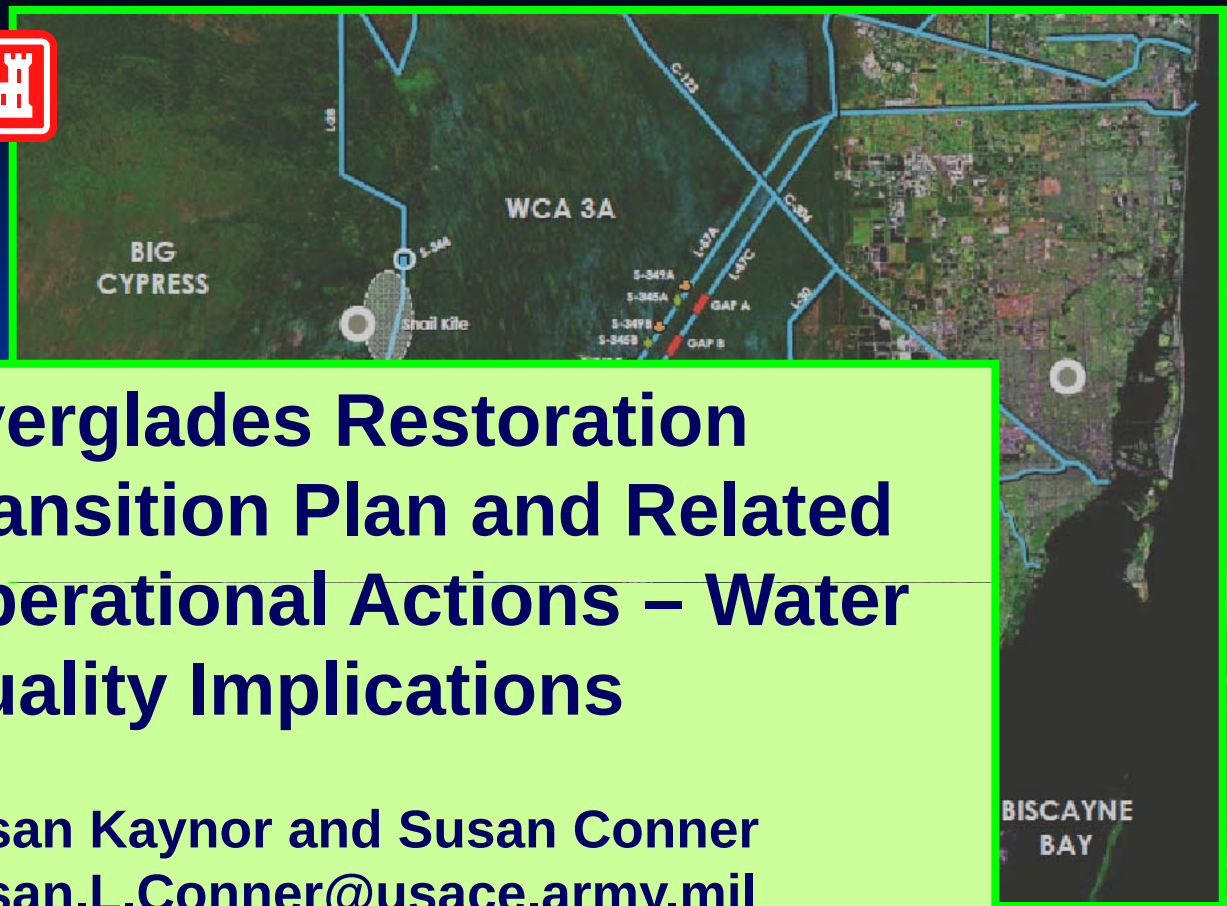

Everglades Restoration Transition Plan and Related Operational Actions – Water Quality Implications

Susan Kaynor and Susan Conner
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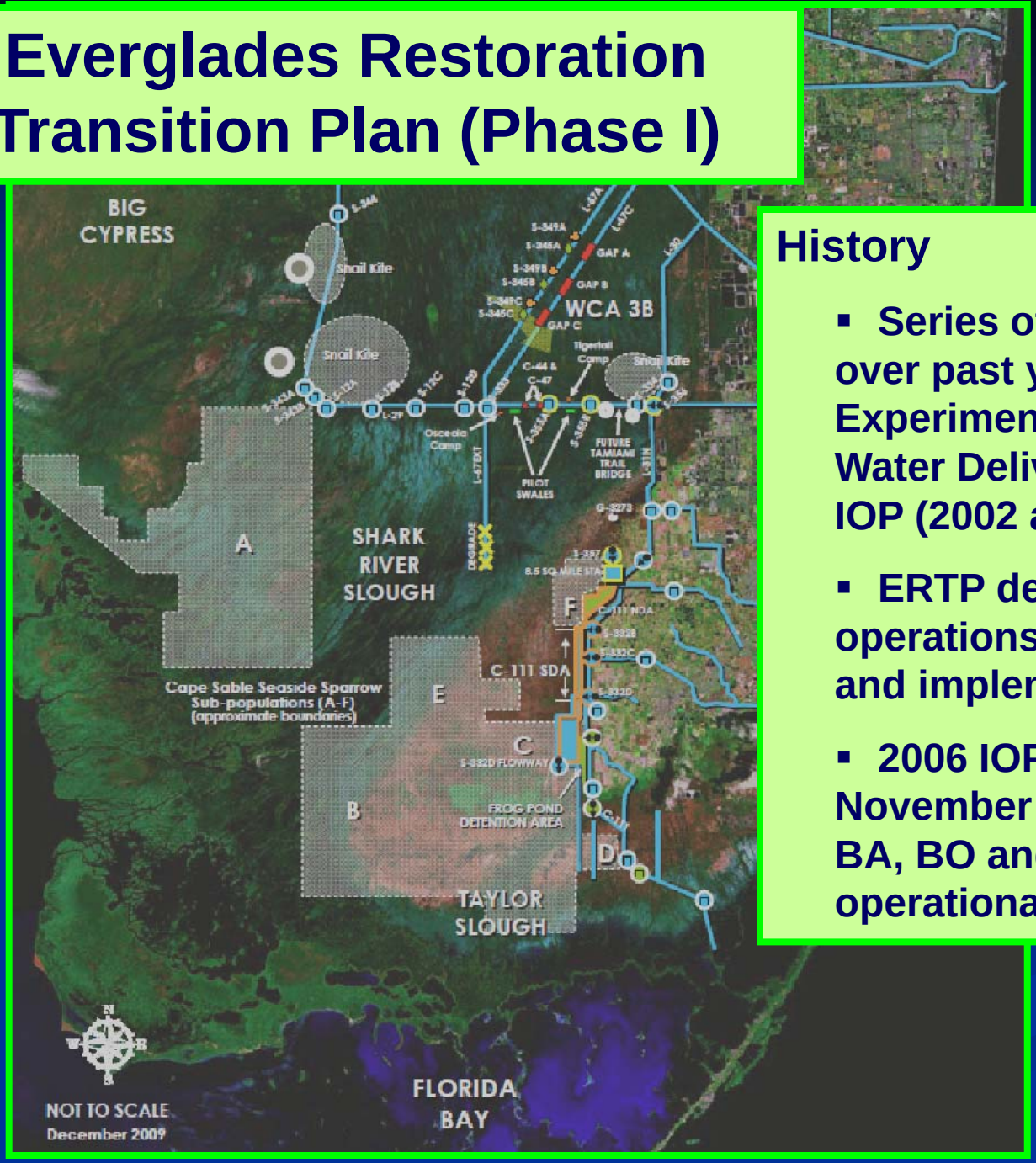
7th Annual Public Meeting on the Long-Term Plan for Achieving Water Quality Goals for the Everglades Protection Area Tributary Basins

February 25, 2010

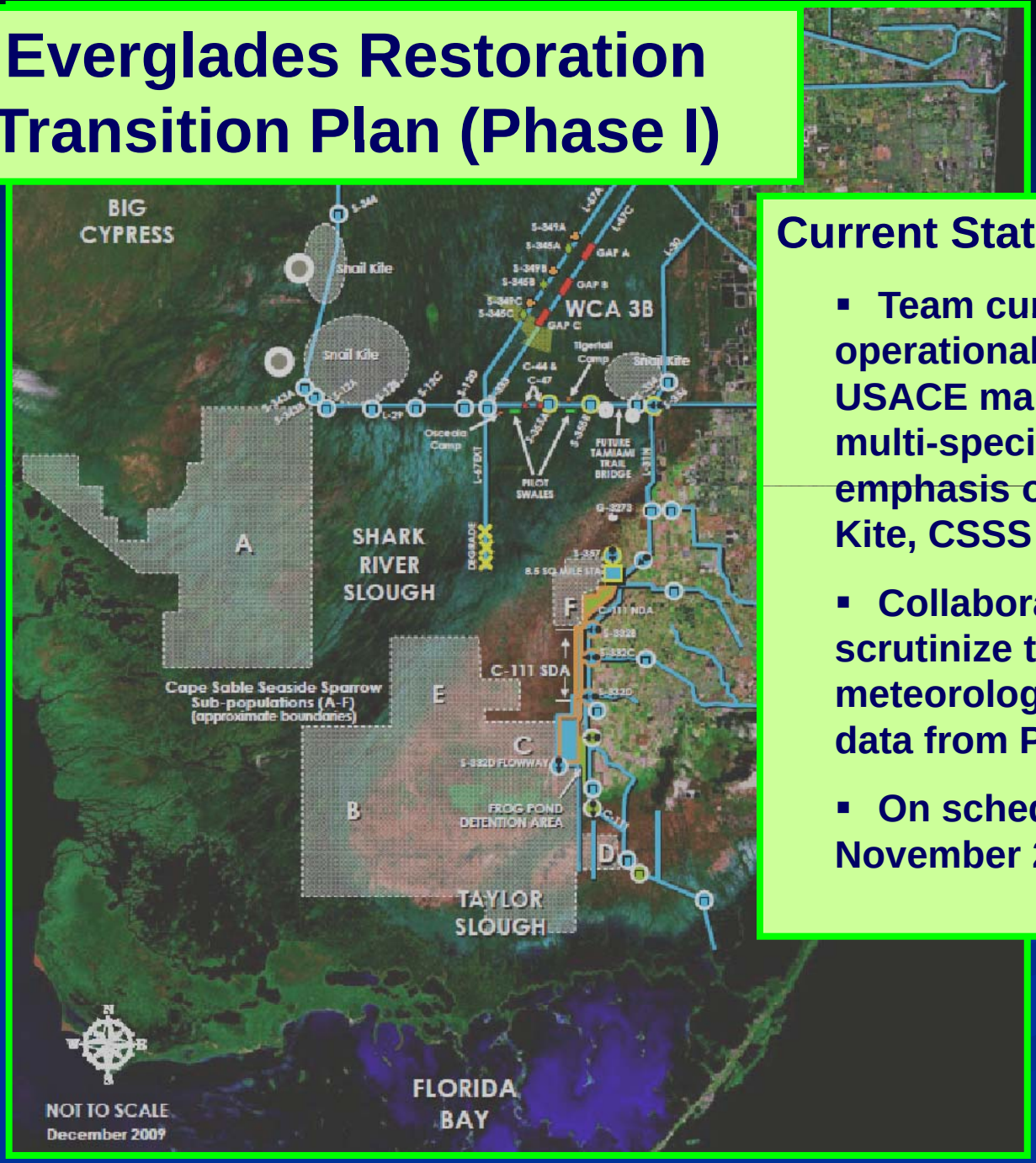
Everglades Restoration Transition Plan (Phase I)



History

- Series of operational actions over past years: Test 7 of the Experimental Program of Water Deliveries to ENP, ISOP, IOP (2002 and 2006)
- ERTP defines interim operations until completion and implementation of MWD
- 2006 IOP BO expires ~ November 2010. Need new BA, BO and NEPA for operational plan

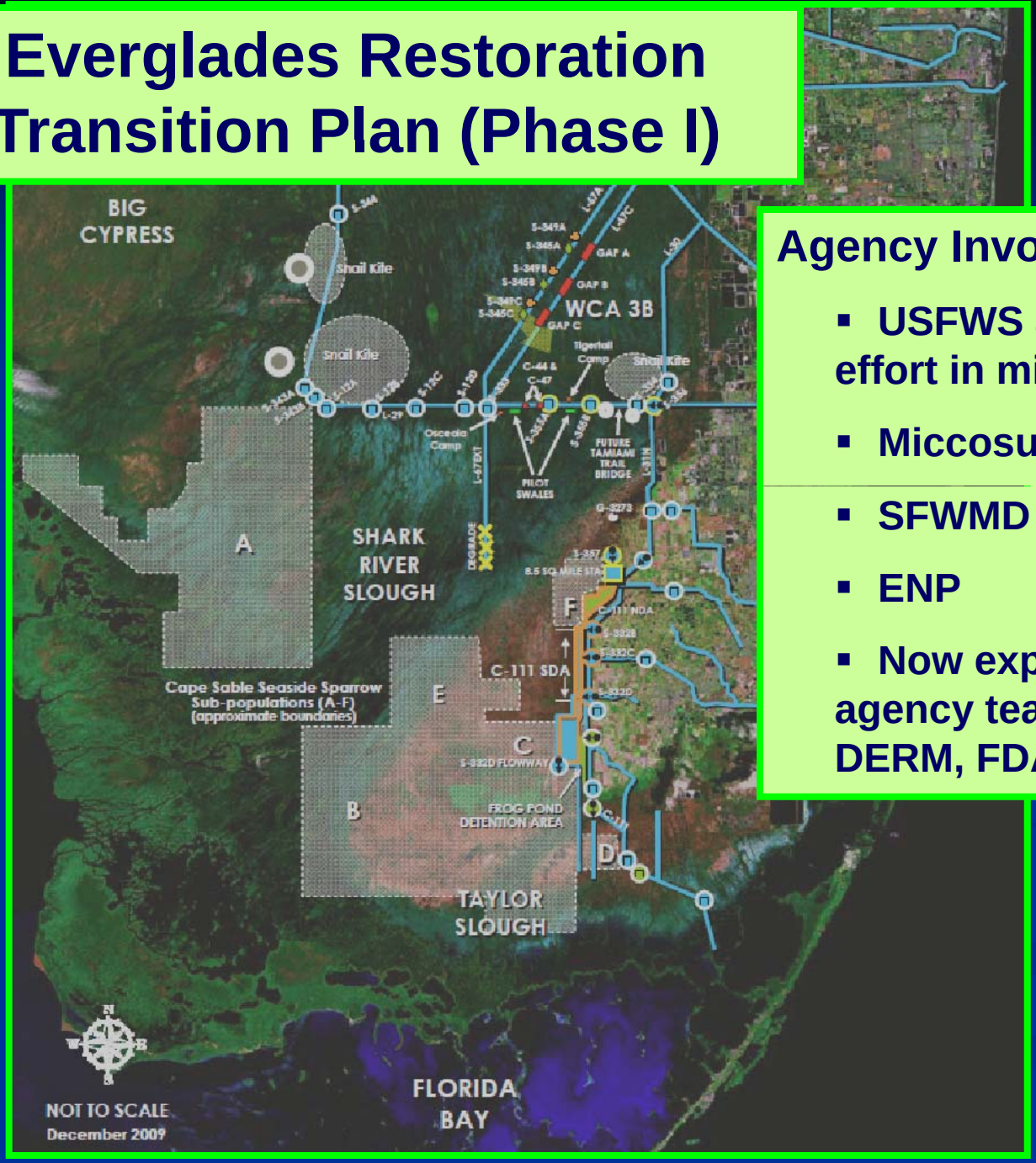
Everglades Restoration Transition Plan (Phase I)



Current Status

- Team currently identifying operational flexibilities to help USACE manage water using a multi-species approach, with emphasis on Everglades Snail Kite, CSSS and Wood Stork
- Collaborative process to scrutinize the hydrologic, meteorological and ecological data from Pre-IOP and IOP years
- On schedule to meet November 2010 deadline

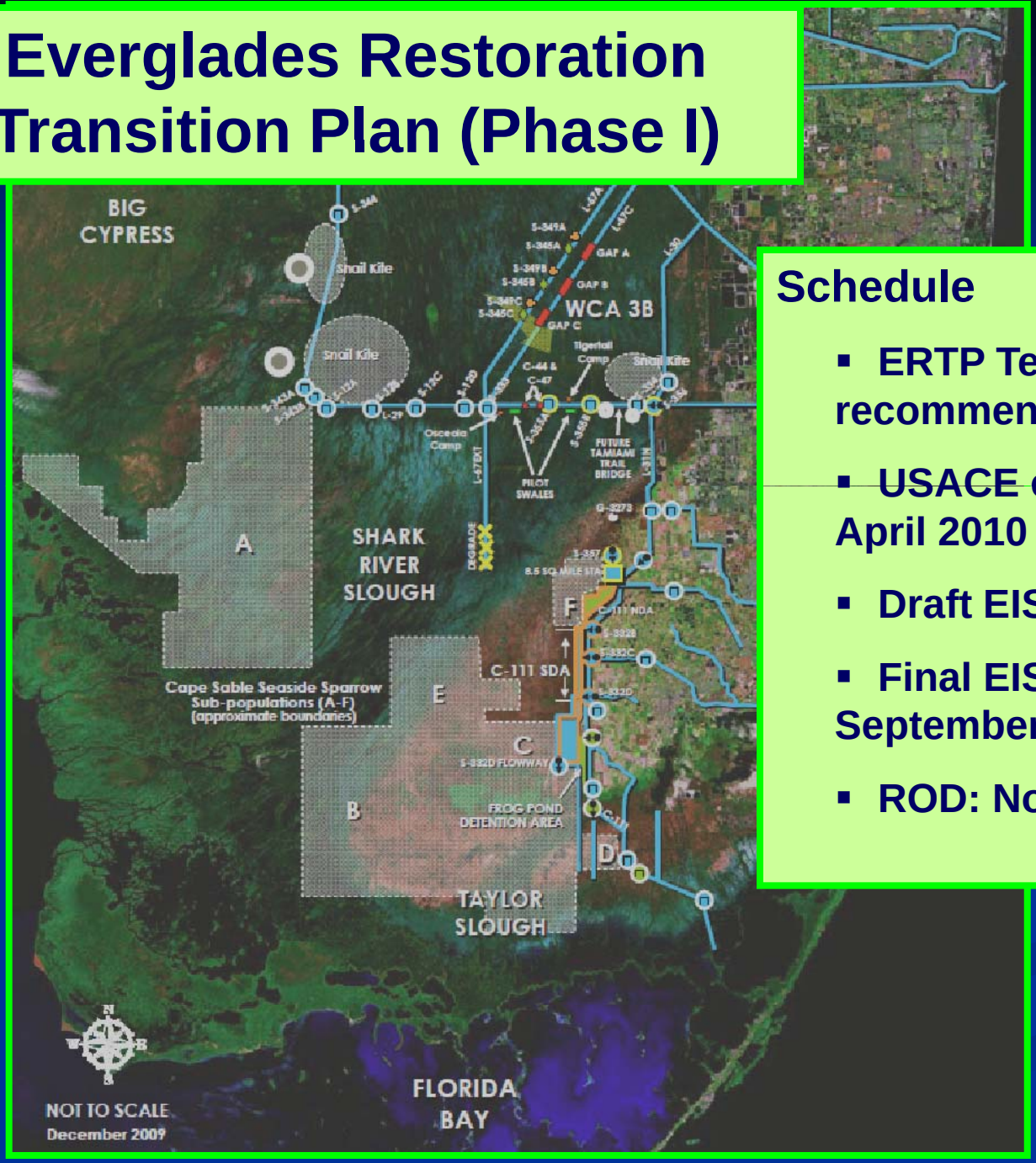
Everglades Restoration Transition Plan (Phase I)



Agency Involvement

- USFWS and USACE began effort in mid-2009
- Miccosukee Tribe
- SFWMD
- ENP
- Now expanded to full multi-agency team (FDEP, FFWCC, DERM, FDACS)

Everglades Restoration Transition Plan (Phase I)



Schedule

- ERTP Team operational recommendations: March 2010
- ~~USACE~~ completion of ~~BA~~: April 2010
- Draft EIS: May/June 2010
- Final EIS and Final BO: September 2010
- ROD: November 2010

FWS Species Recommendations: Summary/Examples

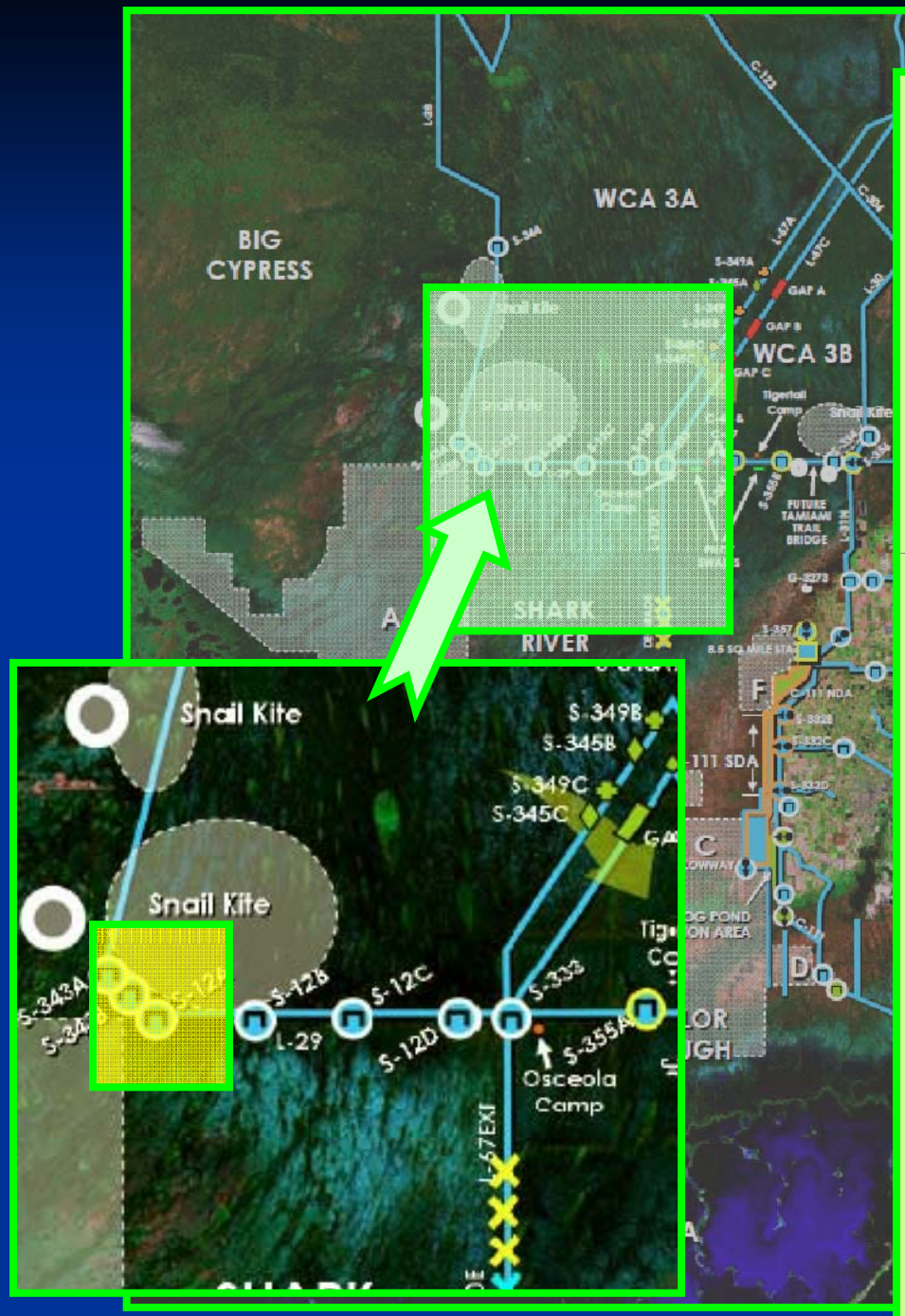
- **Everglade Snail Kite:**
  - **WCA-3A Water Depth Recommendations during wet season, pre-breeding season and dry season.**
  - **Recession Rate: 0.02 feet/week**
  - **Benefits to snail kite, apple snails (their prey) and vegetation (their habitat).**

FWS Species Recommendations: Summary/Examples

- **Cape Sable Seaside Sparrow**
  - **Hydroperiod between 90 and 240 days (3 to 8 months) to maintain marl prairie vegetation.**
  - **Water Depth below 6.0’ NGVD no later than March 15 for a minimum of 60 consecutive days.**
- **Wood Stork**
  - **Recession Rate: 0.05-0.16 feet/week**

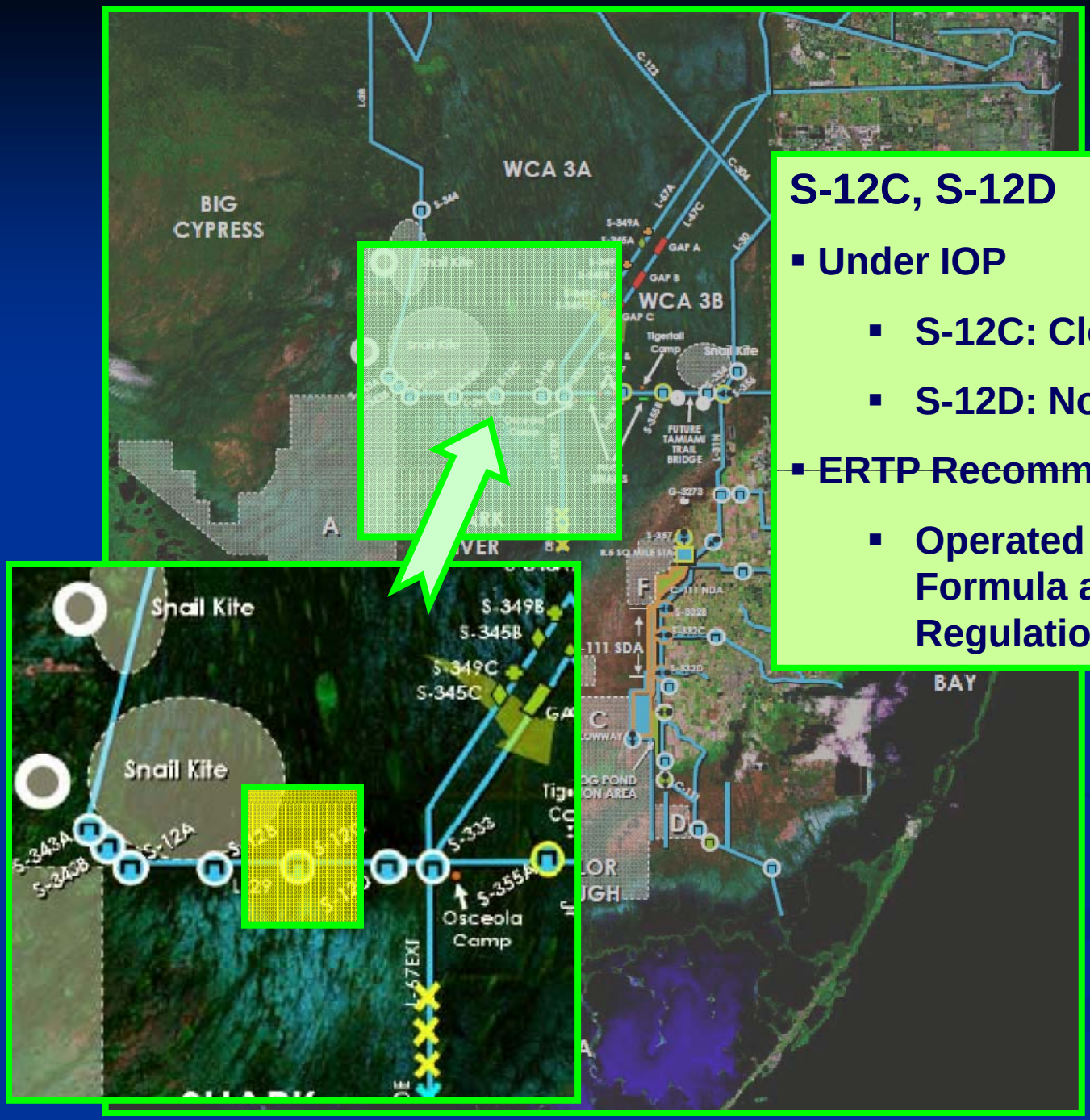
Current Proposed Operational Flexibilities

- The following slides highlight current proposed flexibilities.
- This does not yet represent a “final plan.”
- Further details will likely be added.



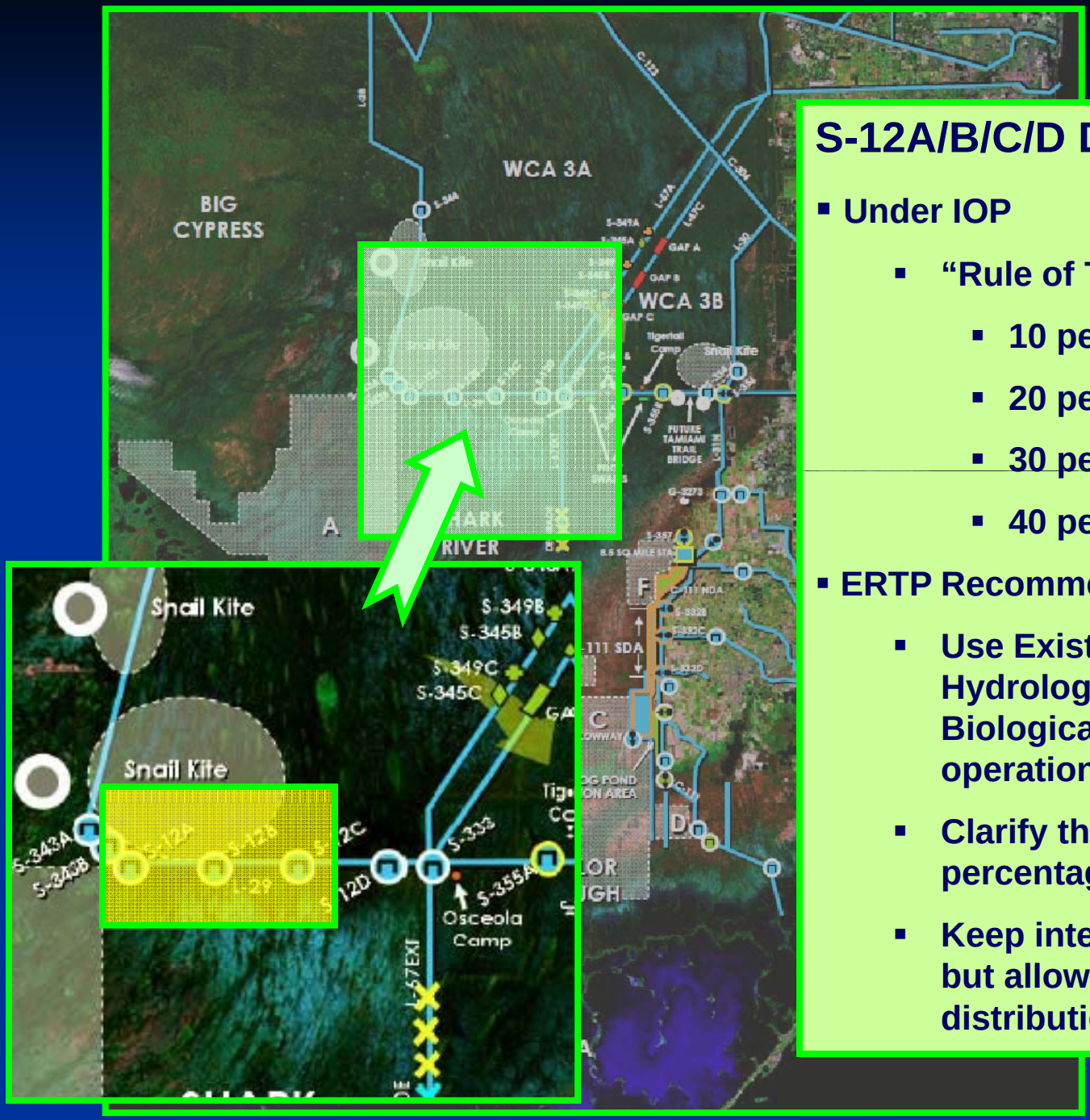
S-12A, S-12B

- **Under IOP**
  - **S-12A: Closed 1-Nov to 15-Jul**
  - **S-12B: Closed 1-Jan to 15-Jul**
- **ERTP Recommendation**
  - **No hard dates**
  - **Operations based on:**
    - **Existing/Anticipated Hydrologic Conditions and Biological needs**
    - **WCA-3A water levels for kites, tree islands**
    - **NP-205 water levels, recession rate, rate of rise, WCA-3A water levels for snails**
    - **CSSS habitat nesting conditions**
    - **Closed when WCA-3A water levels are below Zone C after hurricane season**
    - **WCA-3A regulation schedule or rainfall plan**



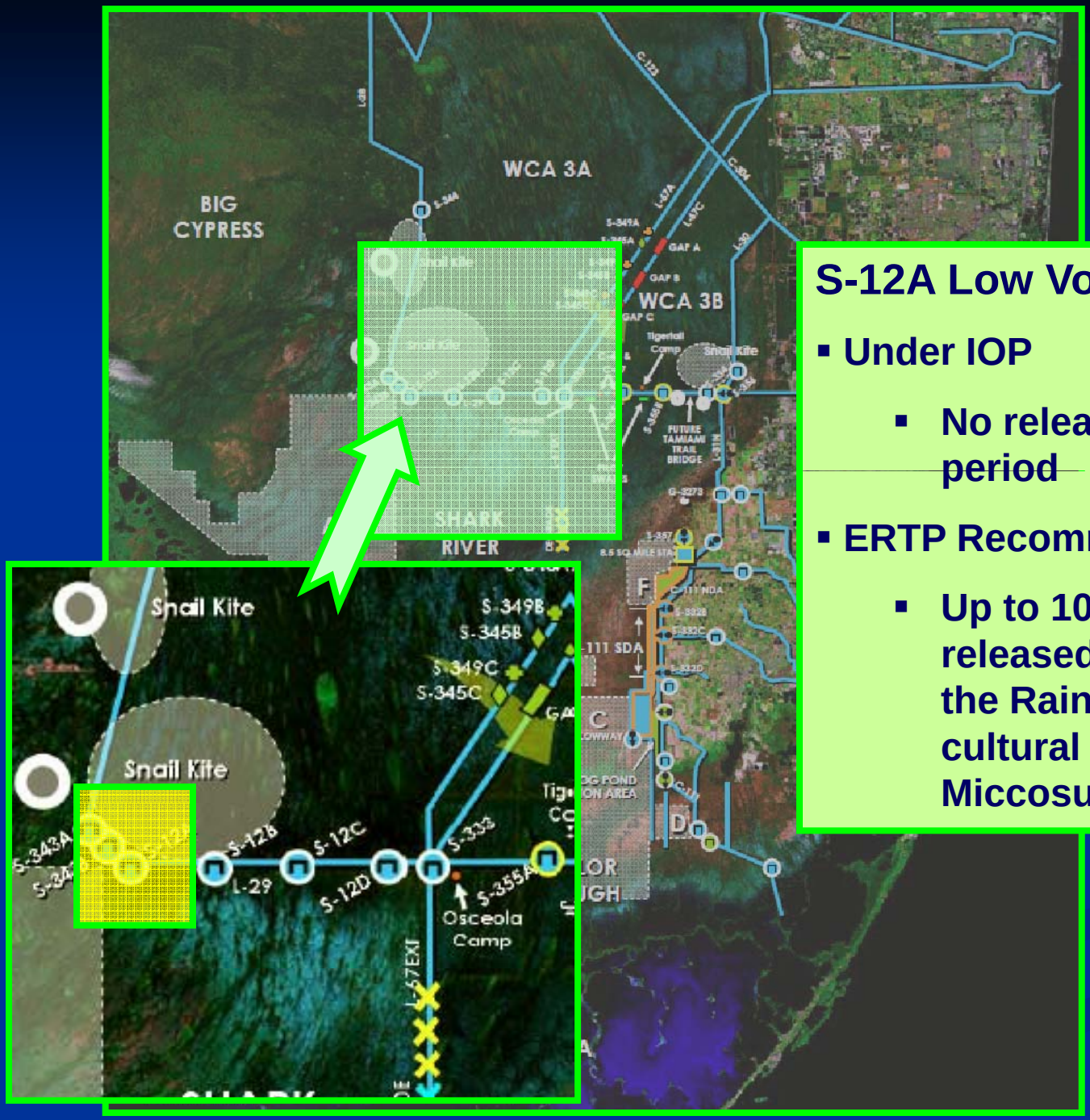
S-12C, S-12D

- Under IOP
  - S-12C: Closed 1-Feb to 15-Jul
  - S-12D: No closure date
- ~~ERTP Recommendation~~
  - Operated based on Rainfall Formula and/or WCA-3A Regulation Schedule



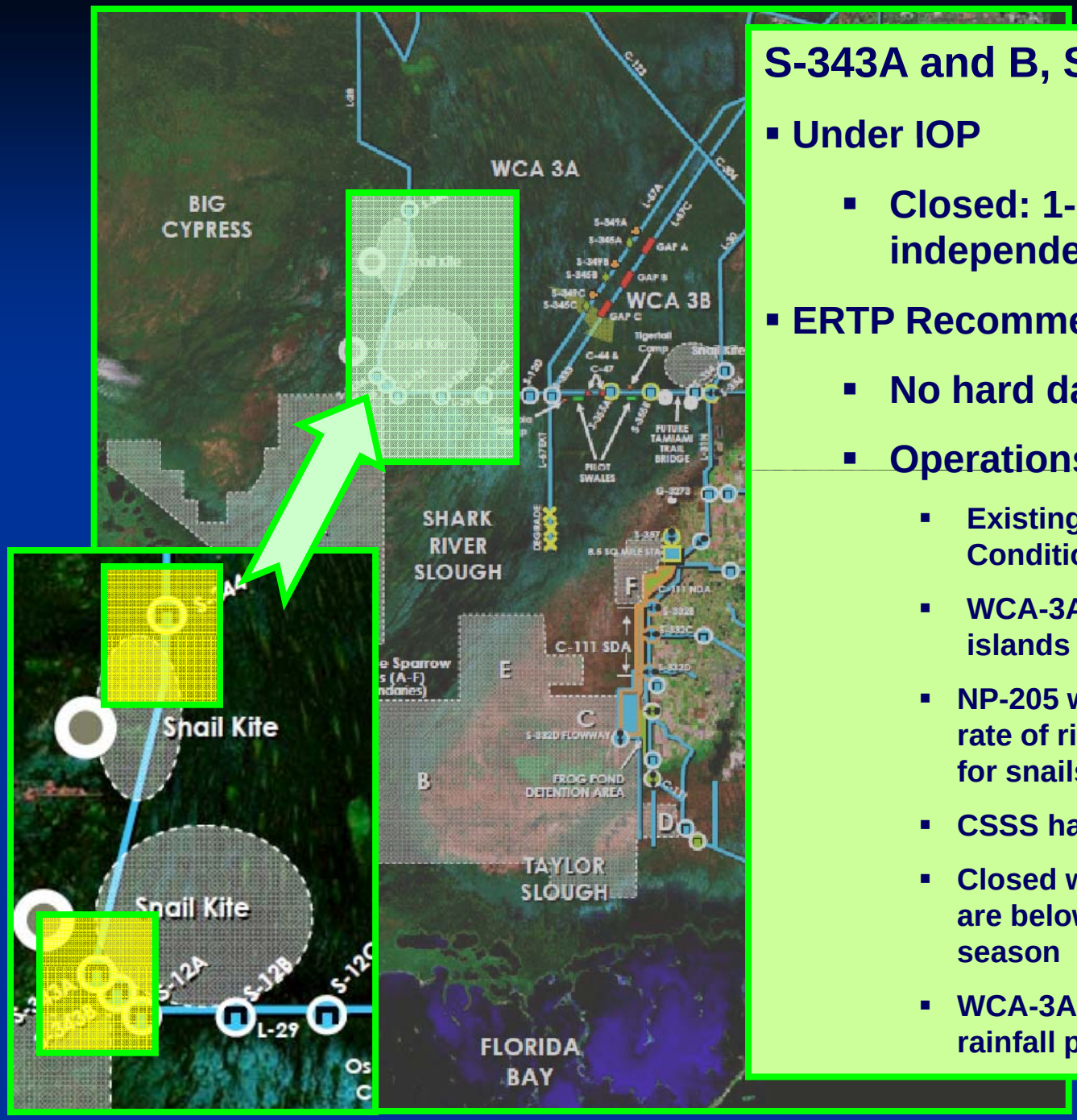
S-12A/B/C/D Distribution

- Under IOP
  - "Rule of Thumb"
    - 10 percent at A
    - 20 percent at B
    - 30 percent at C
    - 40 percent at D
- ERTP Recommendation
  - Use Existing/Anticipated Hydrologic Conditions and Biological needs to define operations
  - Clarify that these are not set percentages
  - Keep intent of more flow to east but allow for variations in distribution



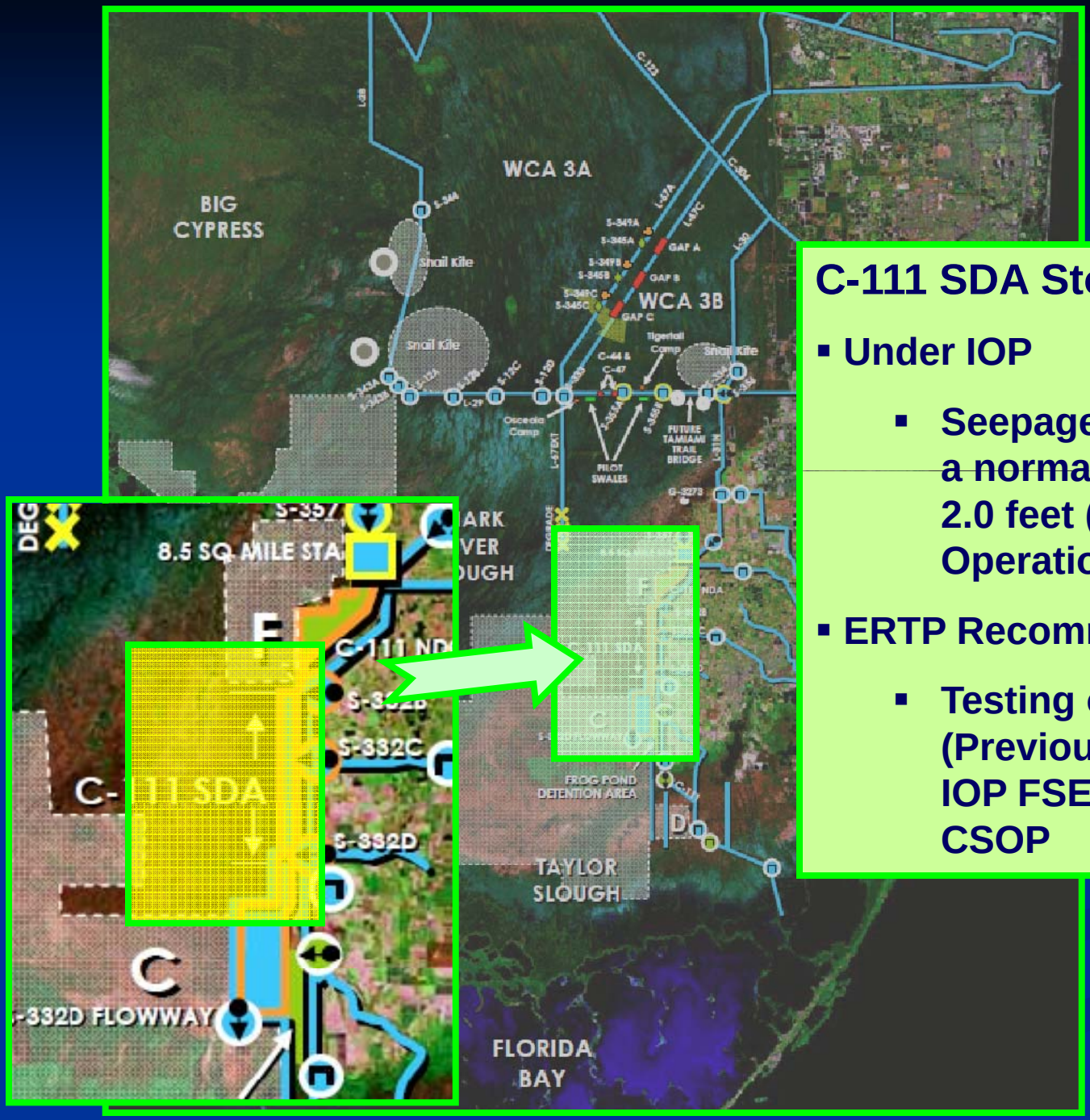
S-12A Low Volume Releases

- Under IOP
  - No releases during closure period
- ERTP Recommendation
  - Up to 100 cfs can be released when called for by the Rainfall Formula – for cultural uses by the Miccosukee Tribe



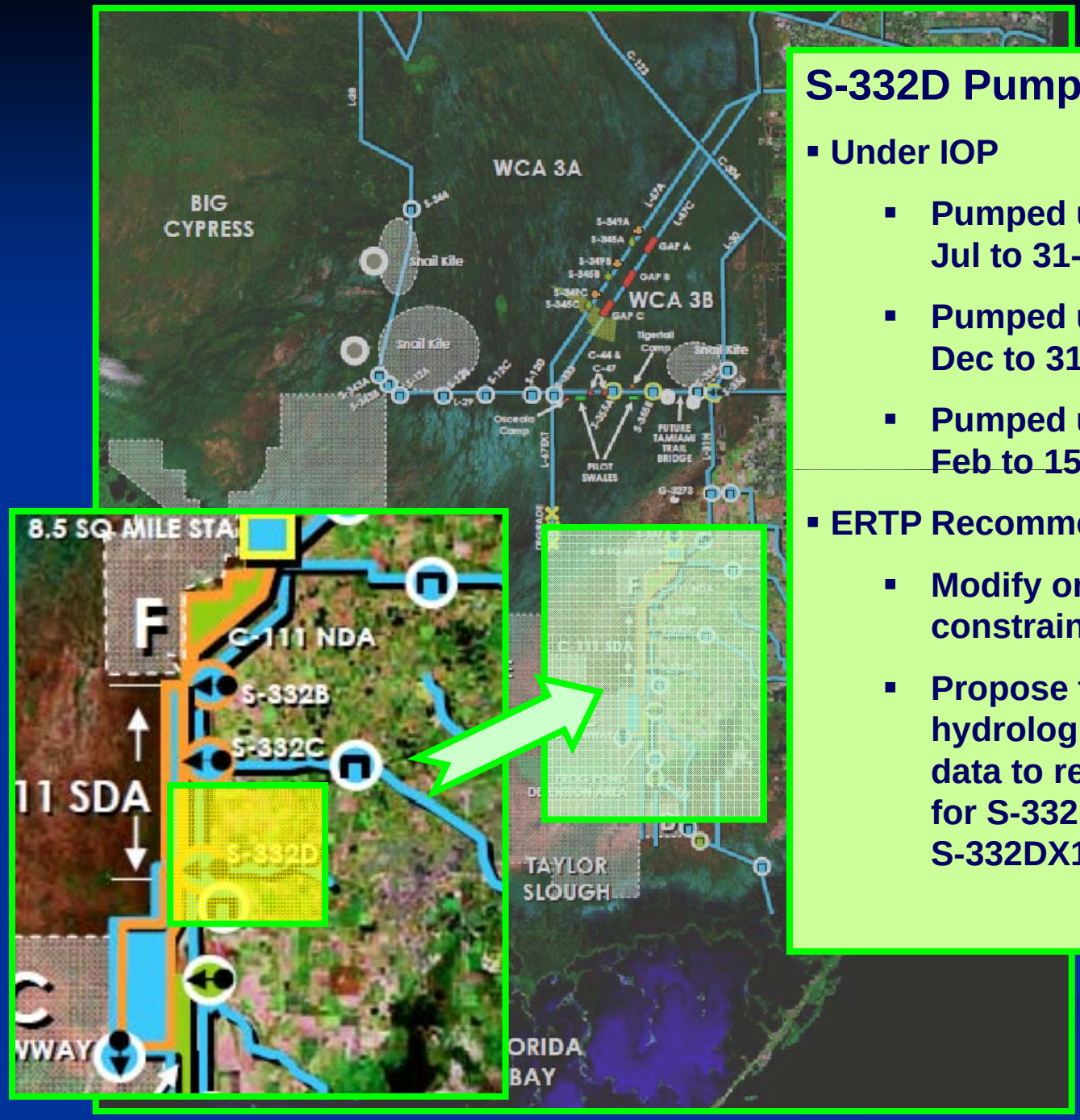
S-343A and B, S-344

- Under IOP
  - Closed: 1-Nov to 15-Jul independent of WCA-3A levels
- ERTP Recommendation
  - No hard dates
  - Operations based on:
    - Existing/Anticipated Hydrologic Conditions and Biological needs
    - WCA-3A water levels for kites, tree islands
    - NP-205 water levels, recession rate, rate of rise, WCA-3A water levels for snails
    - CSSS habitat nesting conditions
    - Closed when WCA-3A water levels are below Zone C after hurricane season
    - WCA-3A regulation schedule or rainfall plan



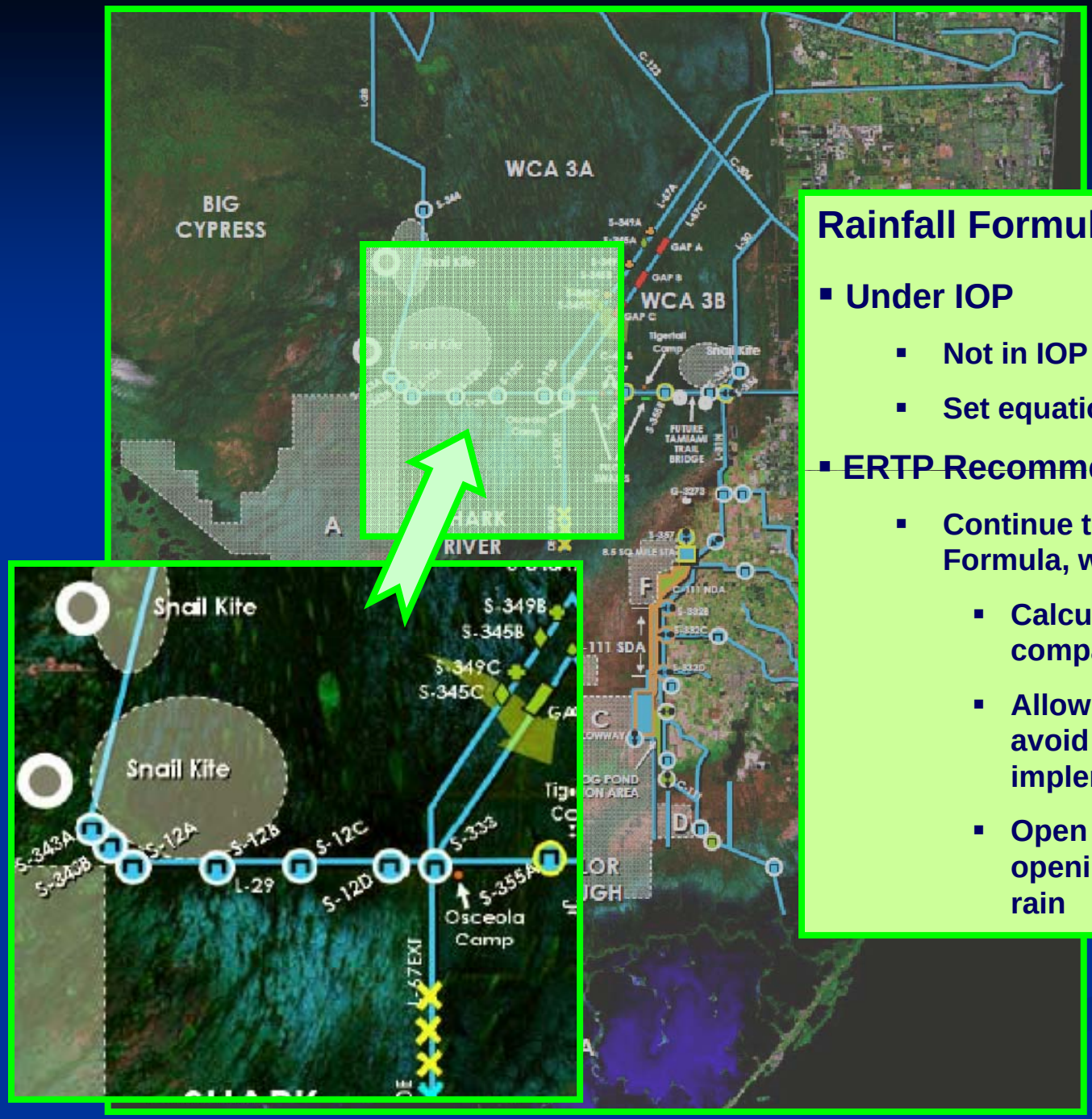
C-111 SDA Storage Capacity

- Under IOP
  - Seepage Reservoir will have a normal maximum depth of 2.0 feet (Emergency Operations = 4 feet)
- ERTP Recommendation
  - Testing of Marsh Operations (Previously detailed in 2006 IOP FSEIS), proposed in CSOP



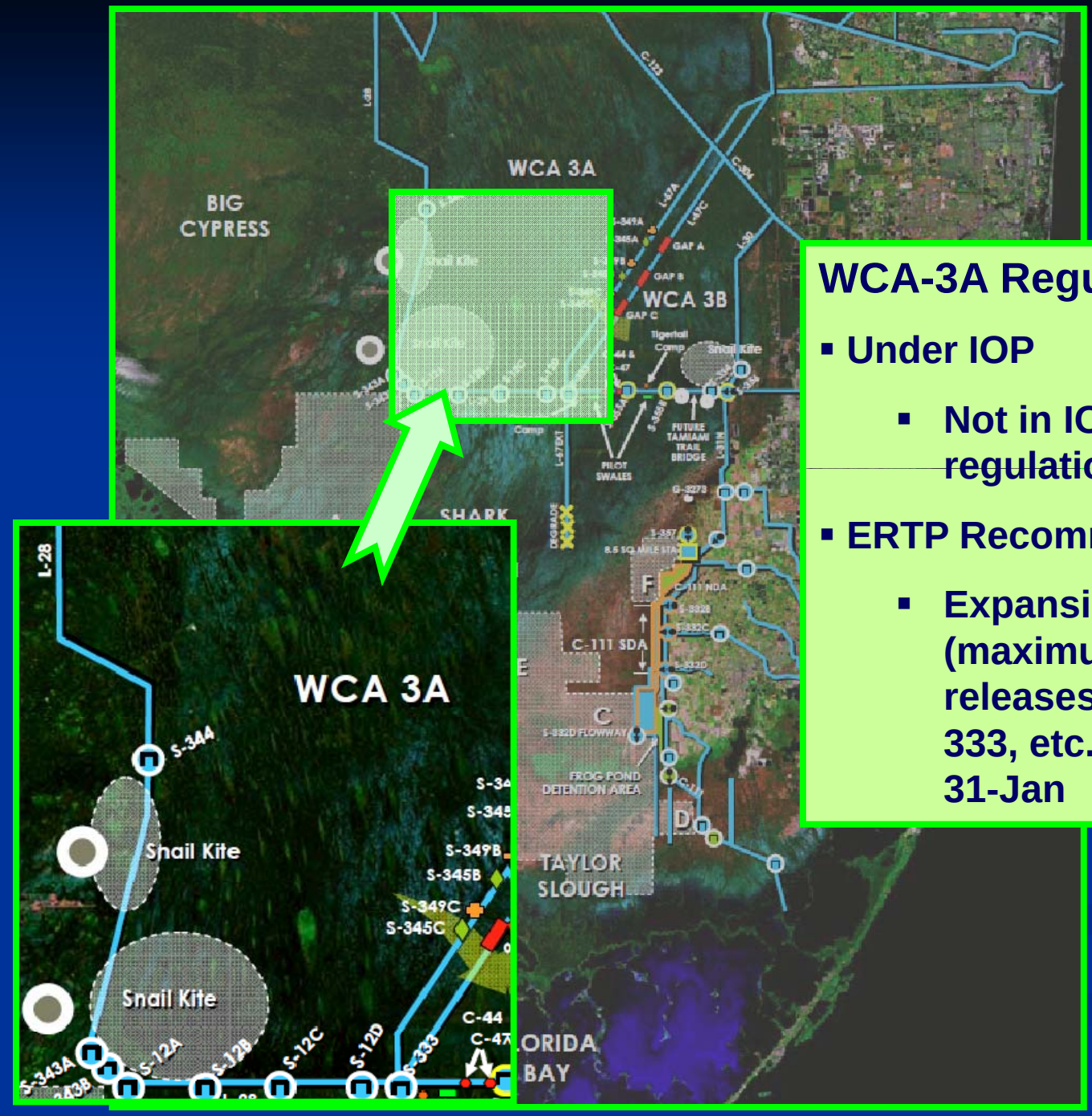
S-332D Pumping Limitation

- Under IOP
  - Pumped up to 500 cfs from 16-Jul to 31-Nov
  - Pumped up to 325 cfs from 1-Dec to 31-Jan
  - Pumped up to 165 cfs from 1-Feb to 15-Jul
- ERTP Recommendation
  - Modify or remove current constraint
  - Propose tests to gather hydrologic and water quality data to refine operational criteria for S-332B, S-332C, S-332D, and S-332DX1



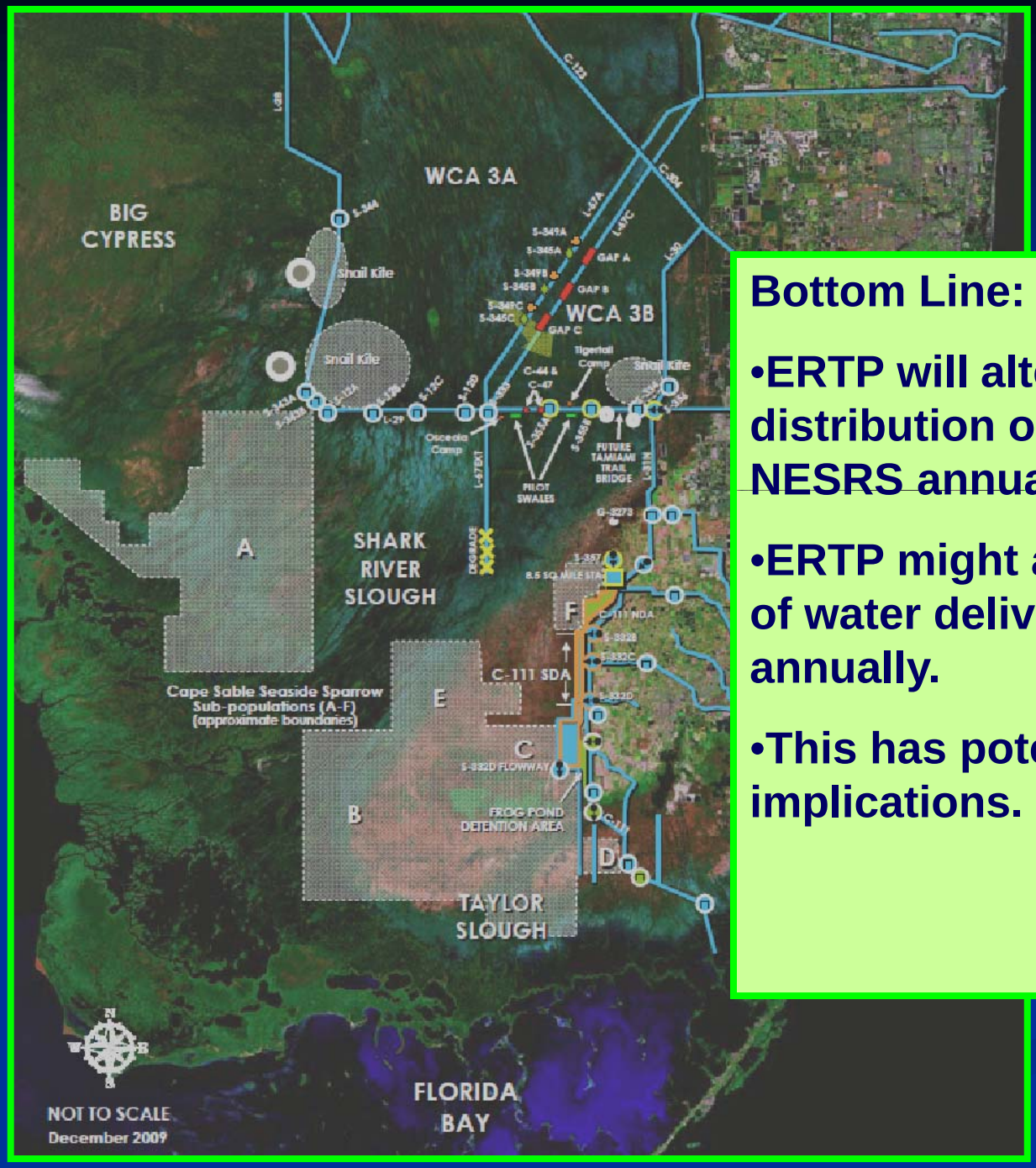
Rainfall Formula

- **Under IOP**
  - **Not in IOP Table**
  - **Set equation for releases in WCA-3A**
- **ERTP Recommendation**
  - **Continue to use existing Rainfall Formula, with modifications**
    - **Calculate alternate formula to compare**
    - **Allow pre-emptive releases to avoid Rainfall Plan implementation delays**
    - **Open S-12s based upon openings of S-11s, other inflows, rain**



WCA-3A Regulation Schedule

- Under IOP
  - Not in IOP Table; See regulation Schedule Graph
- ERTP Recommendation
  - Expansion of Zone E1 (maximum practicable releases from S-12C/D, S-333, etc.) to 1-Nov through 31-Jan



Bottom Line:

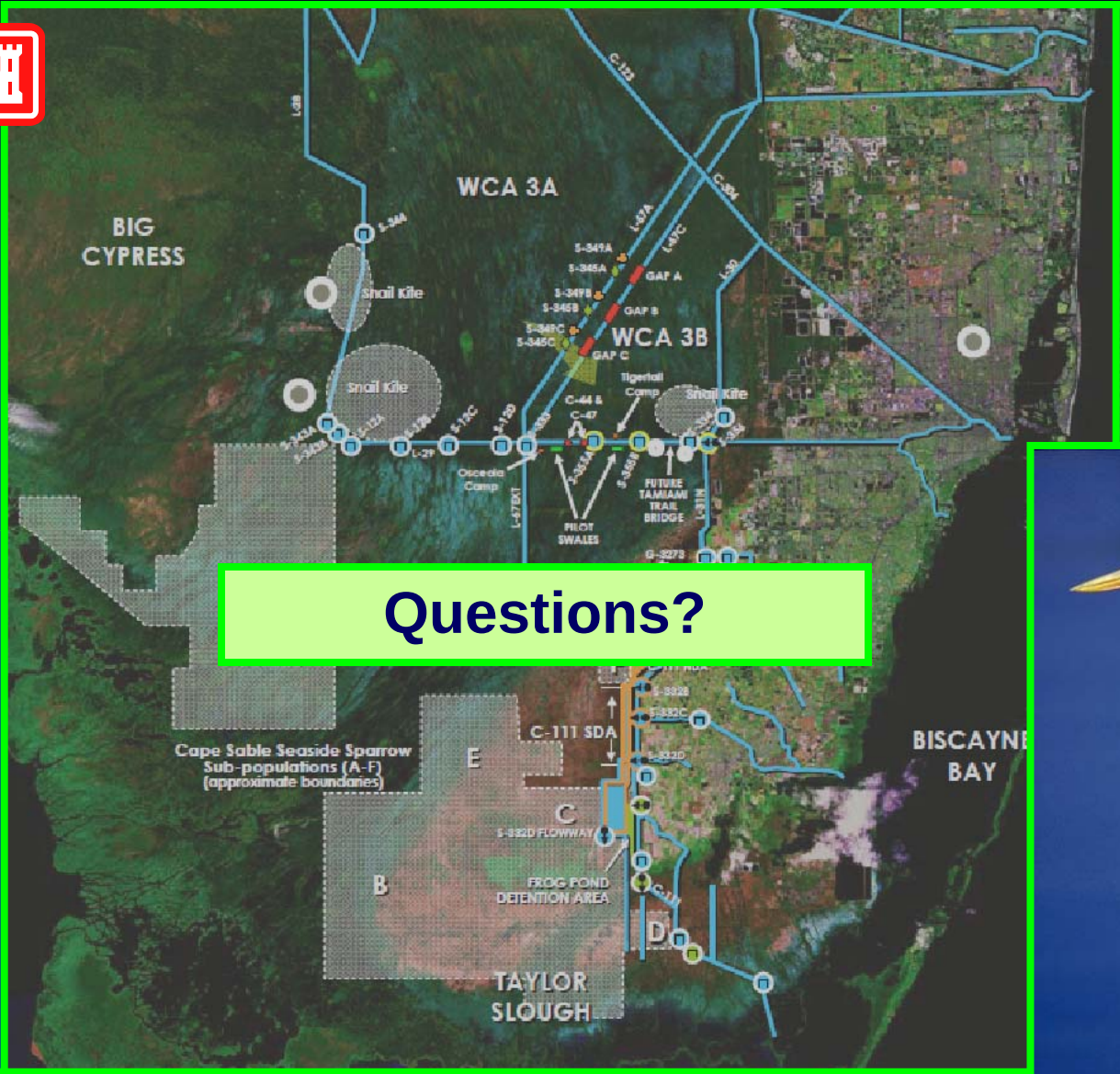
- **ERTP will alter the timing and distribution of water delivered to NESRS annually.**
- **ERTP might alter the quantity of water delivered to NESRS annually.**
- **This has potential water quality implications.**

Future Operational Actions

- **G-3273 Constrain Relaxation** – Currently in planning stages. Expected implementation in 2010 or 2011. Goal is to relax the G-3273 constraint in order to allow additional water deliveries to NESRS.
- **Combined Operations Plan** – Currently in early planning stages. Expected implementation at completion of MWD, expected ~2013. Will increase water deliveries to NESRS.

Conclusions

- Over the next few years, there will be several projects that will increase water deliveries to NESRS
- Additional water quality analysis is needed to determine potential impacts
- Monitoring plans will be an important aspect of implementation.



Questions?

Everglades Restoration Transition Plan (Phase I)