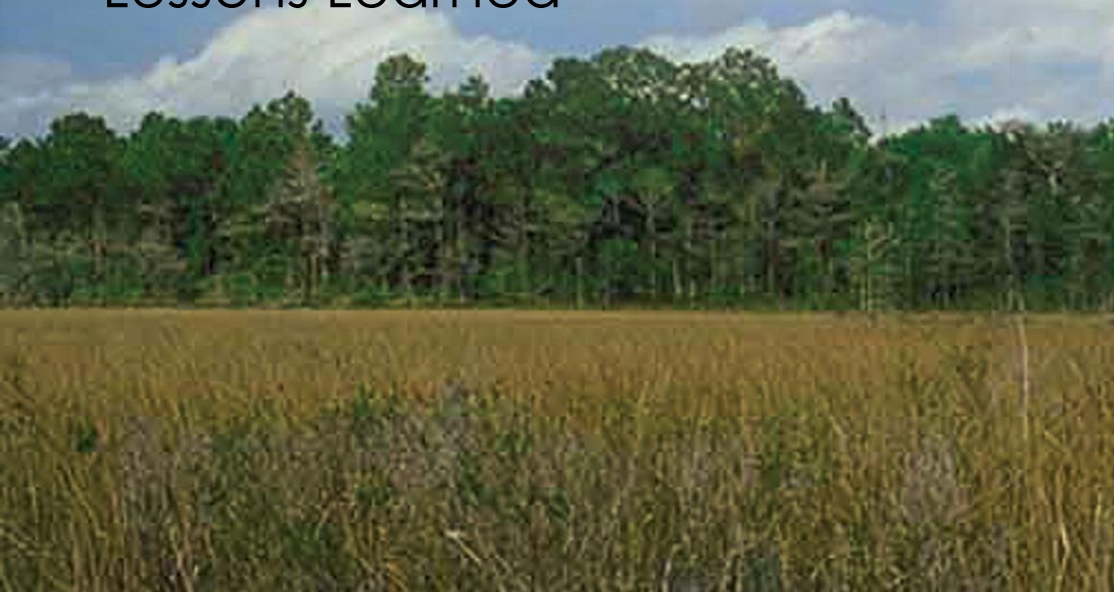
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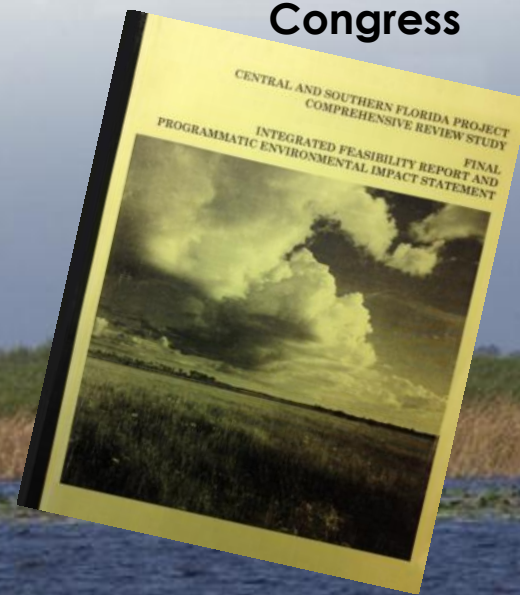
Presentation Outline

- First Five Years – Euphoria Tempered with a Dose of Realism
- The Learning Curve: Processes, Priorities, and Funding
- WRDA 2007
- The Fruits of Planning Adaptively
- Lessons Learned



In the Beginning: Euphoria

The Road to Comprehensive Everglades Restoration Plan (CERP) Authorization



Rescuing an Endangered Ecosystem:
The Plan to Restore America's Everglades



The Central and Southern Florida Project
Comprehensive Review Study
(The Restudy)

On December 11, 2000, the President signed WRDA 2000, approving the:

Comprehensive Everglades Restoration Plan (CERP)

providing for the restoration, preservation, and protection of the south Florida ecosystem - while providing for other water-related needs of the region





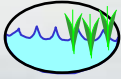


Initial Cost: 7.8 Billion Dollars!

- 68 individual elements
- 4 project types:
 - above-ground storage (reservoirs)
 - underground storage (aquifer storage and recovery)
 - re-diversion or re-routing of water
 - conveyance/removal of barriers

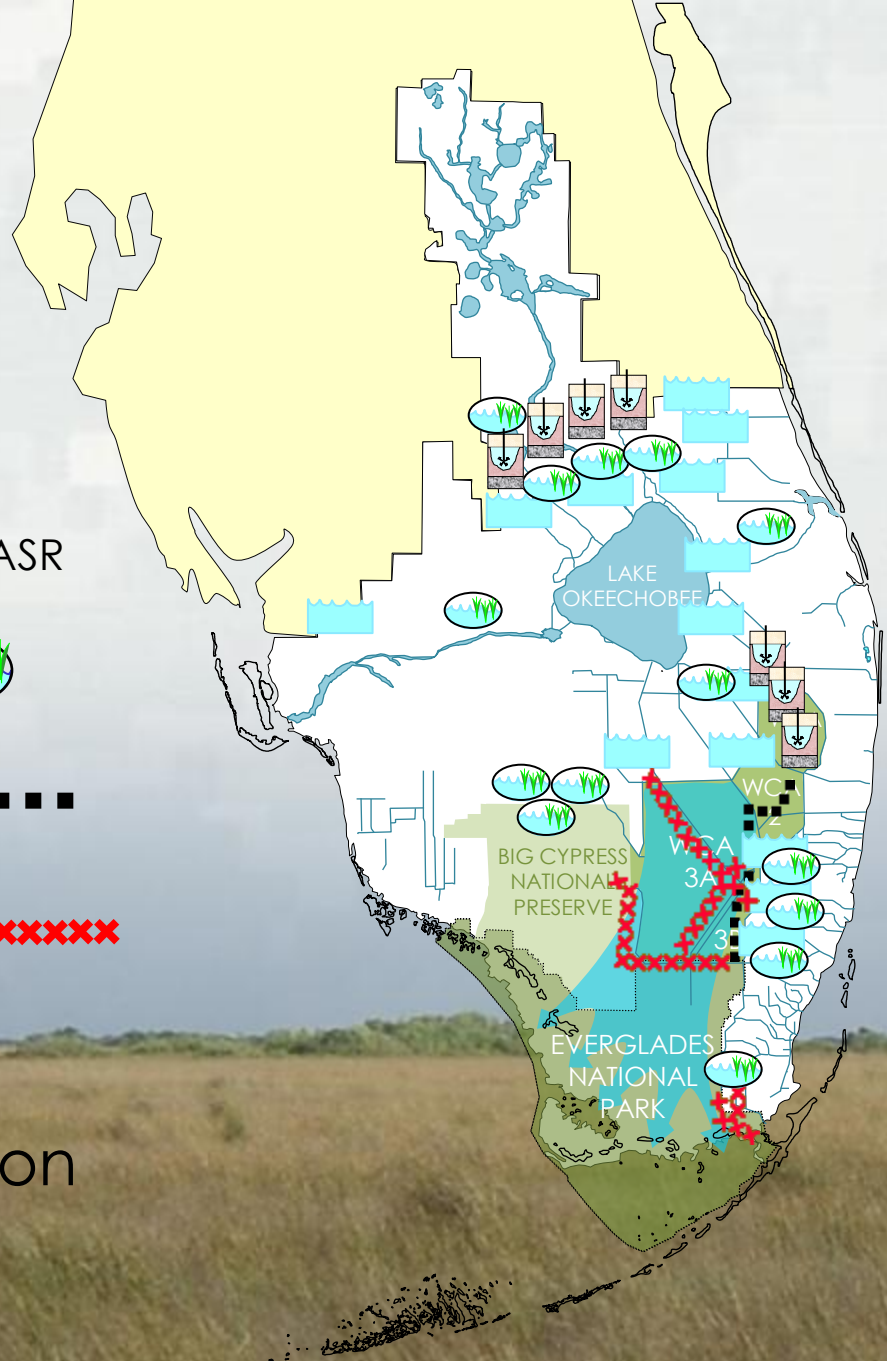


Comprehensive Everglades Restoration Plan

- 68 Components

- Storage  Surface  ASR
- STAs for water quality 
- Seepage management 
- Removing barriers to flow 
- Revised operations

- 30+ year implementation



Big Ideas

“Getting the Water Right”

Quality



Quantity



Timing



Distribution



Big Ideas

Restoration, Coordination and Verification (RECOVER)

- Scientific guidance to projects (before and after construction)
- Monitoring and Assessment Program (MAP)/ CERP-wide monitoring (\$10 million dollars per year for 10 years)

Cooperative Planning Effort

- 50/50 cost share with SFWMD
- Cost share includes O&M after construction
- Active participation of Department of Interior agencies
- Multiple Federal, state, county, and stakeholder organizations collaborating in detailed project planning



More Big Ideas...

Adaptive Management

- Builds robustness into each project – verifies plan is working as expected
- Plan is conceptual - “tweaking along the way” expected

Project Implementation Reports (PIRs)

- Must include analysis of water reserved for the environment, assurances of no loss of other C&SF Project purposes (e.g., flood risk management, water supply)
- New type of report - to assure that previous C&SF project purposes would **NOT** be lost




Big Projects

With enthusiasm, interagency planning teams are set up to study some of the “big” projects the Plan proposes:

- South Golden Gate Estates (Picayune Strand Restoration)
- Biscayne Bay Coastal Wetlands
- East Coast Water Preserve Areas
- Indian River Lagoon-South
- Everglades Agricultural Area Storage
- Some “pilot” projects

and then....





9/11

BREAKING NEWS

**TWO PLANES CRASH INTO TOWERS
OF WORLD TRADE CENTER**

CNN

Reality Begins to Set In... Change Begins Almost Immediately

- 9/11 changes the national focus
- President Bush begins a government-wide response to the Al Qaeda terror threat
- More national resources are assigned to national defense
- Ecosystem restoration becomes less of a national priority



During the First Five Years...



Early Studies Well Underway

President George W. Bush Announces Iraq Invasion

CERP Programmatic Regulations are Published

- Administration enthusiasm for ecosystem restoration is tempered by the reality of fighting a global war on terrorism and its budgetary demands
- Meanwhile, we are fully engaged (inside the Corps) in complicating the process of writing CERP PIRs



Process, Process, Process...

- The Programmatic Regulations (Pro Regs) invent special rules for CERP – for the planning, approval, and administration of projects
- Due to the likely high price of “big” projects and the large number of stakeholders, each step in the process is slow and painful
- Stakeholders are concerned whether their needs will be addressed



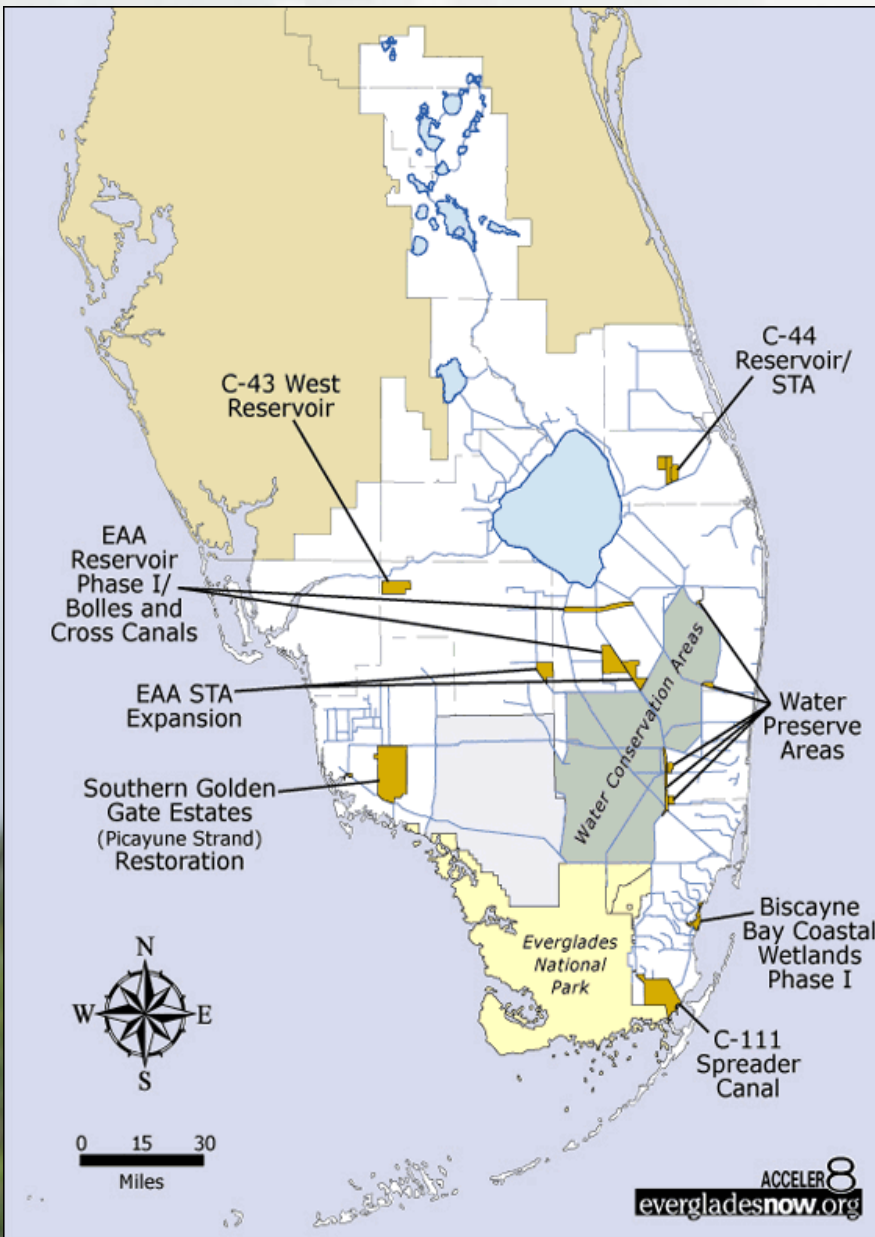
Meanwhile, in the South Florida Water Management District...

- Stimulated by delays in WRDA passage, South Florida Water Management District took the initiative to begin construction on Corps “advanced planning” (but **NOT** Congressionally unauthorized) projects.
- State input included developing plans and specifications and initiation of construction on CERP projects that were either in advanced planning or approved but unauthorized



Acceler8 Projects

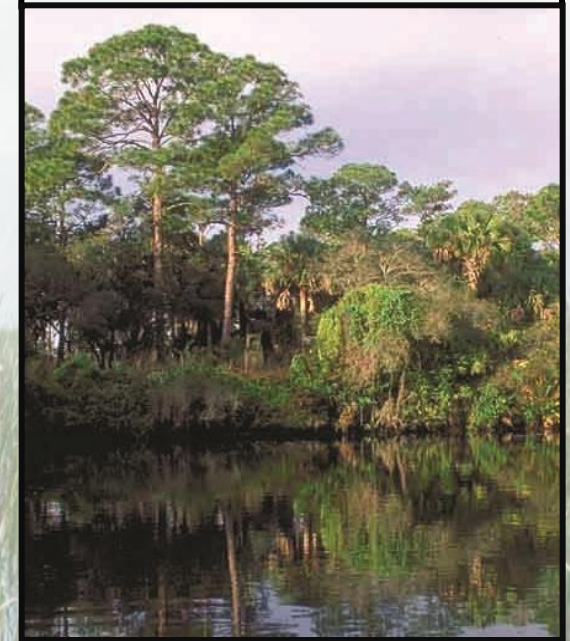
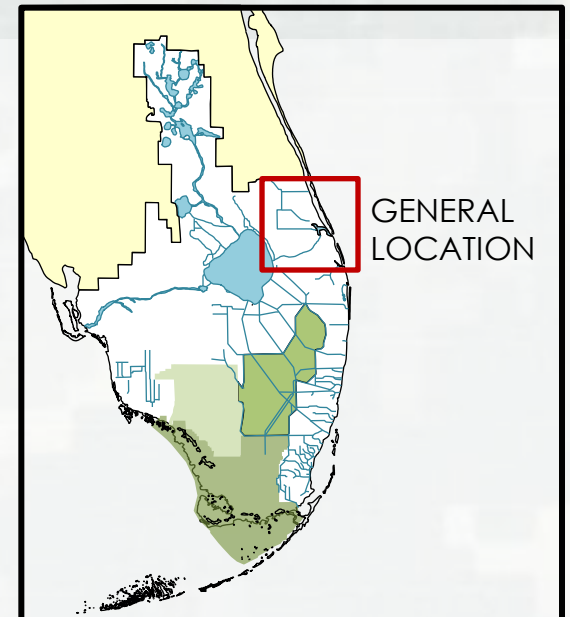
- IRL S C-44
- Picayune Strand
- C-43 Storage Reservoir
- EAA Storage Reservoir
- Biscayne Bay Coastal Wetlands
- C-111 Spreader Canal
- WPAs
 - Site 1
 - C-9, C-11
 - Seepage Management
 - Acme B
- EAA STAs (B&C)



2004: First PIR Completed

Indian River Lagoon (IRL) - South

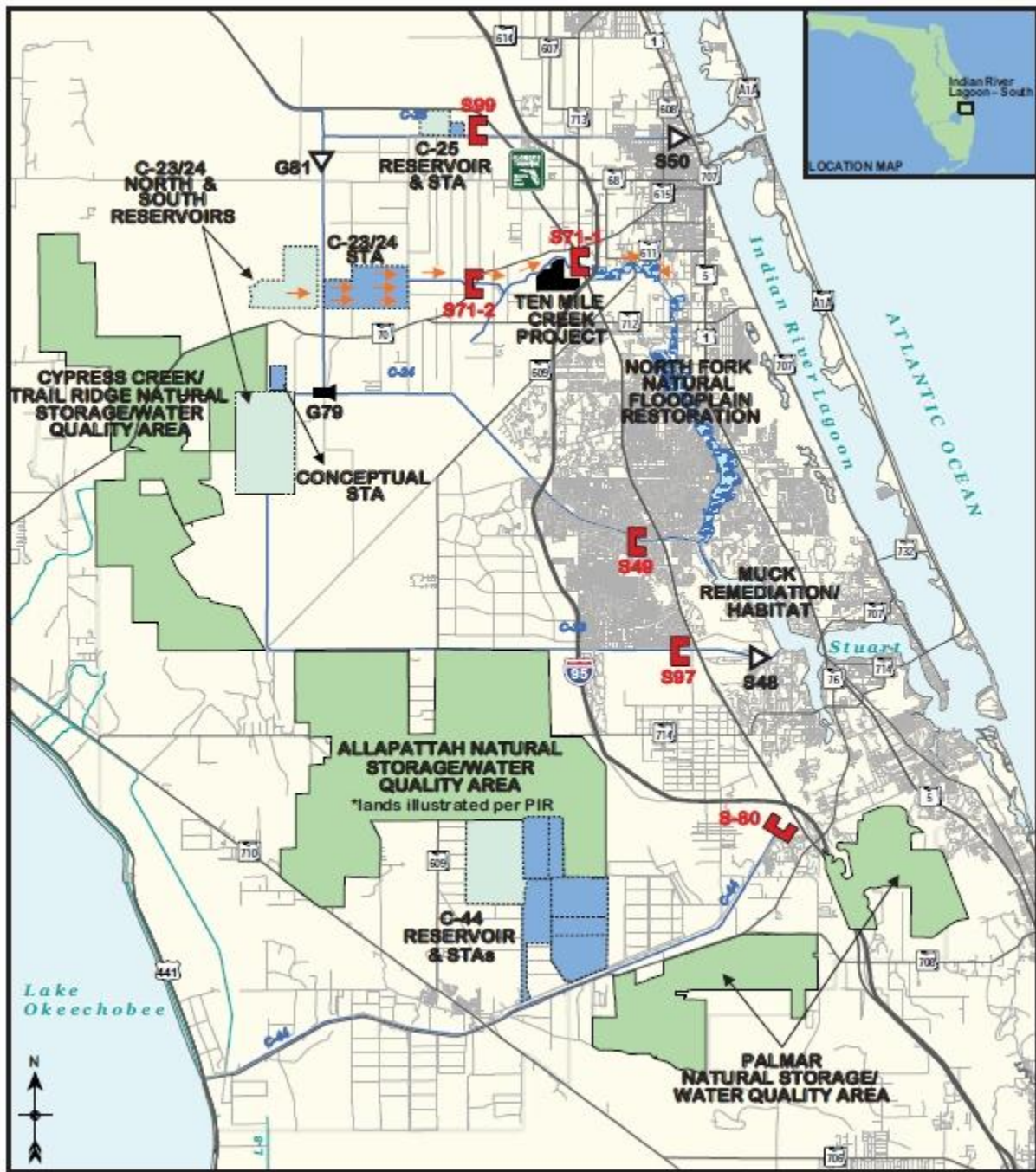
- PIR cost: \$1.2 billion!
- 2004: The Chief's Report recommends congressional authorization and appropriations for a \$1,200,000,000 project
- 2007: Congress approves IRL-S for \$1.2 billion



Indian River Lagoon (IRL) - South Project

- Recognized as one of the most ecologically diverse estuaries in the U.S.
- Stressed by wide fluctuations of salinity and high, seasonal discharges of nutrient-laden waters
- Project includes reservoirs, STAs, and conveyance canals
- Benefits the northern estuaries (St. Lucie River, Indian River Lagoon) and nearshore ocean habitat
- Complemented by better regulation of Lake Okeechobee discharges (future)
- Above-ground reservoirs and STAs will retain waters, releasing flows more slowly to the estuary, buffering discharges





C-44 Basin Components

- C-44 - Reservoir
- C-44 - Stormwater Treatment Area (East)
- C-44 - Stormwater Treatment Area (West)
- Palmar Complex - Natural Storage and Water Quality Area

C-23/24 Basin Components

- C-23/C-24 - North Reservoir
- C-23/C-24 - South Reservoir
- C-23/C-24 - Stormwater Treatment Area
- Allapattah - Complex Natural Storage and Water Quality Area
- Cypress Creek/Trail Ridge Complex - Natural Storage and Water Quality

C-25, Northfork and Southfork Basin Components

- C-25 - Reservoir
- C-25 - Stormwater Treatment Area
- Northfork Natural floodplain Restoration
- Muck Remediation and Artificial Habitat

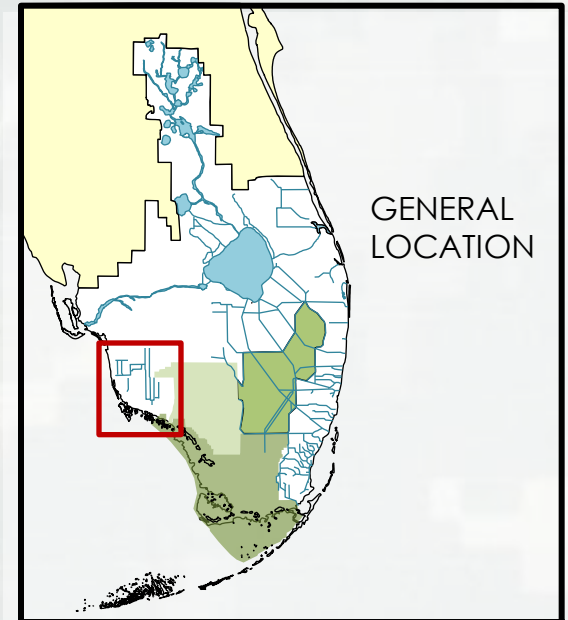
-  Natural Floodplain Restoration
-  Natural Storage and Water Quality Area
-  Reservoir
-  Stormwater Treatment Area



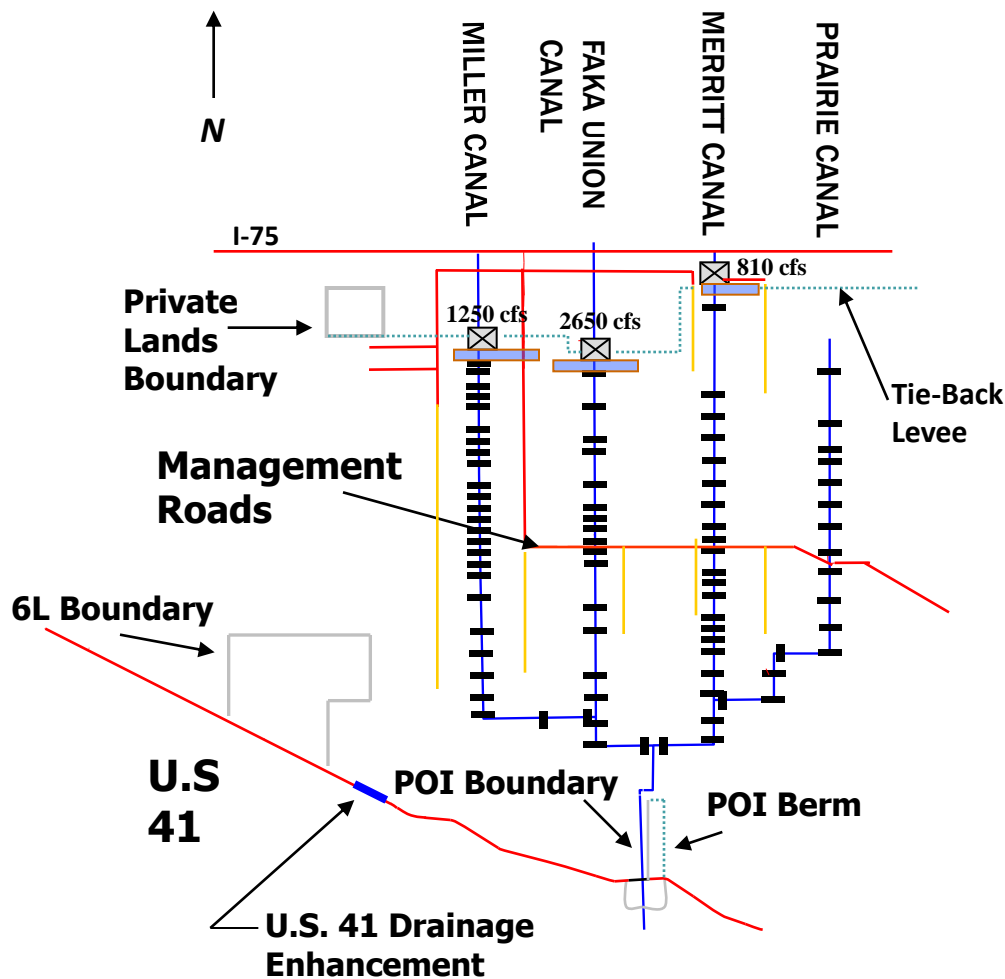
2005: Second PIR Completed

Southern Golden Gate Estates Project

- Project name changed to Picayune Strand Restoration
- Re-hydrates over 55,000 acres of over-drained lands proposed for a large-scale housing development in the 1950's.
- Provides additional habitat for the extremely endangered Florida Panther
- Authorized Cost: \$ 345,000,000 (WRDA 2007)



Picayune Strand Restoration Plan



ELEMENTS



3 Spreader Canals



3 Pump Stations



Canal Plugs



Primary All Weather Roads



Secondary Roads



Private Lands Boundaries



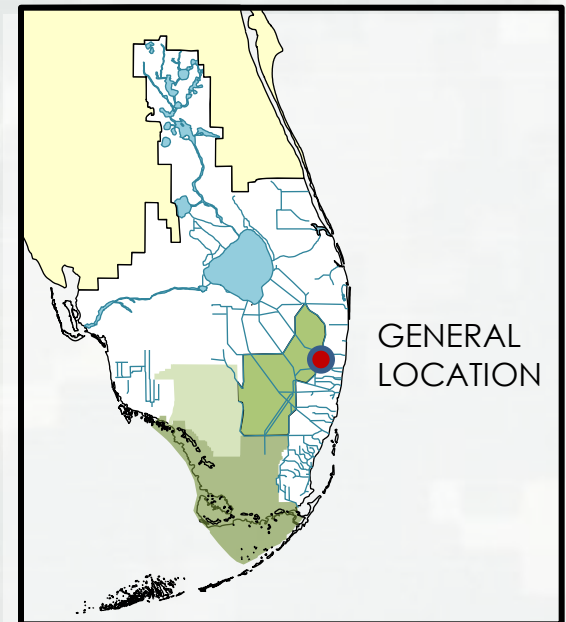
Berm



2006: Third PIR Completed

Site I Impoundment

- Size reduced from “Yellow Book”
- Reduces seepage out of WCA-1 (Loxahatchee National Wildlife Refuge) with Site 1 storage, and reduces excess flows of fresh water to tide
- Assures protection of East Coast well fields and reduction of saline intrusion into aquifer
- Authorized cost (WRDA 2007): \$ 80,840,000



Site 1 Plan (Phase 1 ARRA)

D-525N (L-40 Modifications) and Miscellaneous Features



Only Three PIRs Completed by 2007 - Why the Delay?

- The world changed between 2001 and 2007 affecting available Federal and state funding
 - Middle East conflicts drained funds from the Federal budget
 - By 2007, migration to Florida slowed and property values no longer rose at an accelerated pace - Florida, lacking an income tax, relies heavily on ad-valorem property taxes to fund all state activities



WRDA 2007

First Water Resources Authorization and Appropriation Vehicle Since 2000

- Vetoed by President Bush
- Approved by Democratic Congress over presidential veto (late 2007)
- Three CERP projects (three PIRs) authorized
- Added additional requirements for independent (outside the Corps) project review for projects over \$45 M.



Not So Big – But Still Very Important

- Some studies were terminated – no Federal interest identified (Acme Basin B and Winsberg Farms)
- Some project reports delayed – but in queue for next WRDA (C-43 Reservoir, Biscayne Bay Coastal Wetlands, C-111 Spreader Canal, Broward County WPAs)
- Some projects, e.g. Melaleuca Control, as well as ASR pilot studies, did not require further Congressional approval (under construction or finalizing reports)
- Some projects “out of sequence” but expected to develop in upcoming years, e.g., some form of reservoir in the EAA



Water Management District Construction Under Aceler8

- Picayune Strand Restoration: Prairie Canal
- C-111 Western Spreader Canal.
- Biscayne Bay Coastal Wetlands (in part)
- Everglades Agricultural Area (suspended)
- Site 1 Impoundment (plans and specifications)



Prairie Canal, Picayune Strand Restoration

Example of Outstanding Success

- One of the four existing canals in PSRP plugged by SFWMD
- Restoration was visible almost immediately upon completion of construction



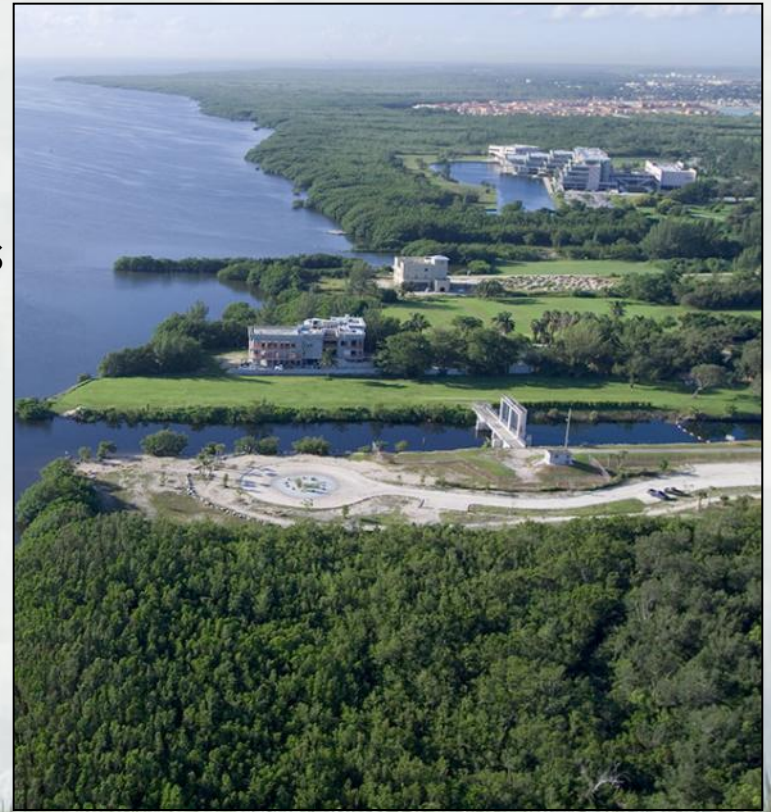


Prairie Canal Picayune Strand Restoration



State Issues Affecting Progress

- Responding to the bursting property bubble, Governor Crist announces reduced property taxes
- All water management districts' revenues decrease, forcing retirements and reductions in staff
- Acceler8 activities suffer proportionate reductions
(construction does continue on C-111 Western Spreader Canal and Biscayne Bay Coastal Wetlands)



What Happened?

- Planning projects has taken longer than we anticipated; review steps have increased throughout the decade.
- Real estate costs continued to climb throughout CERP-land until the real estate bubble burst in 2008
- New PIR requirements produced extremely lengthy planning reports that have been near-impossible to review



Lessons Learned

- Everything costs more than we estimated in the Yellow Book
- Cost inflation is partly a function of time passing; partly due to design improvements
- New structural requirements (levee safety) added to costs of all reservoirs
- Cost-efficient levees (RCC with stepped sides) may adversely impact wildlife



Step-sided Reservoirs Entrap Wildlife



Lessons Learned

- In a global recession, both Federal and state funding will inevitably shrink.
- It may become impractical to try to run several or multiple planning efforts at the same time
- A lengthy planning process is not conducive to a sustainable program nor beneficial to the nation.



Re-inventing CERP Planning

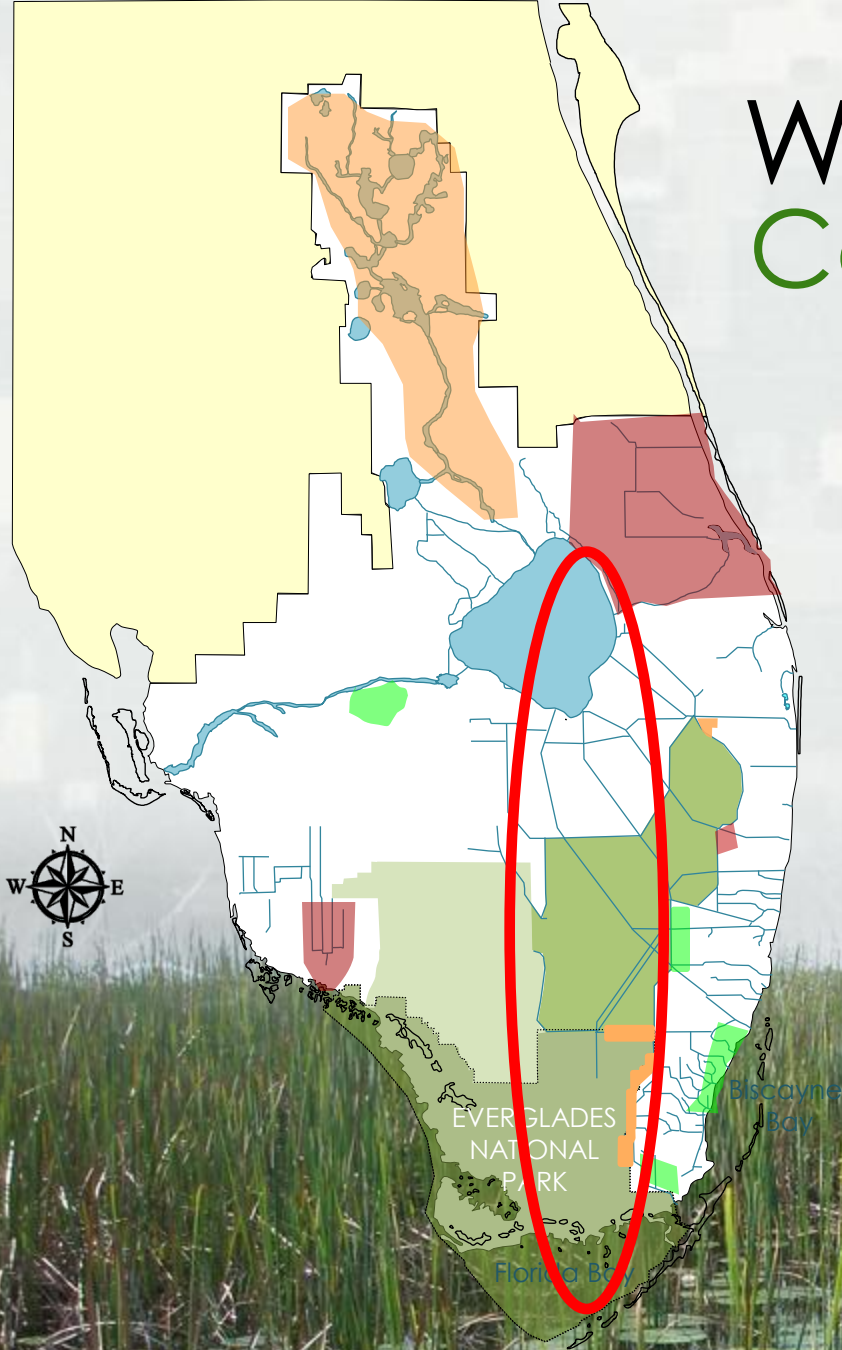
- 2010: In response to grumbling over lengthy project planning, Corps senior planners (HQ) pursue a tighter process
- At the same time SFWMD's "River of Grass" studies develop some potential solutions that integrate components in the "core" area of CERP
- Both initiatives come together in 2011 to produce...



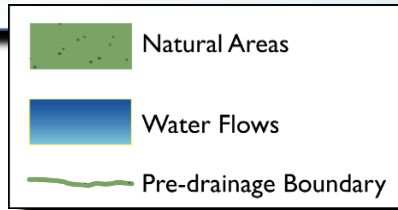
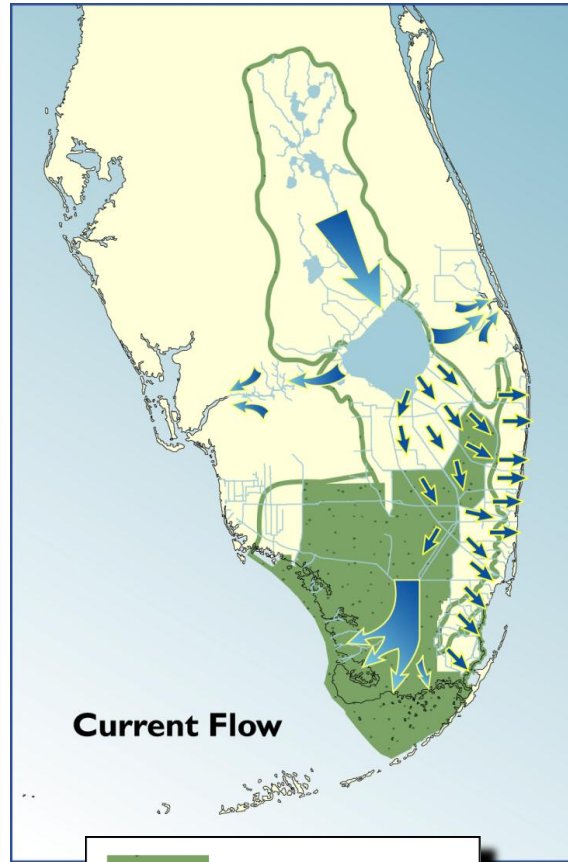
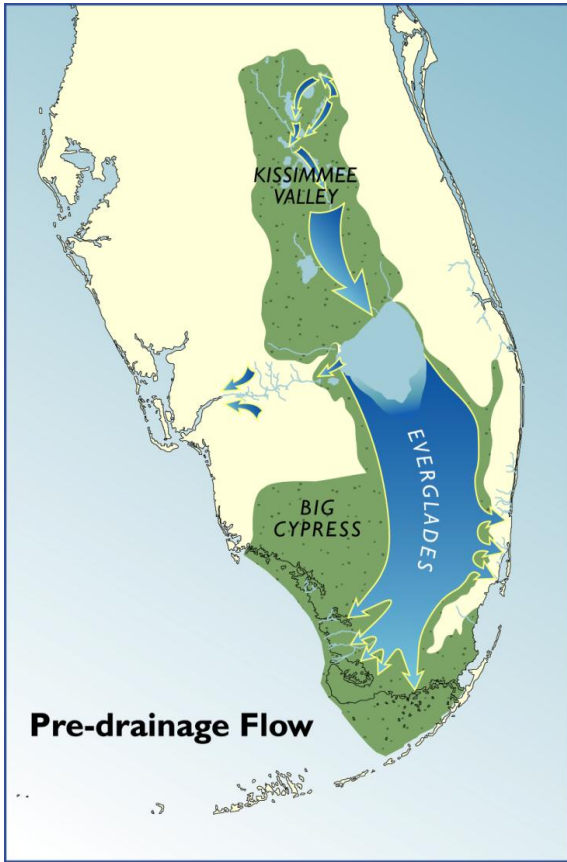
What's Next?

Central Everglades

- Reduce undesirable discharges to east and west coast estuaries
- Deliver “new” sources of clean water to the Central Everglades and ENP
- Restore habitat in the central Everglades, focusing on the “River of Grass”



The Goal



Questions?

