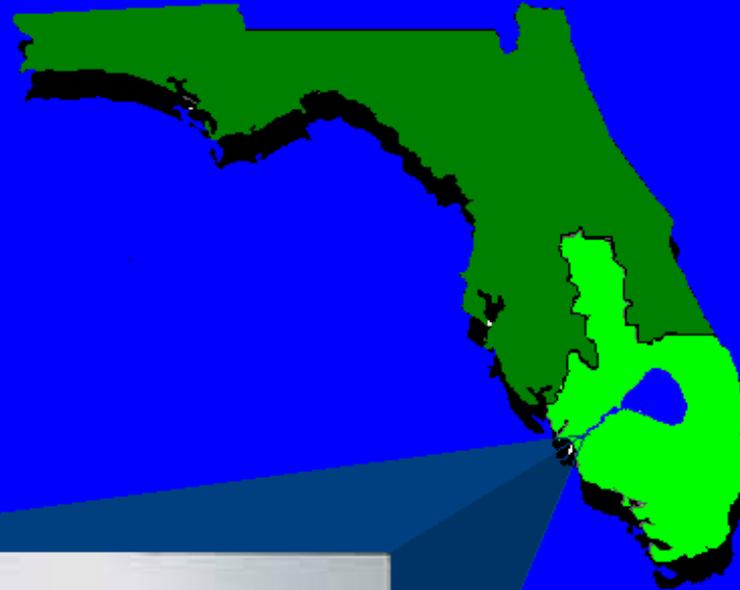


# C-43 Basin Project Part I – Phase I



U.S. Army Corps of Engineers  
Jacksonville District

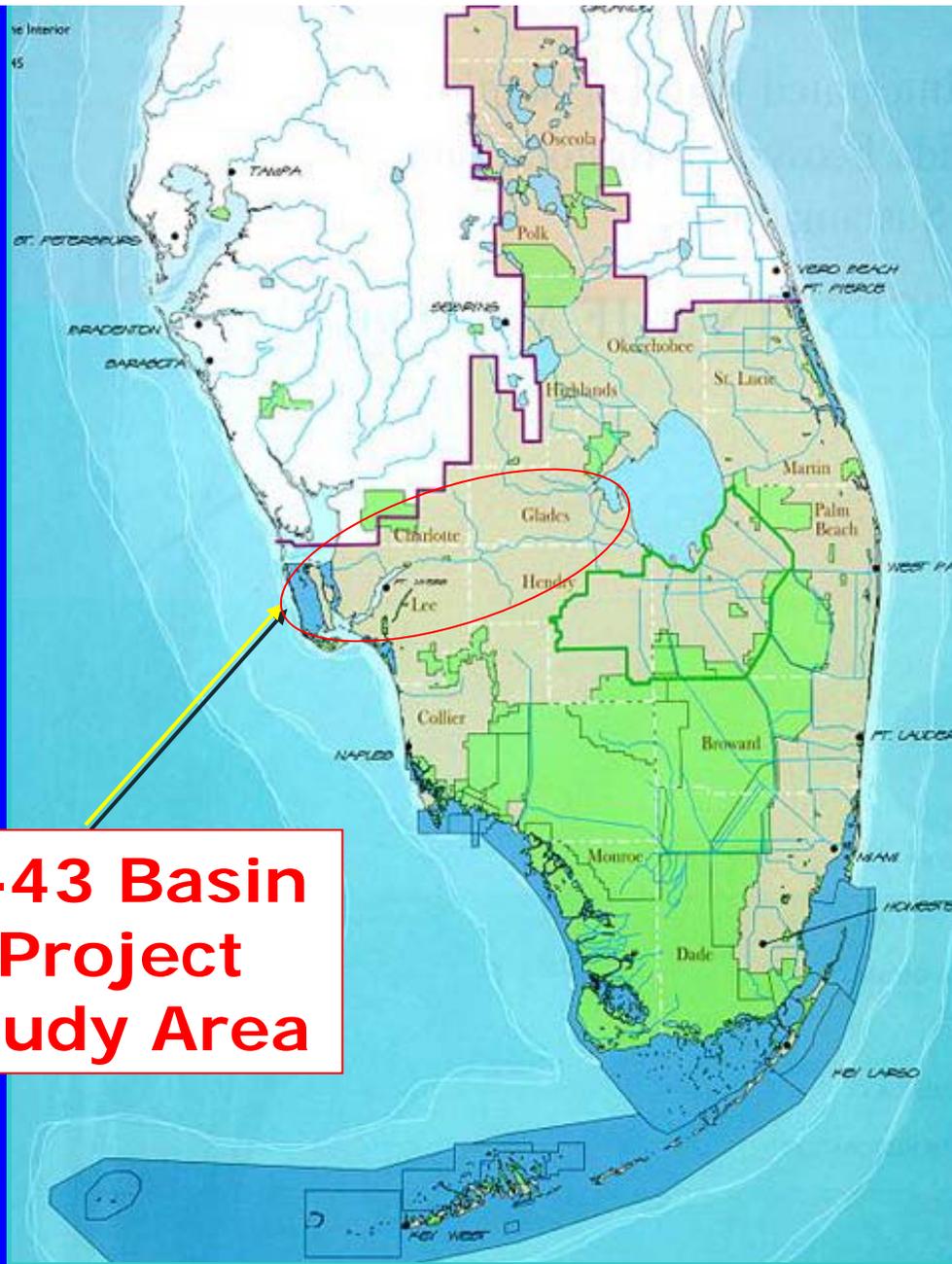
**Working Group Presentation**  
**July 2006**



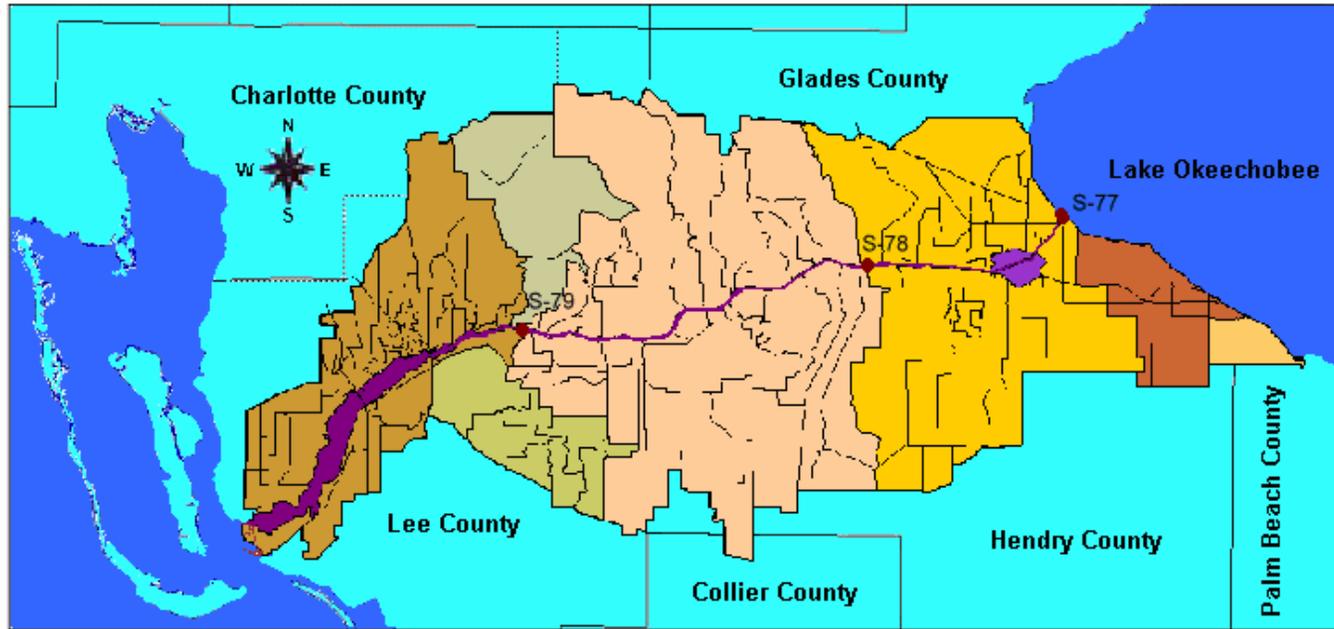
South Florida Water  
Management District

# Briefing Purpose

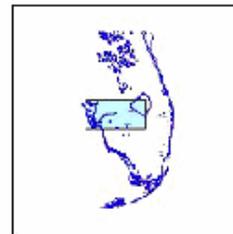
- To provide information to Working Group on Tentatively Selected Plan (TSP) for C-43 Part 1, Phase 1
- Identify Alternatives Evaluated
- Identify Next Steps



**C-43 Basin  
Project  
Study Area**



# Caloosahatchee Basin



Primary basins.shp

- C-21
- East Caloosahatchee
- Orange River
- S-236
- Telegraph Swamp
- Tidal Caloosahatchee
- West Caloosahatchee

# The Yellow Book Alternative

- ***C-43 BSRP as defined in the Yellow Book:***
  - “This feature includes above-ground reservoir(s) with a total storage capacity of approximately 160,000 acre-feet located in the C-43 Basin in Hendry, Glades, or Lee Counties. The initial design of the reservoir(s) assumed 20,000 acres with water levels fluctuating up to 8 feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design.”

# Project Purpose

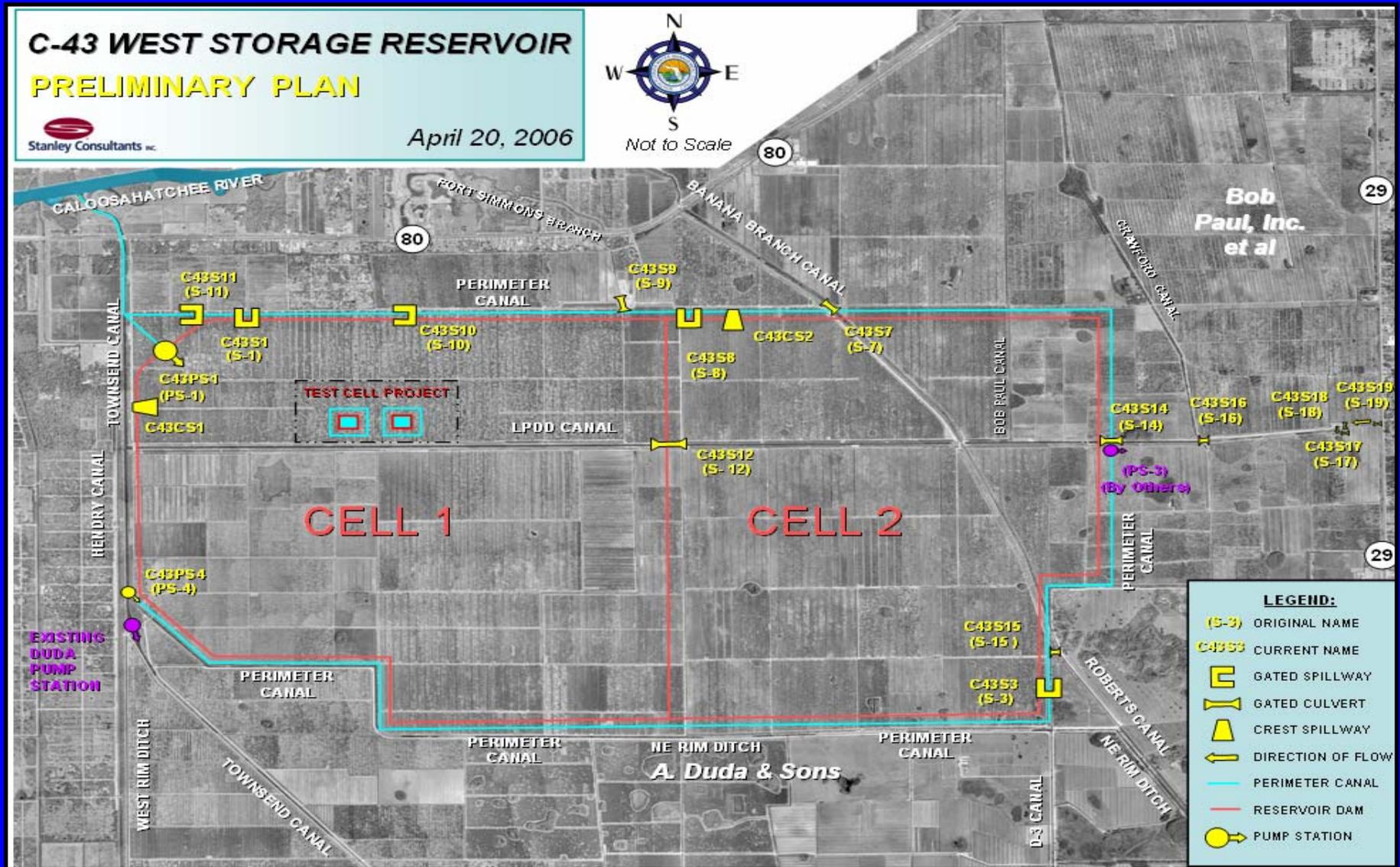
- Address the declining health of Caloosahatchee River and estuarine ecosystems
- Improve water deliveries to the estuary
- Increase dry season flows
- Reduce wet season flows
- Increase availability of water for the estuarine natural system
- Restore downstream salinity levels
- Provide a salinity range that is suitable for a healthy ecosystem that promotes:
  - natural habitat
  - increased wildlife
  - biological diversity
- Any additional water could supply urban & ag users

# C-43 Basin Project Formulation

## The C-43 Basin Project was divided into two Phases:

- Phase 1 would reaffirm the Yellow Book Plan and address formulation, evaluation, and justification of a project at the Berry Groves (the SFWMD Acceler8 project – C-43 West Reservoir) site, while acknowledging that the project is a part of a more comprehensive plan for the C-43 Basin.
- Phase 2 would include formulation and evaluation of additional management measures (particularly in the upper basin) to address basin planning objectives that can not be addressed by a reservoir at the Berry Groves site.

# Typical Reservoir Layout for Alternatives 2 & 3



# Final Array of Alternatives

- 1) No-Action (Future-Without Project)
- 2) 100,000-ac-ft reservoir; Top of Dam El.= 52 ft ( 22 ft to 27 ft dam height );  
Pool El. = 35 ft; 1,500 cfs pumps
- 3a) 170,000 ac-ft reservoir; Top of Dam El.= 59 ft (34 ft to 39 ft dam height );  
Pool El. = 42 ft; 1,500 cfs pumps; A8 Operations
- 3b) 170,000 ac-ft reservoir; Top of Dam El.= 59 ft (34 ft to 39 ft dam height );  
Pool El. = 42 ft; 1,500 cfs pumps; Modified Operations
- 3c) 170,000 ac-ft reservoir; Top of Dam El.= 59 ft (34 ft to 39 ft dam height );  
Pool El. = 42 ft; 3,800 cfs pumps
- 4a) 220,000 ac-ft reservoir ; Top of Dam El.= 64 ft (39 ft to 44 ft dam height );  
Pool El. = 47 ft; 3,800 cfs pumps
- 4b) 220,000 ac-ft reservoir with 3,800 cfs pumps (**expanded footprint**)

# Evaluation of Alternatives

- Alternative plans were evaluated on:
  - Performance of alternatives in achieving EST05 targets @ S-79
  - Ecological outputs calculated to demonstrate “worth” of selected plan
  - CE/ICA
  - 4 Principles & Guidelines criteria

## Habitat Unit Analysis- Lift Over 2050 Conditions (Habitat Units based on acres)

Alternative	Oysters	Vallisneria	Seagrass	Extreme Event	NE-03 RECOVER PM
Alt 2	435	443	3145	14847	14926
Alt 3a	447	523	4229	16622	12264
Alt 3b	462	478	3107	14847	19583
Alt 3c	495	583	2995	18951	24906
Alt 4	491	577	3145	19394	25572

# Alternative Comparisons

PLAN	COST (Millions)	Average Annual Cost (Millions)	AAHUs	Cost Per Habitat Unit
1	No Action	N/A	N/A	N/A
2	\$337.4	25.8	14,926	1,728
3a (YB) (A8)	\$396.3	30.5	12,264	2,487
3b (YB)	\$396.3	30.5	19,583	1,557
3c (YB)	\$418.5	32.1	24,906	1,289
4a	\$464.6	36.0	25,572	1,408
4b	\$598.9	46.4	25,572	1,815

\*Cost Containment Cap = \$336.5 Million

# TSP Selection

## Alt 3C

- Provides for the most cost efficient plan that would be effective in meeting the goals and objectives for the proposed project.
- Best achieves the majority of the objectives for the proposed C-43 West reservoir
- Cost effective and is considered the “best buy” after performing an incremental cost analysis.

# Issues

- Reservoir is currently being evaluated for Water Quality Issues
  - STA currently does not appear warranted for West Reservoir
- Reservoir superiority still to be finalized
- Water Supply: shortfall in urban demand in future without condition.
  - Currently investigating water supply shortfall
  - Could effect accuracy of model results
  - Additional Re-modeling of Alternatives may be required

# PDT's Next Steps

- NAI on TSP
- ITR on Alternative Formulation Briefing (AFB) Package
- Finalize Pump Size for Recommended Plan
- Finalize AFB Document
- Joint VE Study with A8 on TSP

# Major Milestones

- Selection of TSP July 2006
- Complete Draft PIR/EIS Jan 2007
- C-43 BSR Final PIR MSC Notice Jul 2007
- Initiate Construction under A8 Jul 2007