

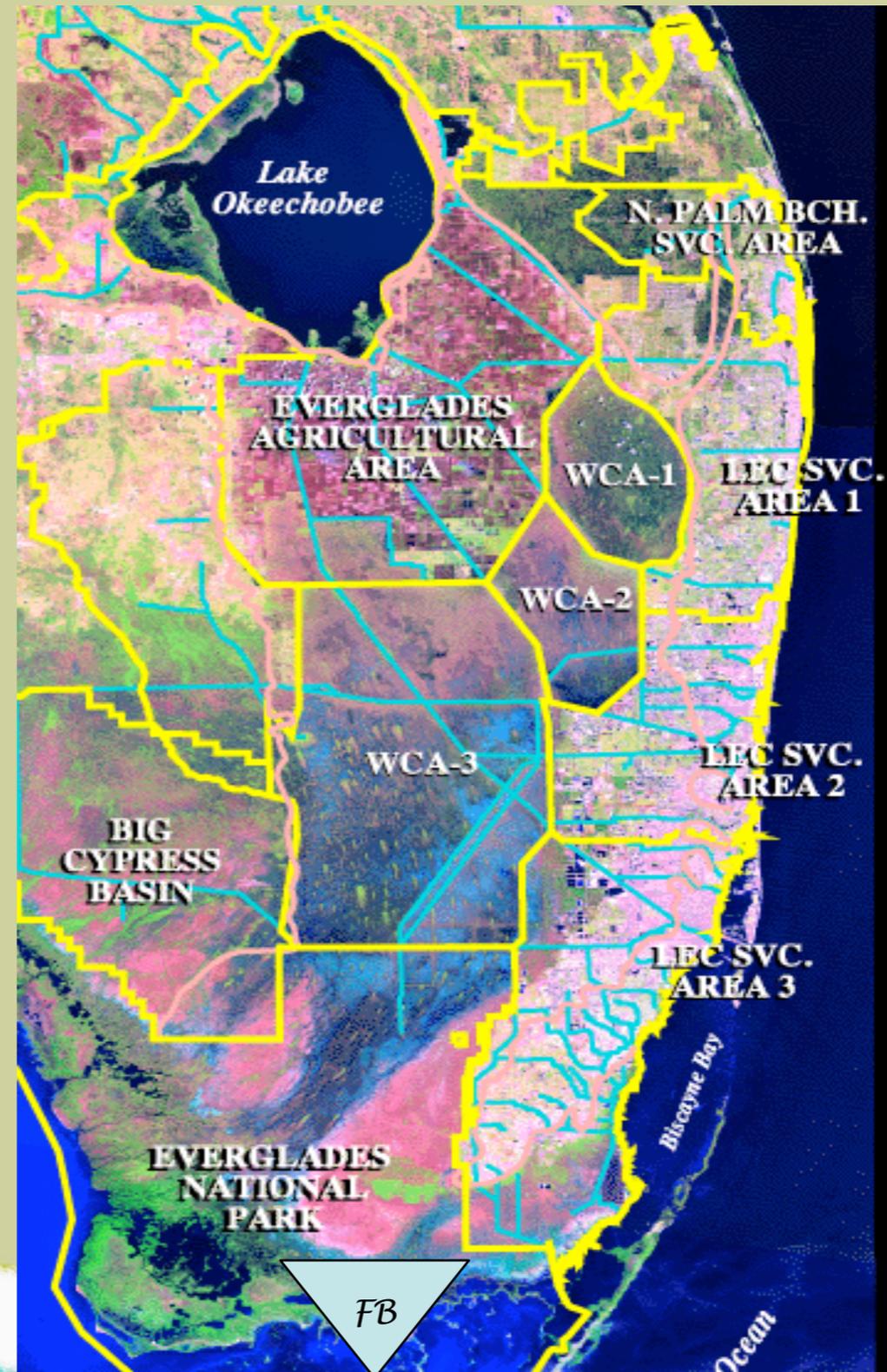
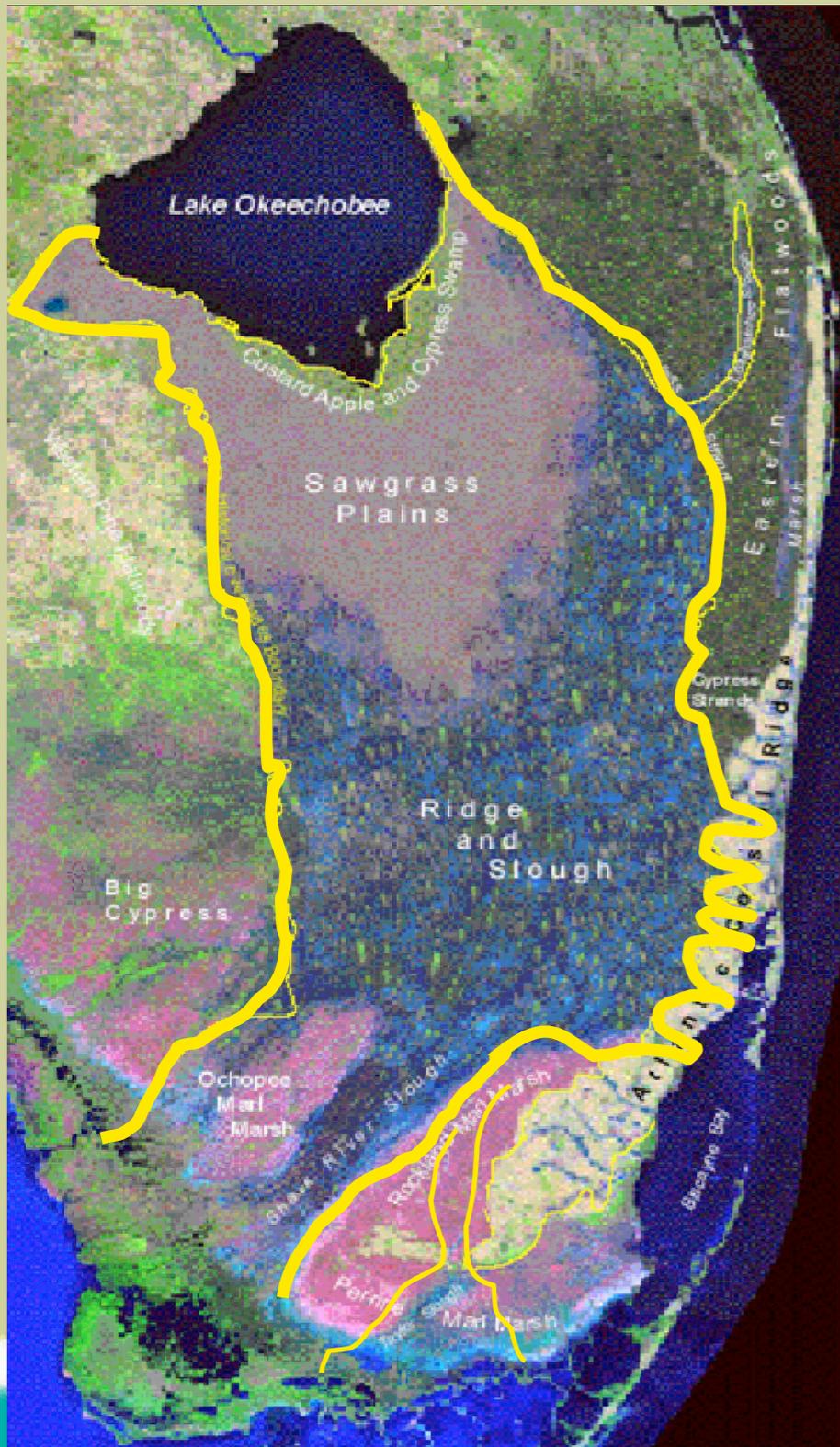
The River of Grass Project

A CERP Perspective

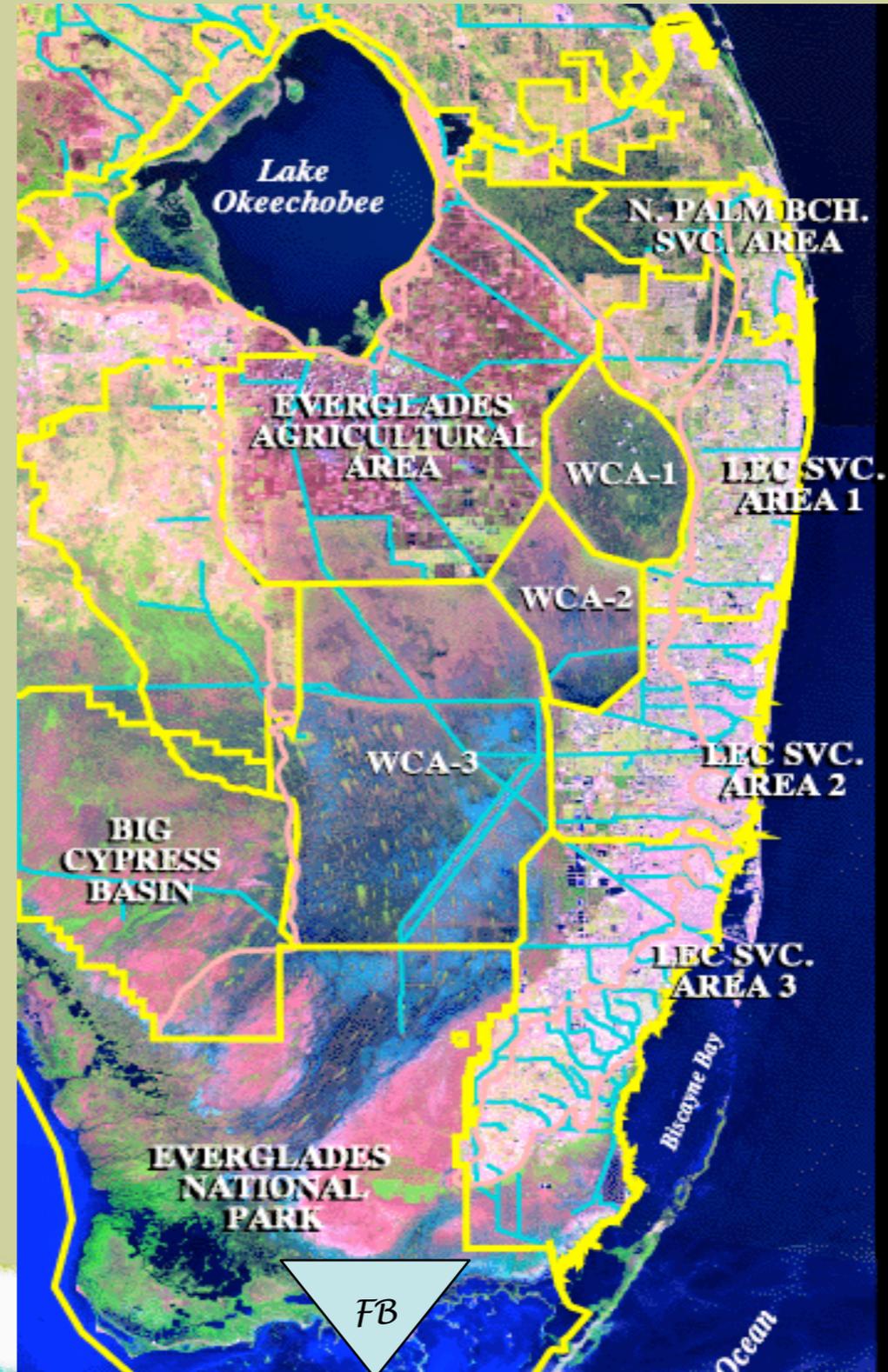
Thomas Van Lent, Ph.D.
The Everglades Foundation
February 19, 2009



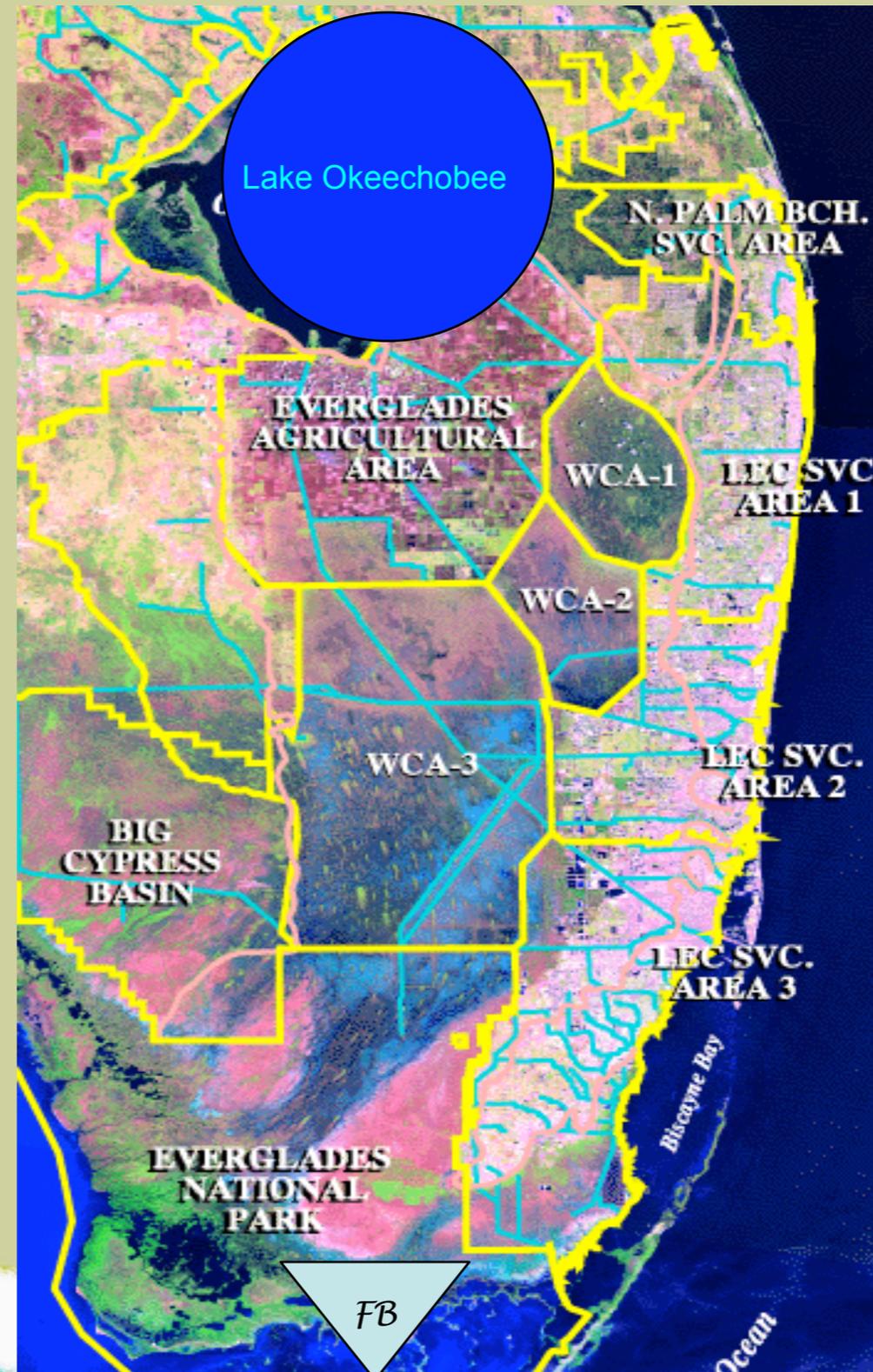
The "River of Grass"



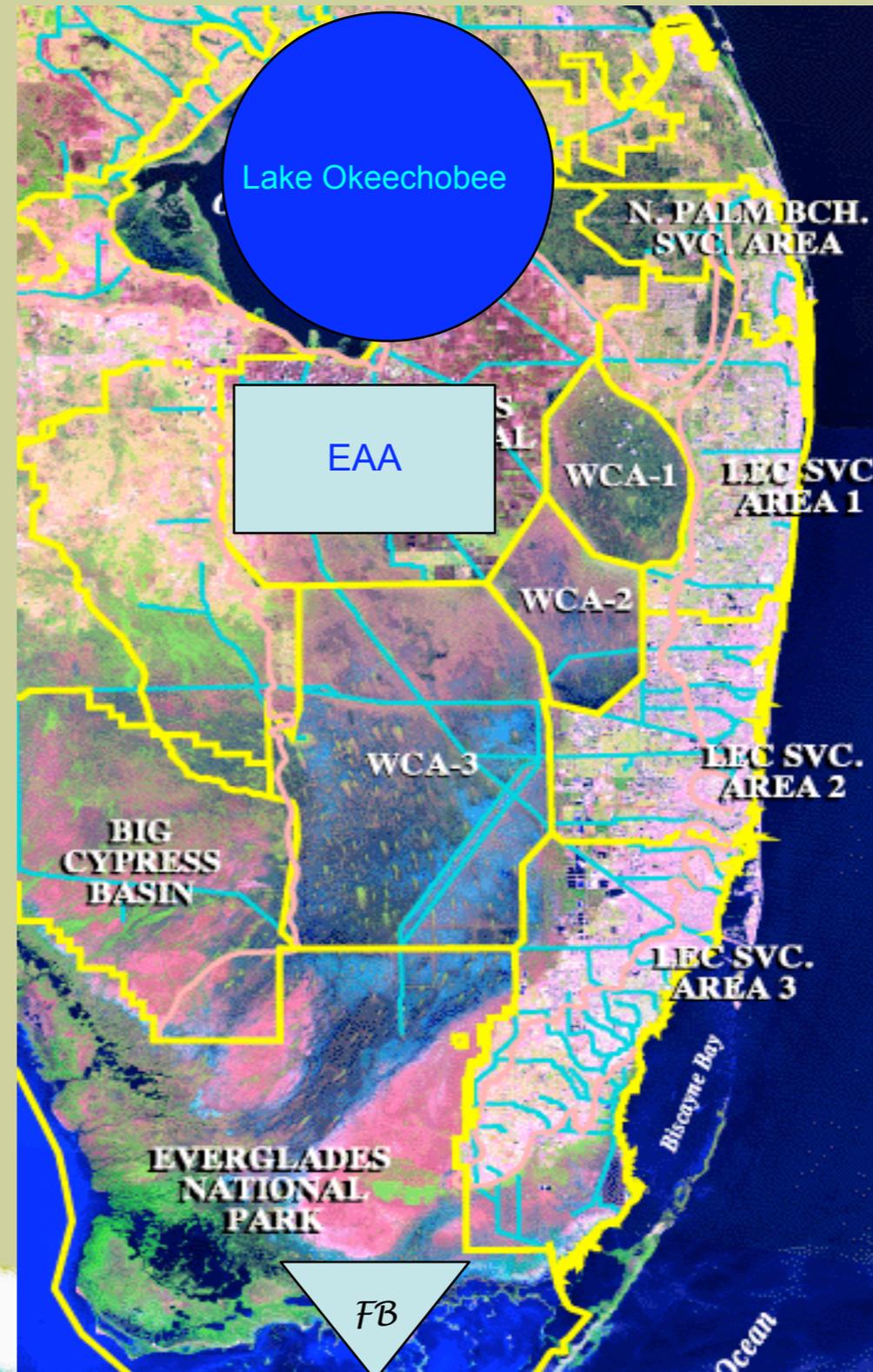
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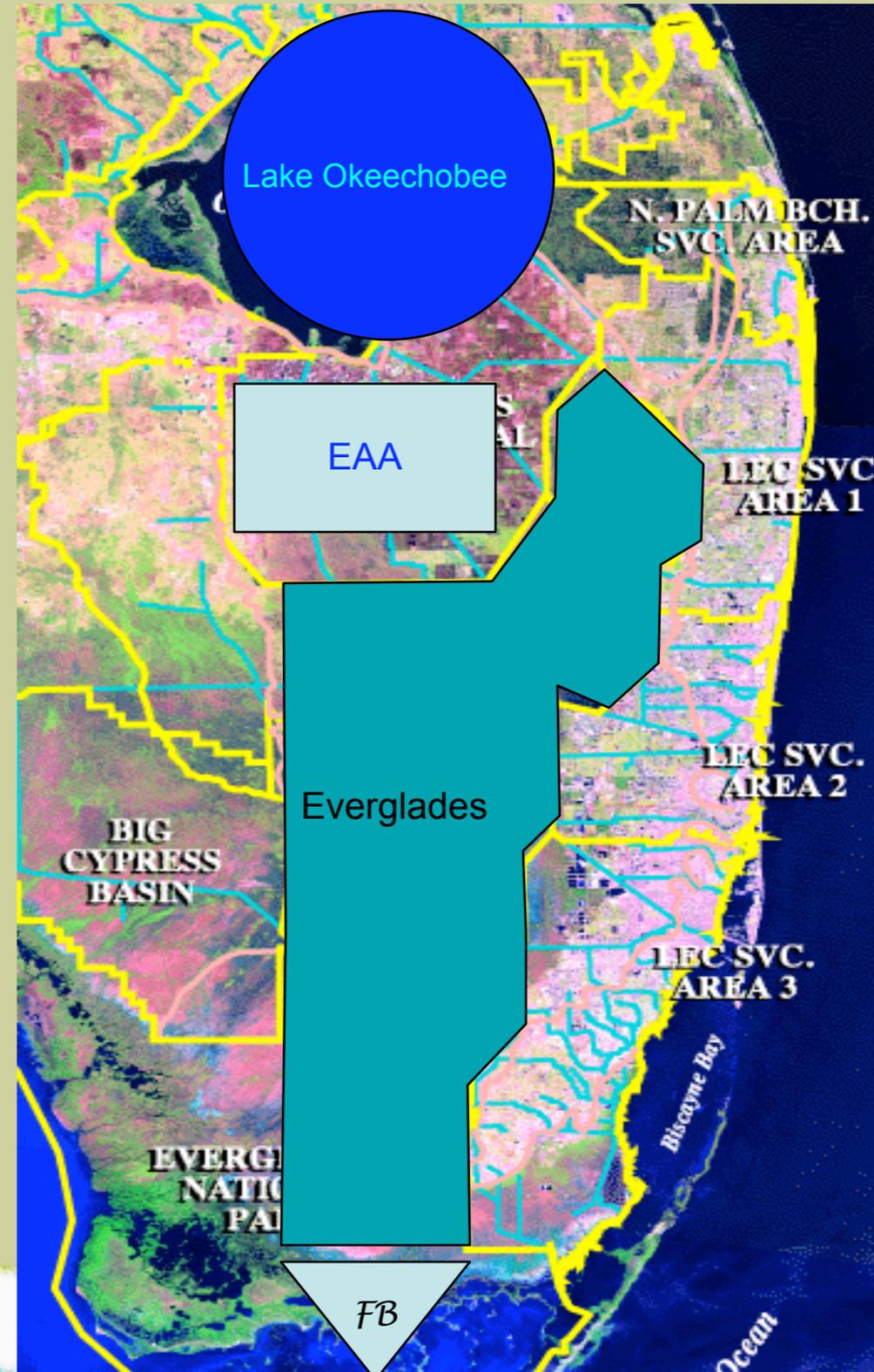
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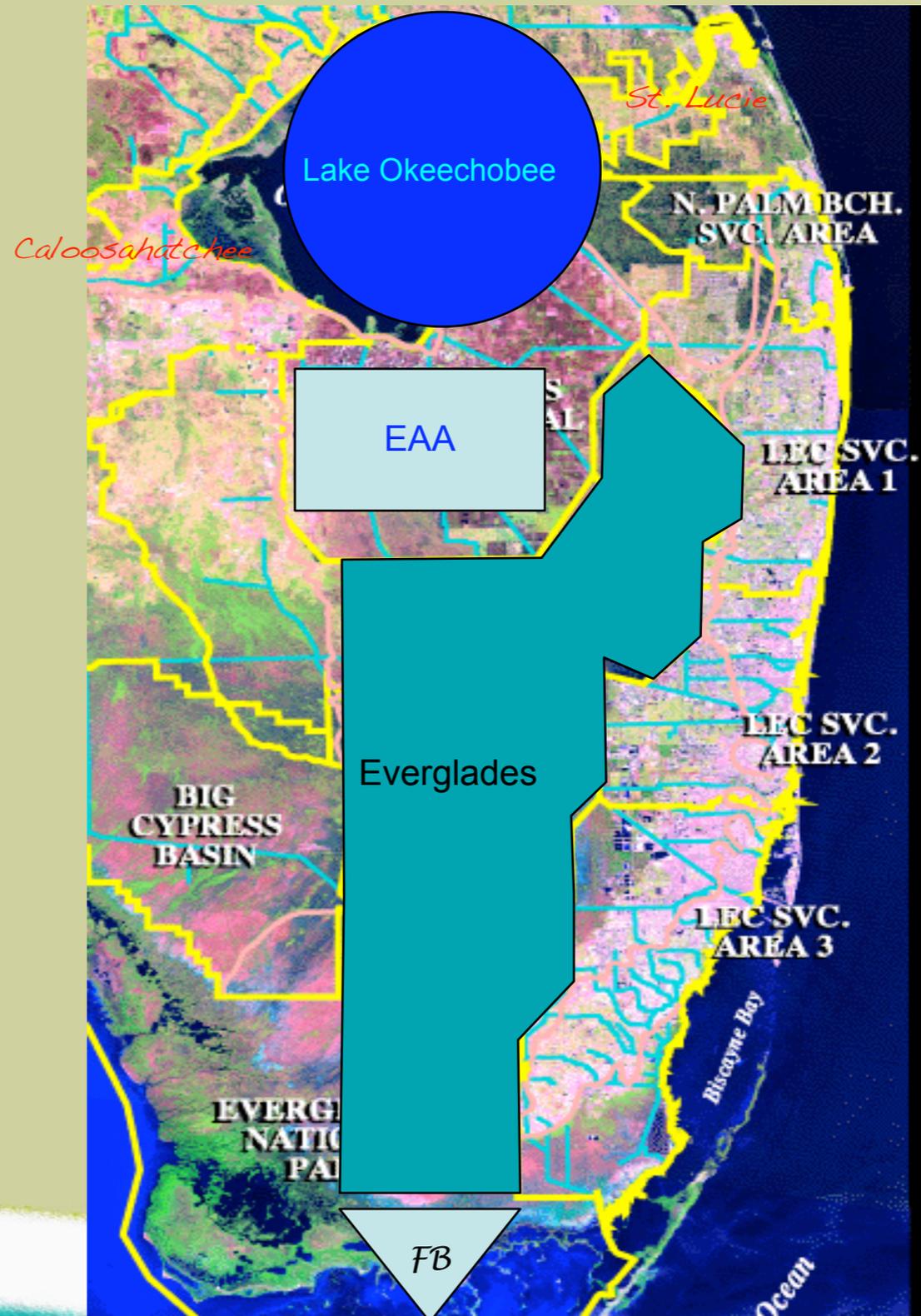
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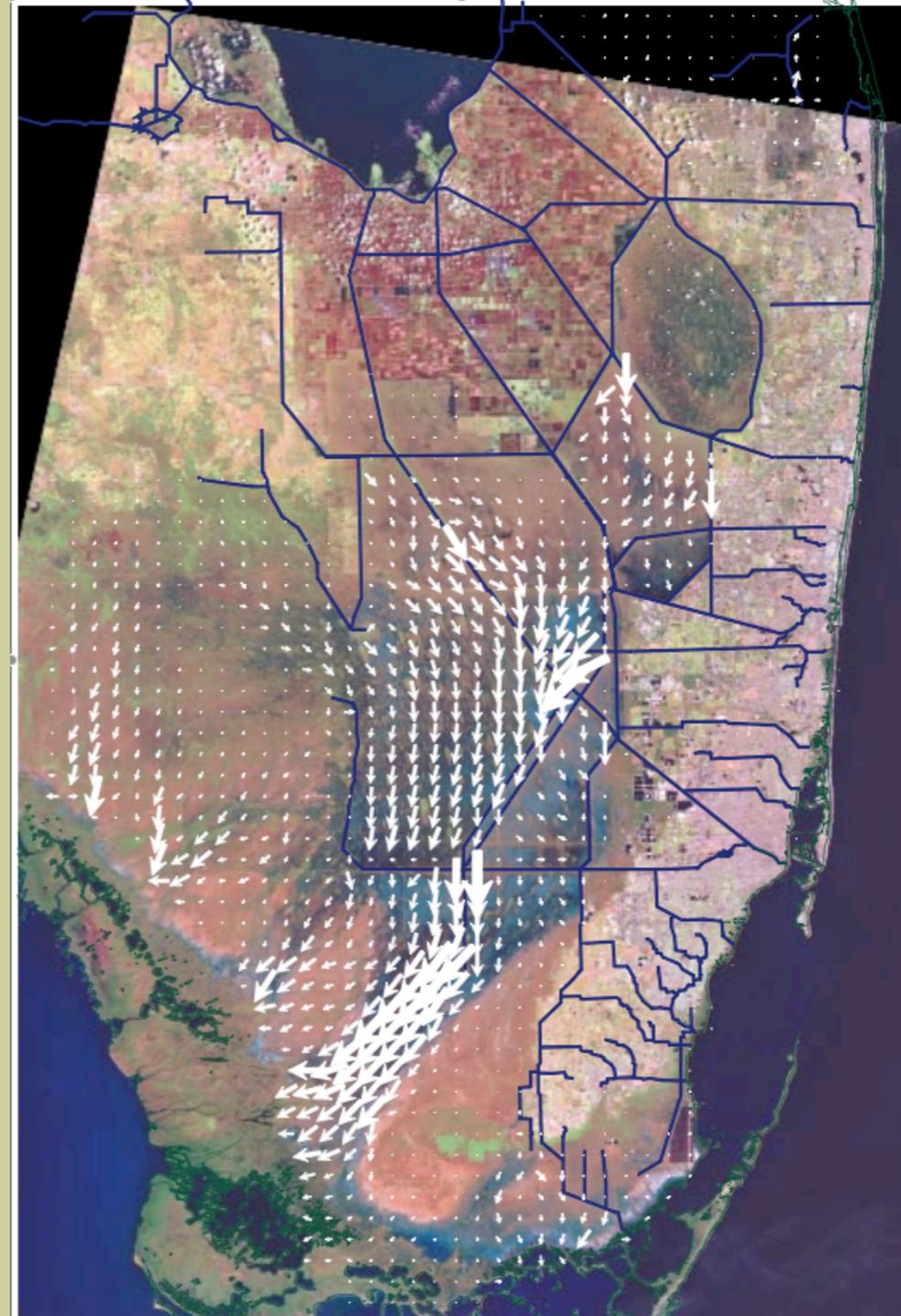
The “River of Grass”



The “River of Grass”

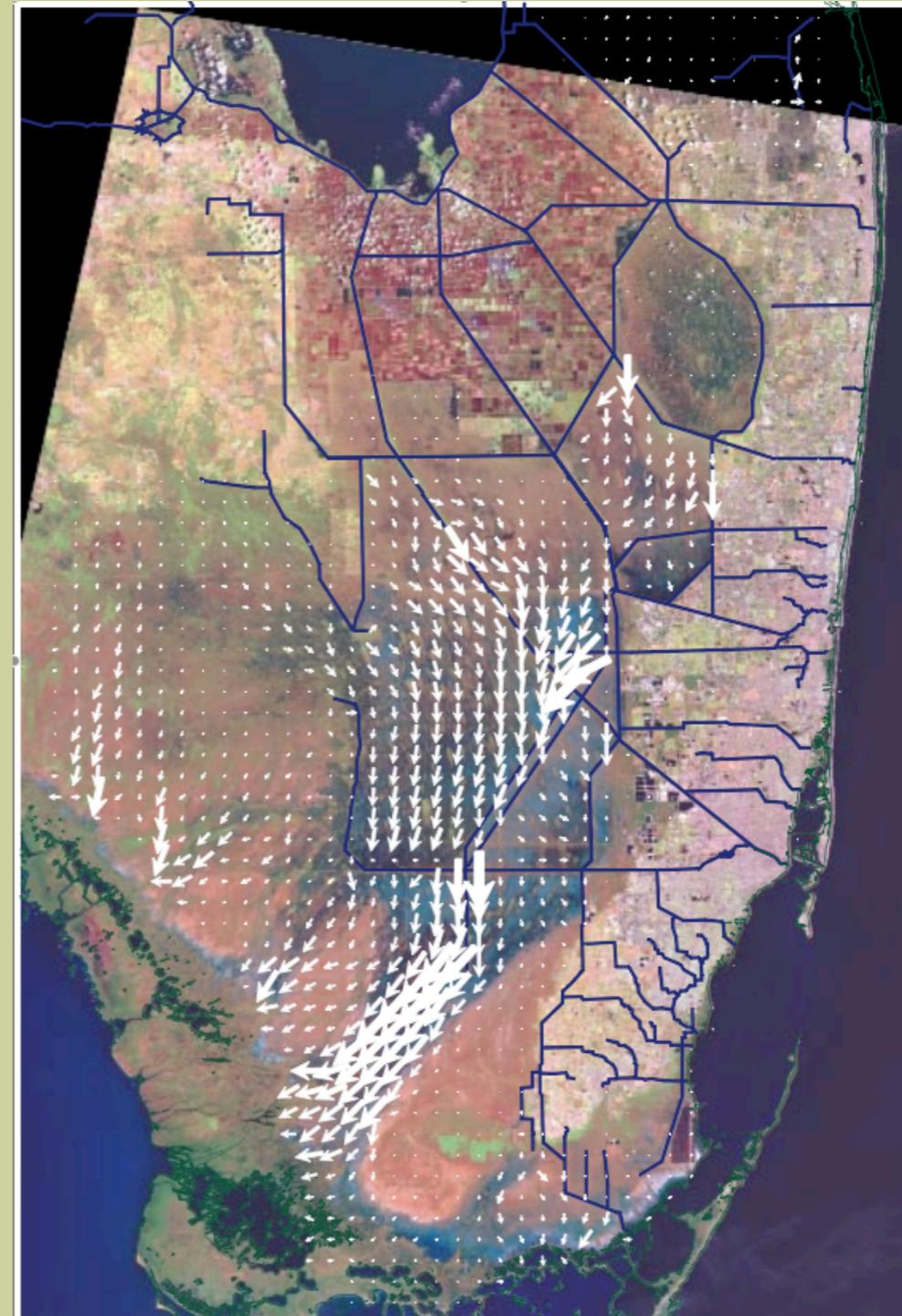


Today



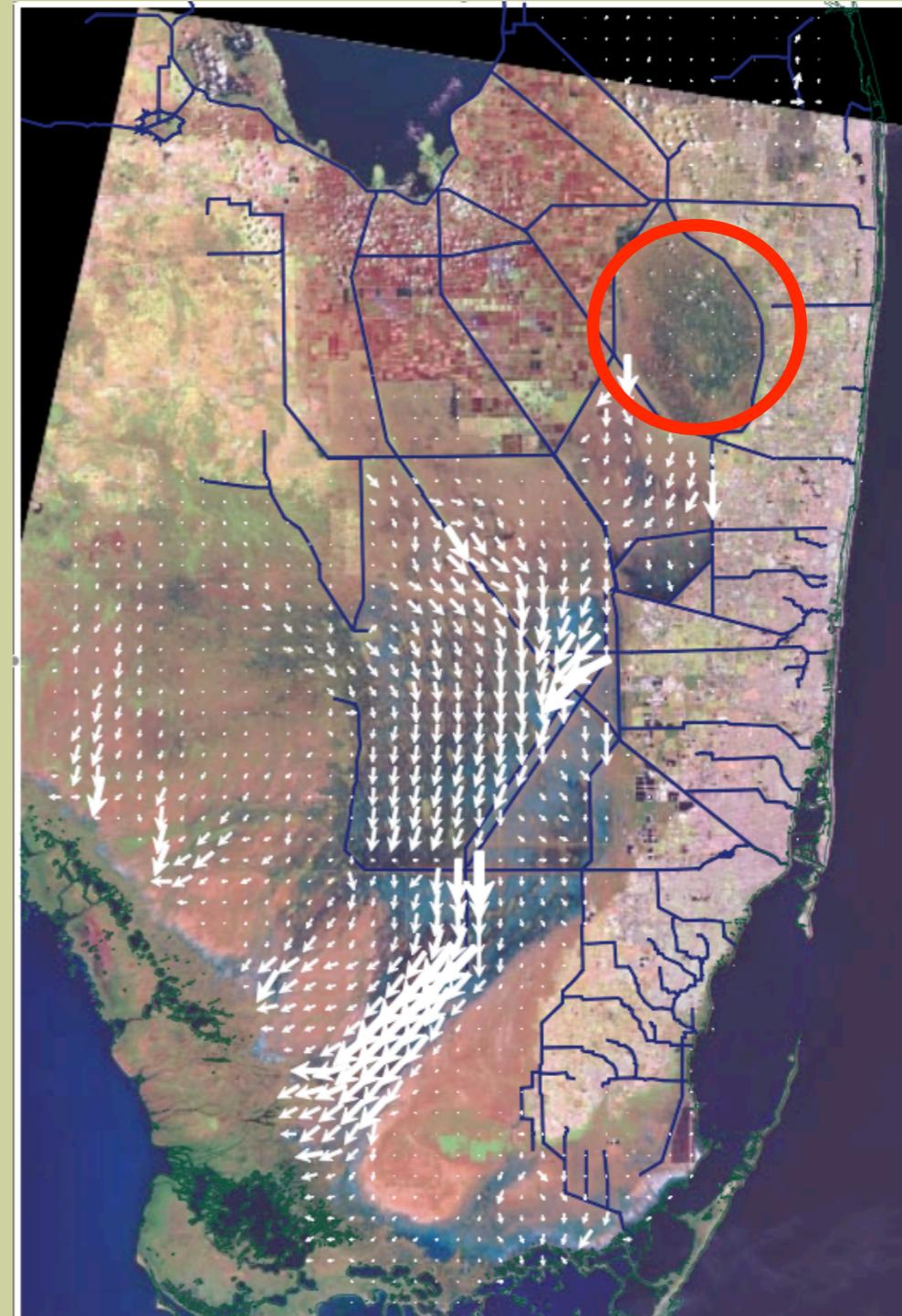
Today

- Compartments



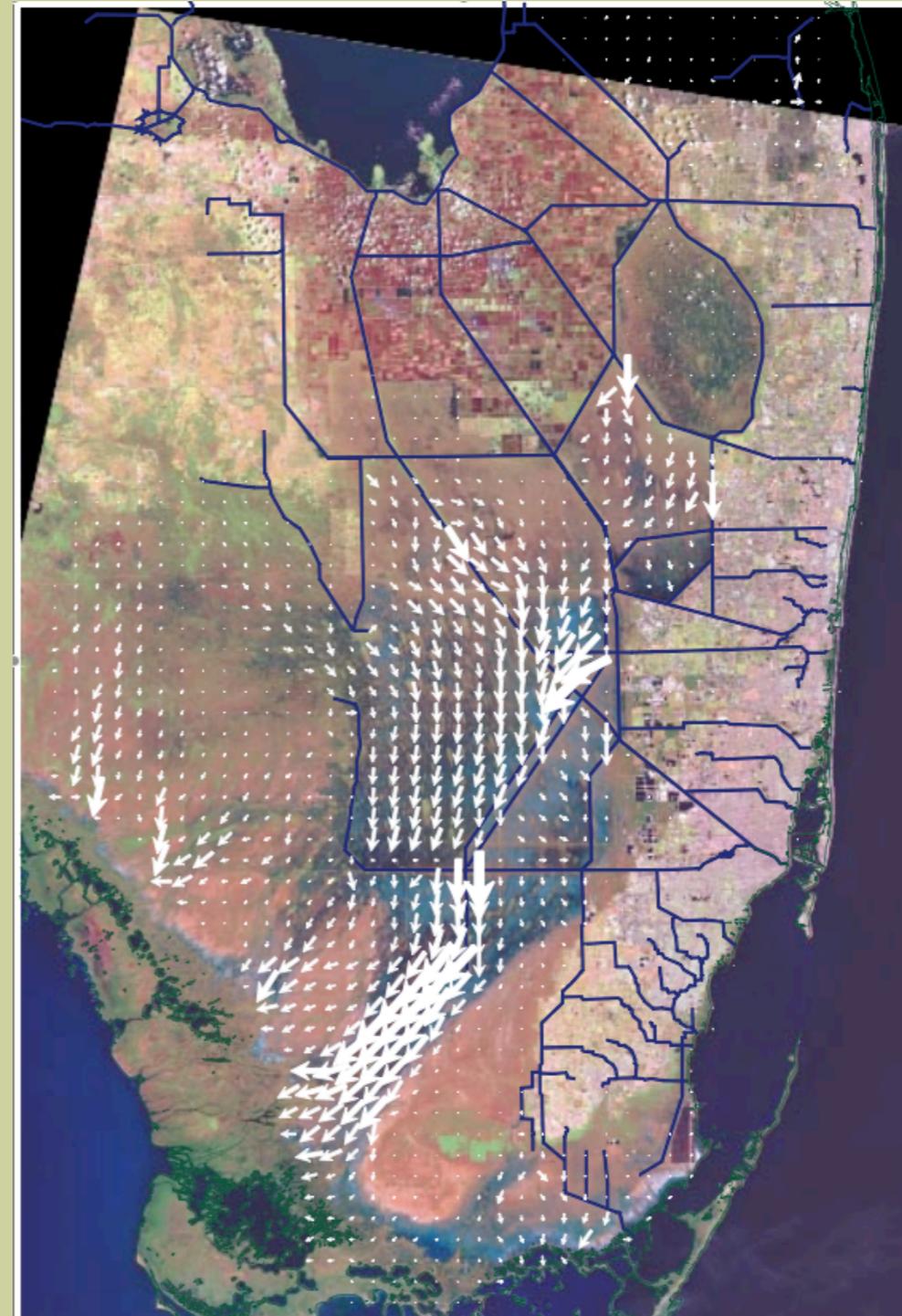
Today

- Compartments
 - LNWR



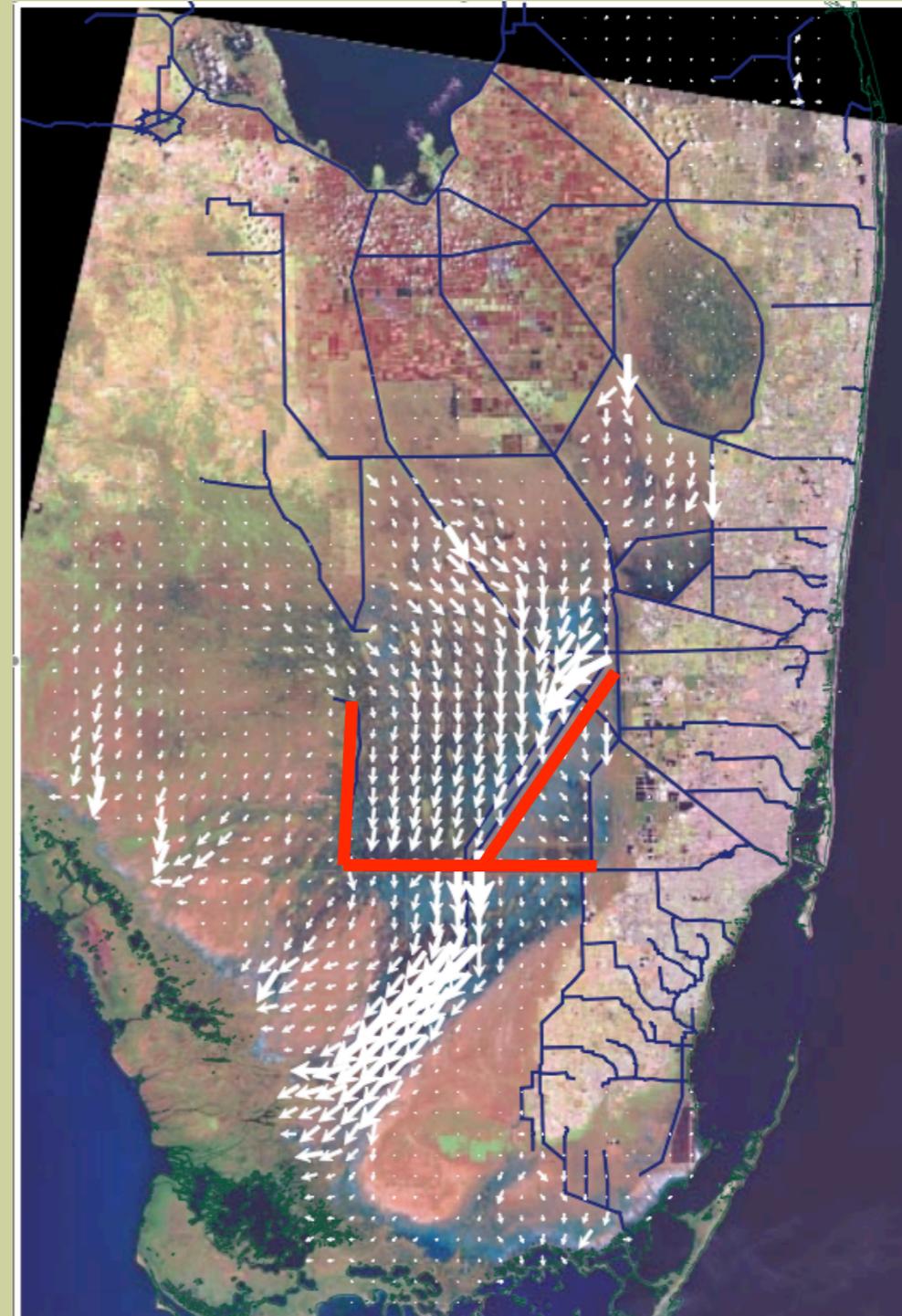
Today

- Compartments
 - LNWR
 - WCA2A/2B



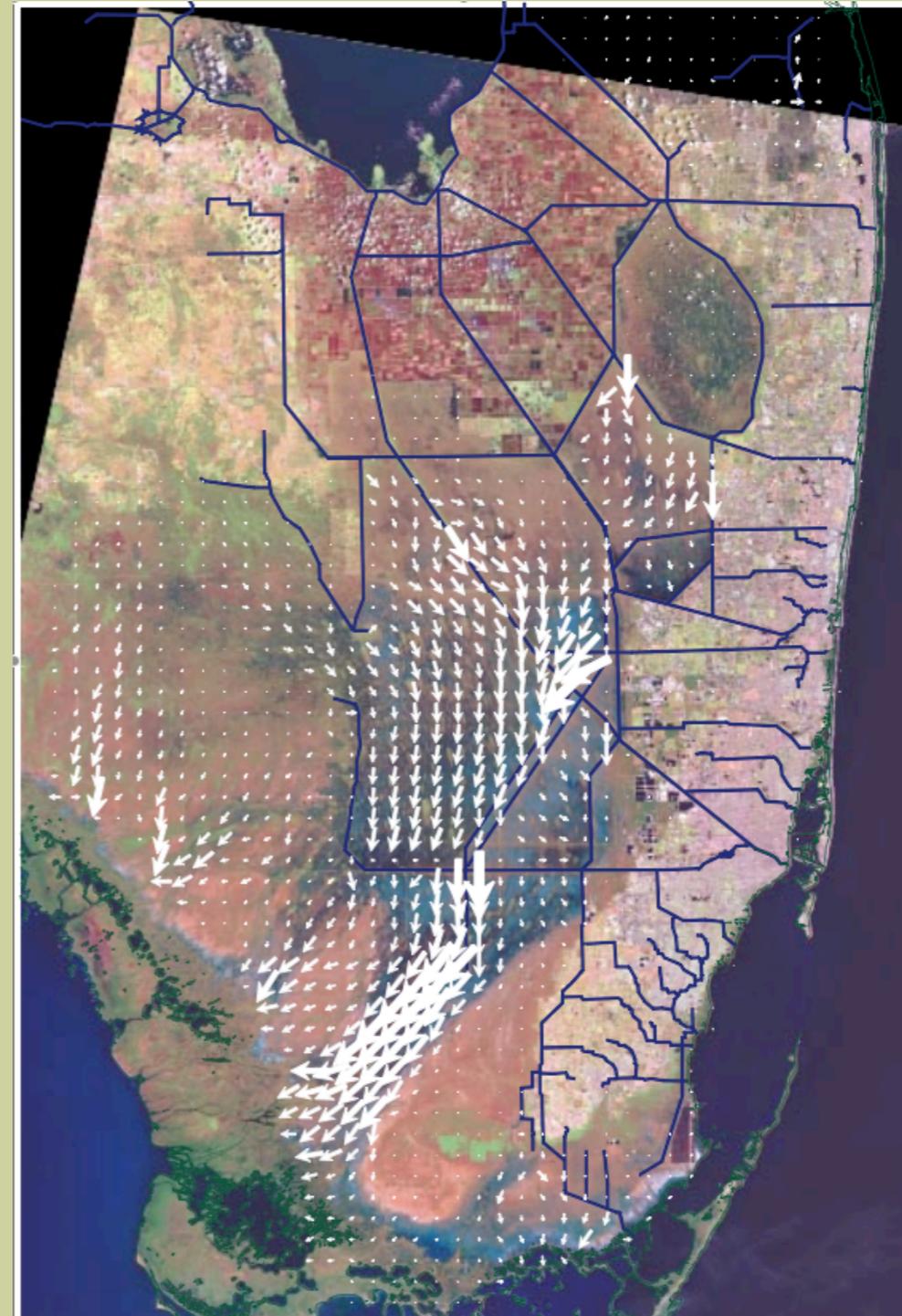
Today

- Compartments
 - LNWR
 - WCA2A/2B
 - WCA3A/3B



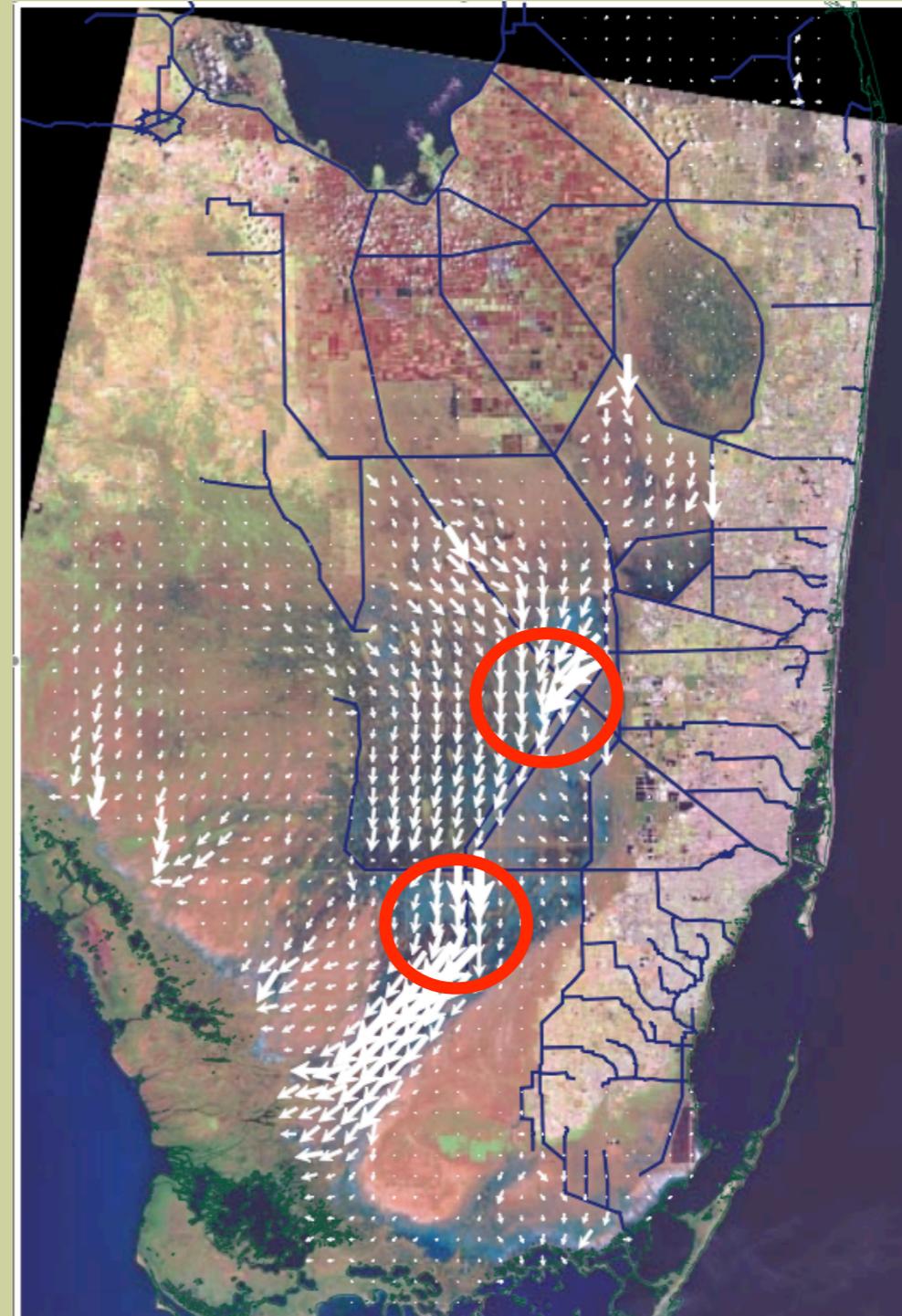
Today

- Compartments
 - LNWR
 - WCA2A/2B
 - WCA3A/3B
- Canals dominate flow



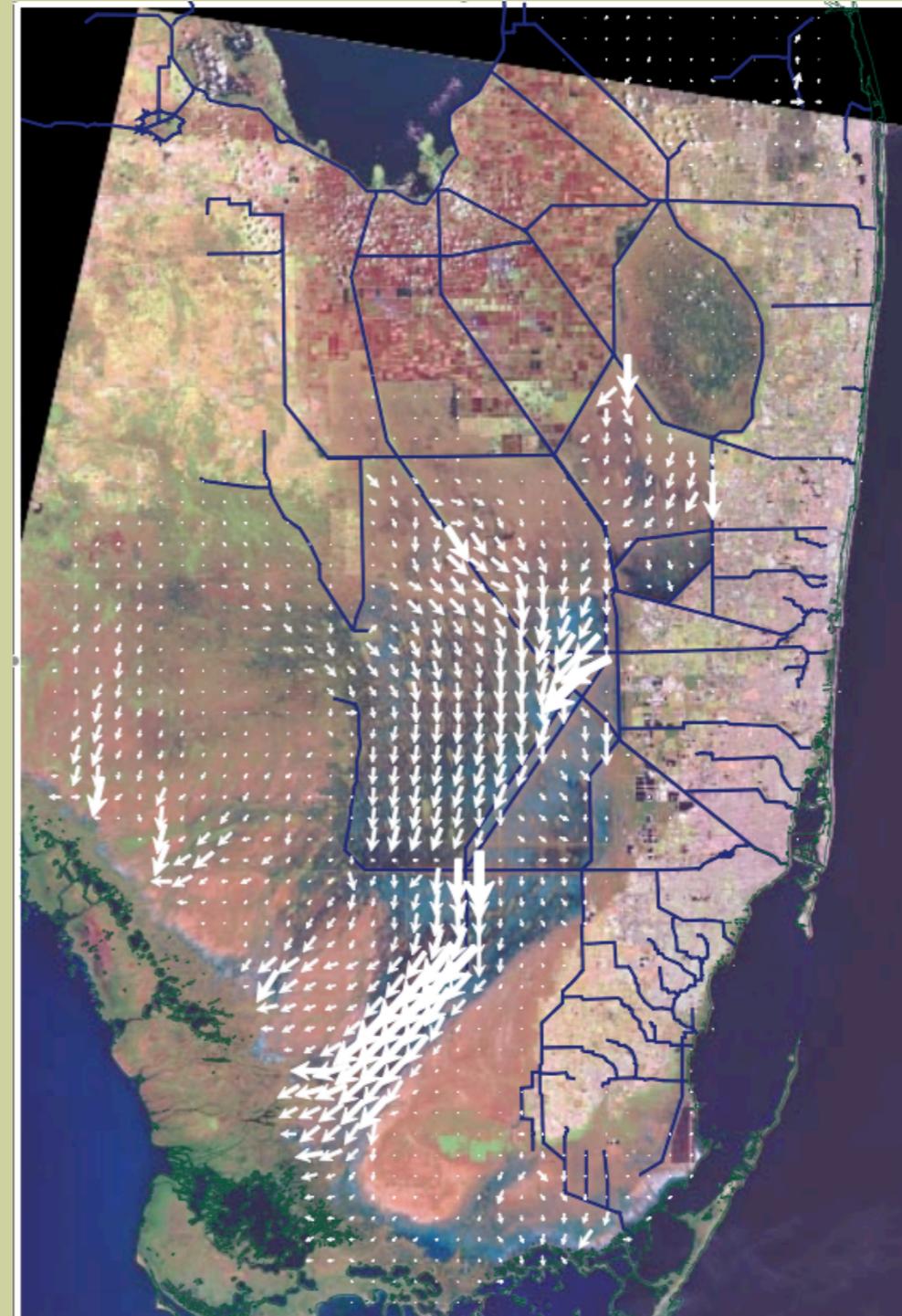
Today

- Compartments
 - LNWR
 - WCA2A/2B
 - WCA3A/3B
- Canals dominate flow
 - surface flow



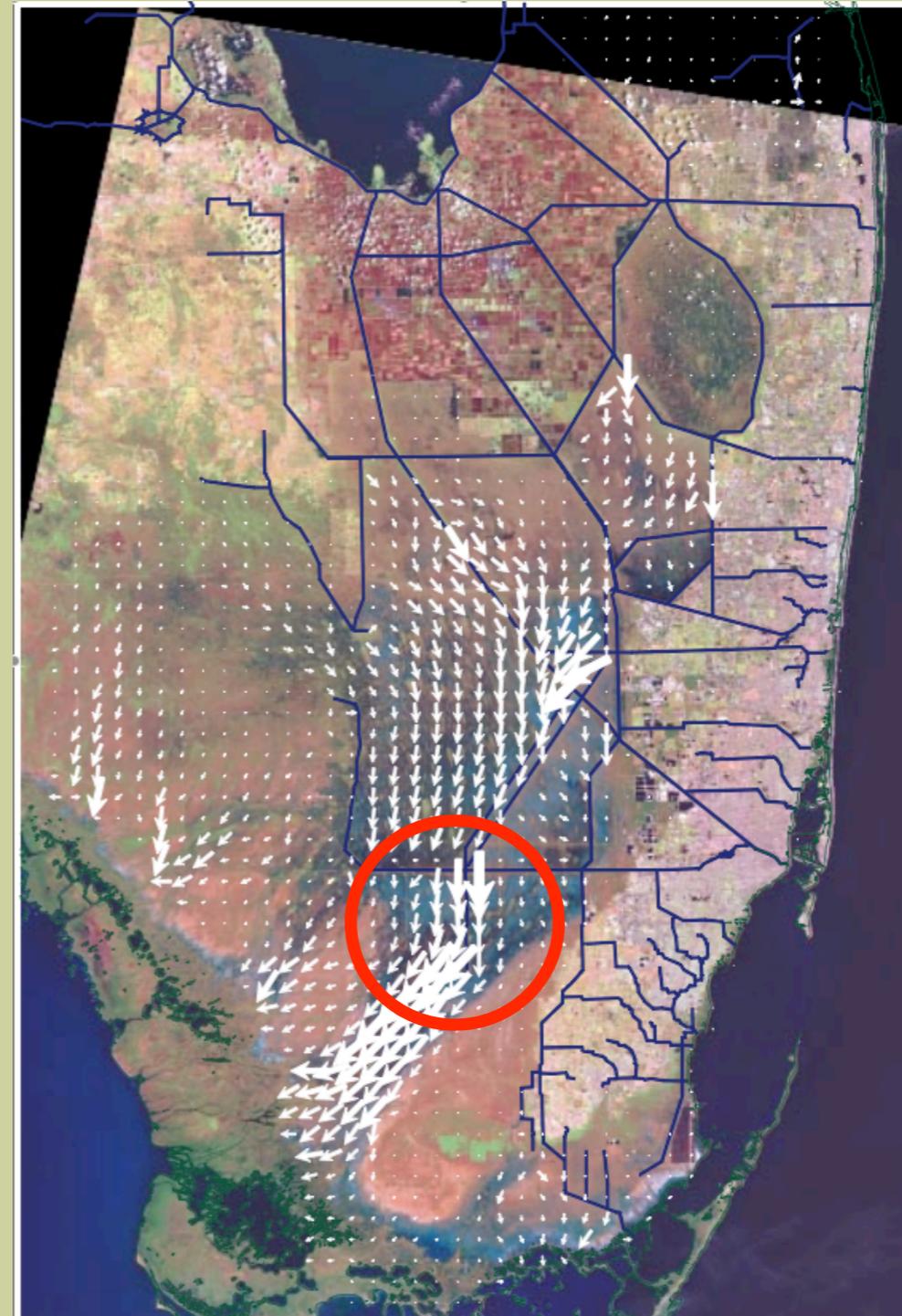
Today

- Compartments
 - LNWR
 - WCA2A/2B
 - WCA3A/3B
- Canals dominate flow
 - surface flow
 - groundwater flow

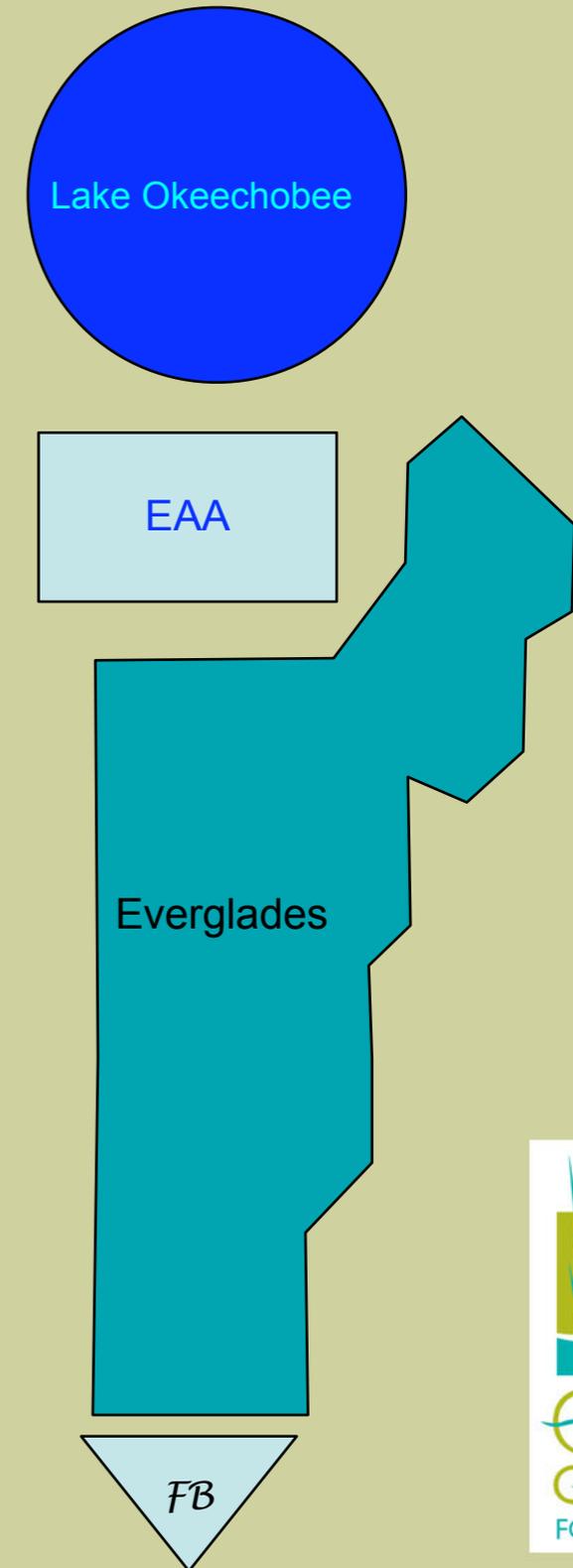


Today

- Compartments
 - LNWR
 - WCA2A/2B
 - WCA3A/3B
- Canals dominate flow
 - surface flow
 - groundwater flow
- “River” in the wrong place

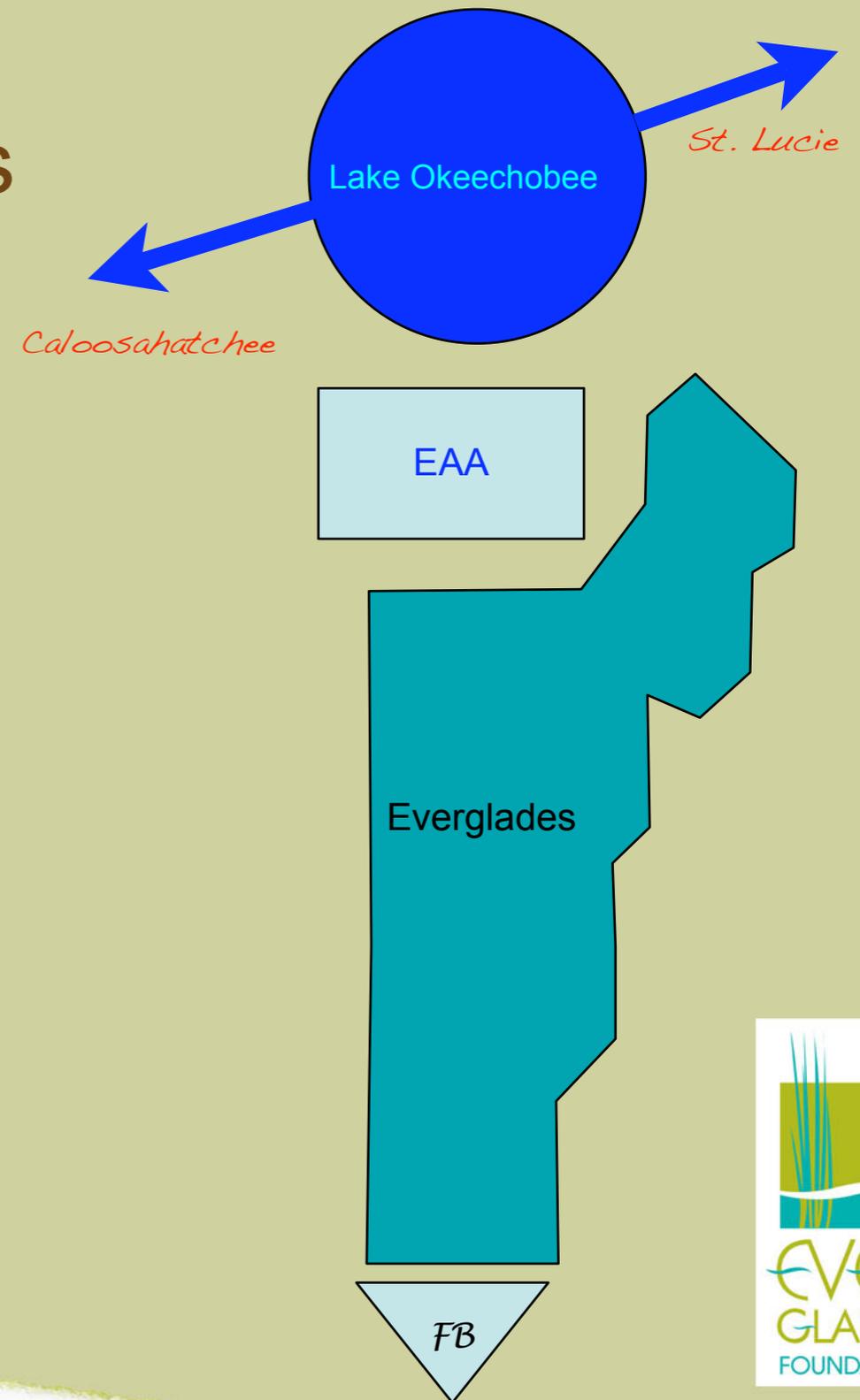


“Today”



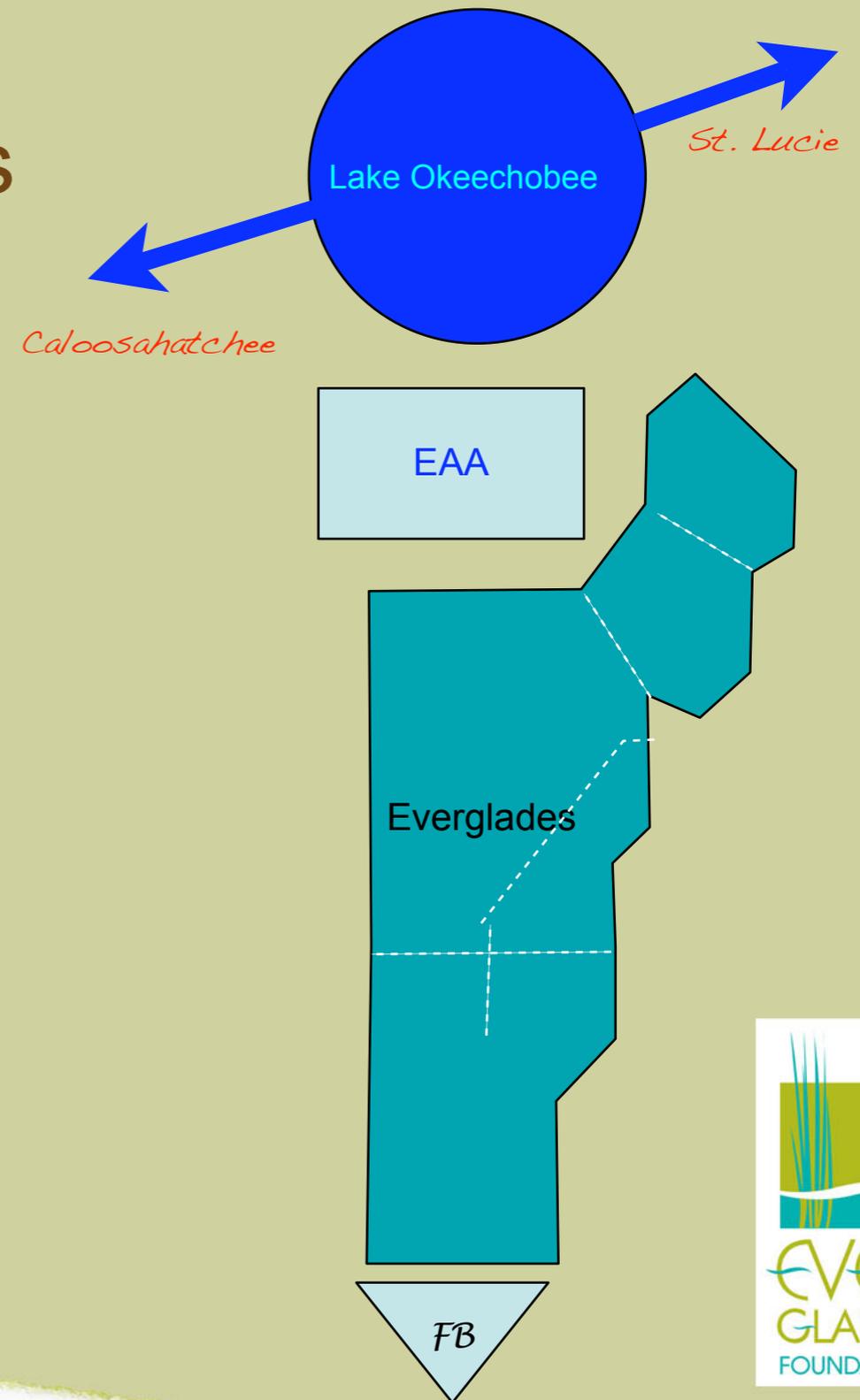
“Today”

- Excess from Lake to estuaries



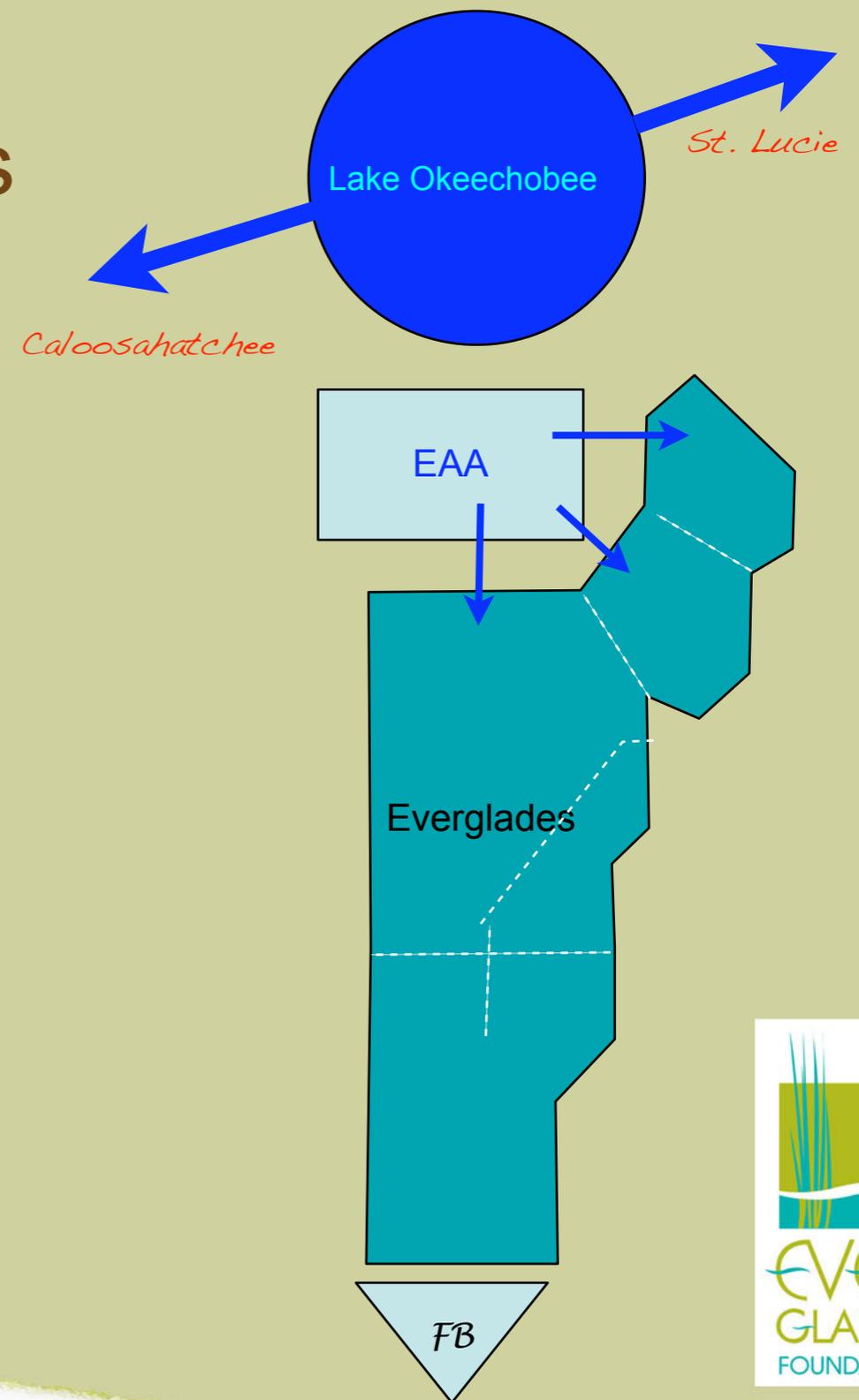
“Today”

- Excess from Lake to estuaries
- Dams in Everglades



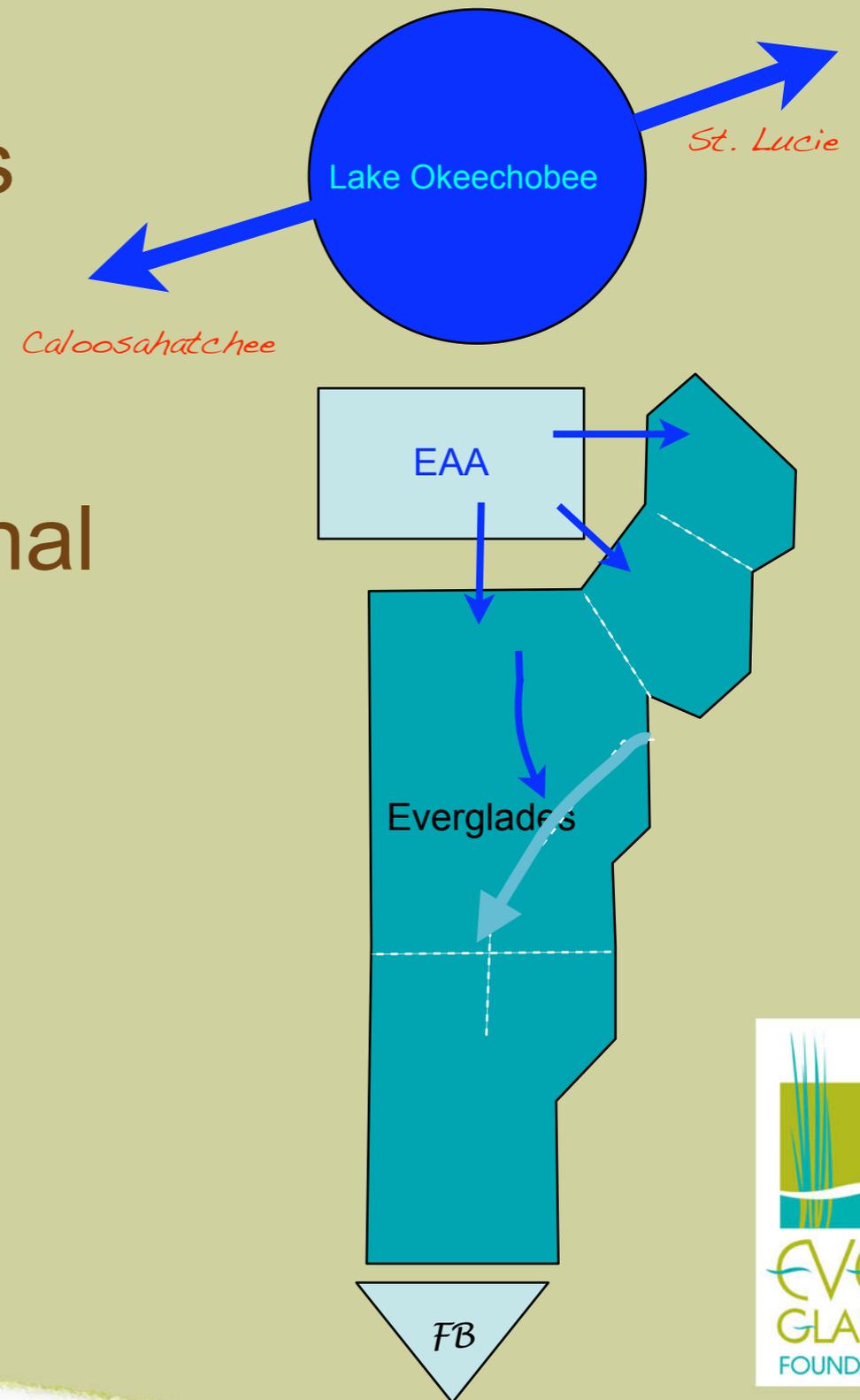
“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades



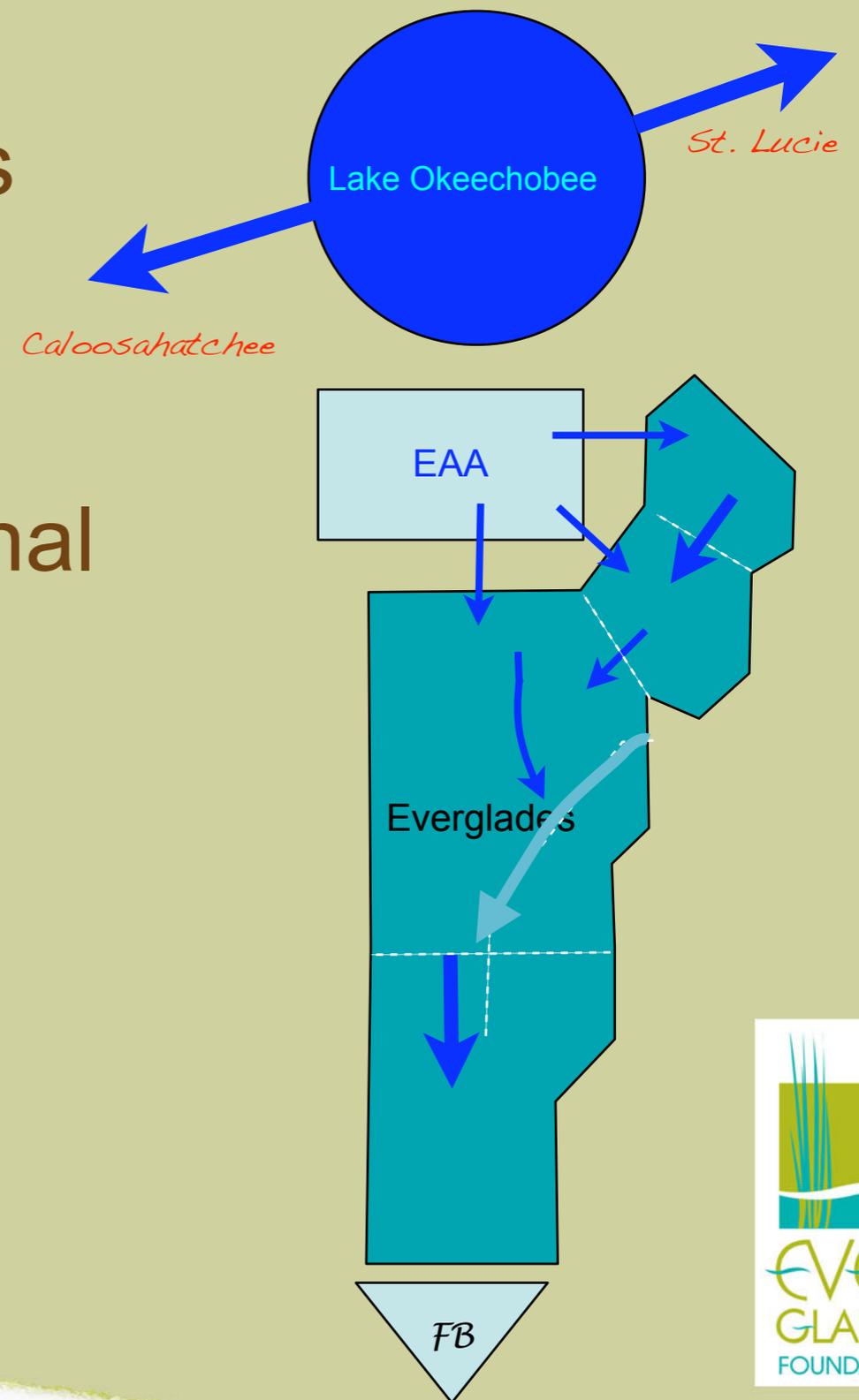
“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades
- Some surface flow, mostly canal flow



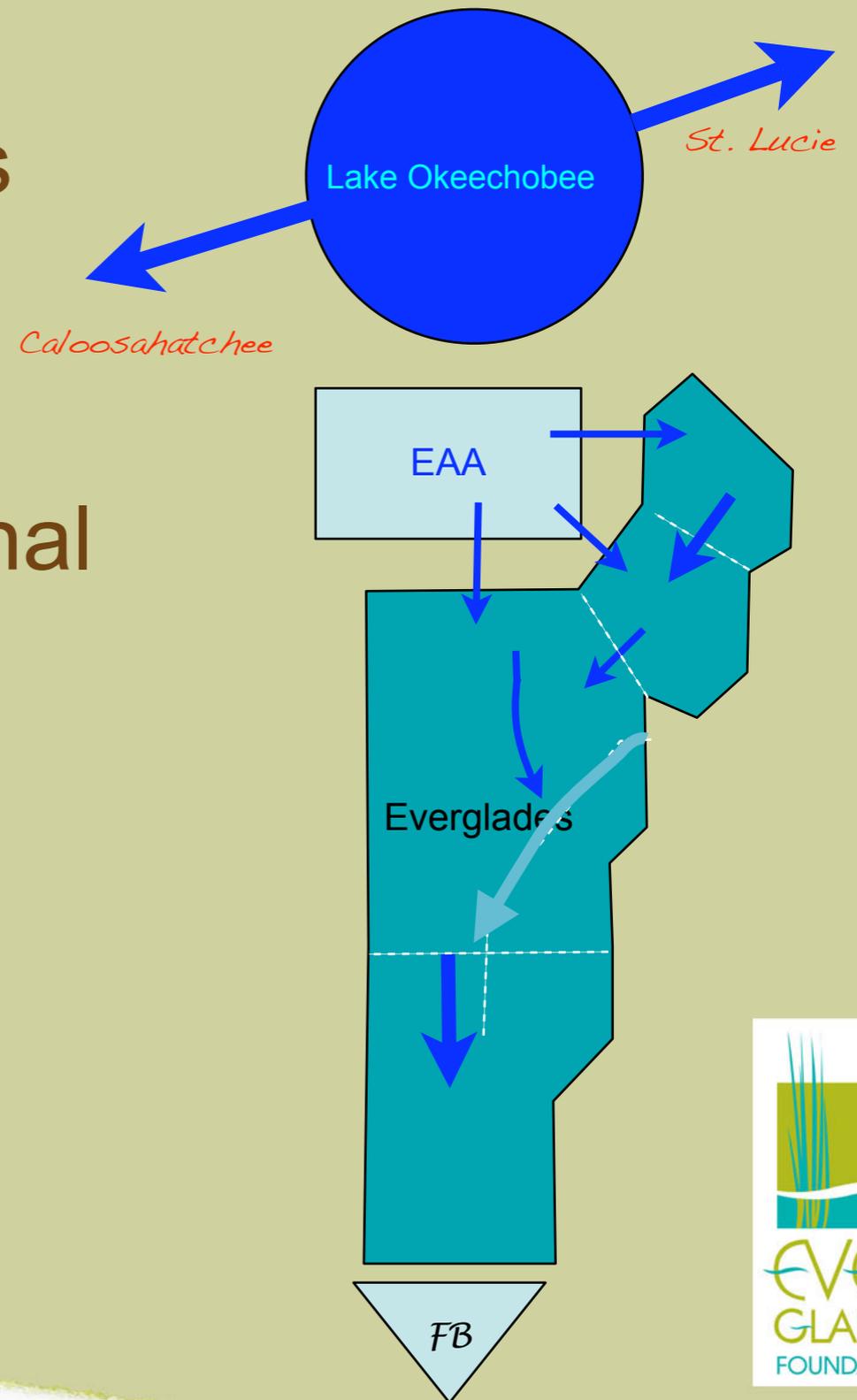
“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades
- Some surface flow, mostly canal flow
- Reservoir operations define outflows, water levels



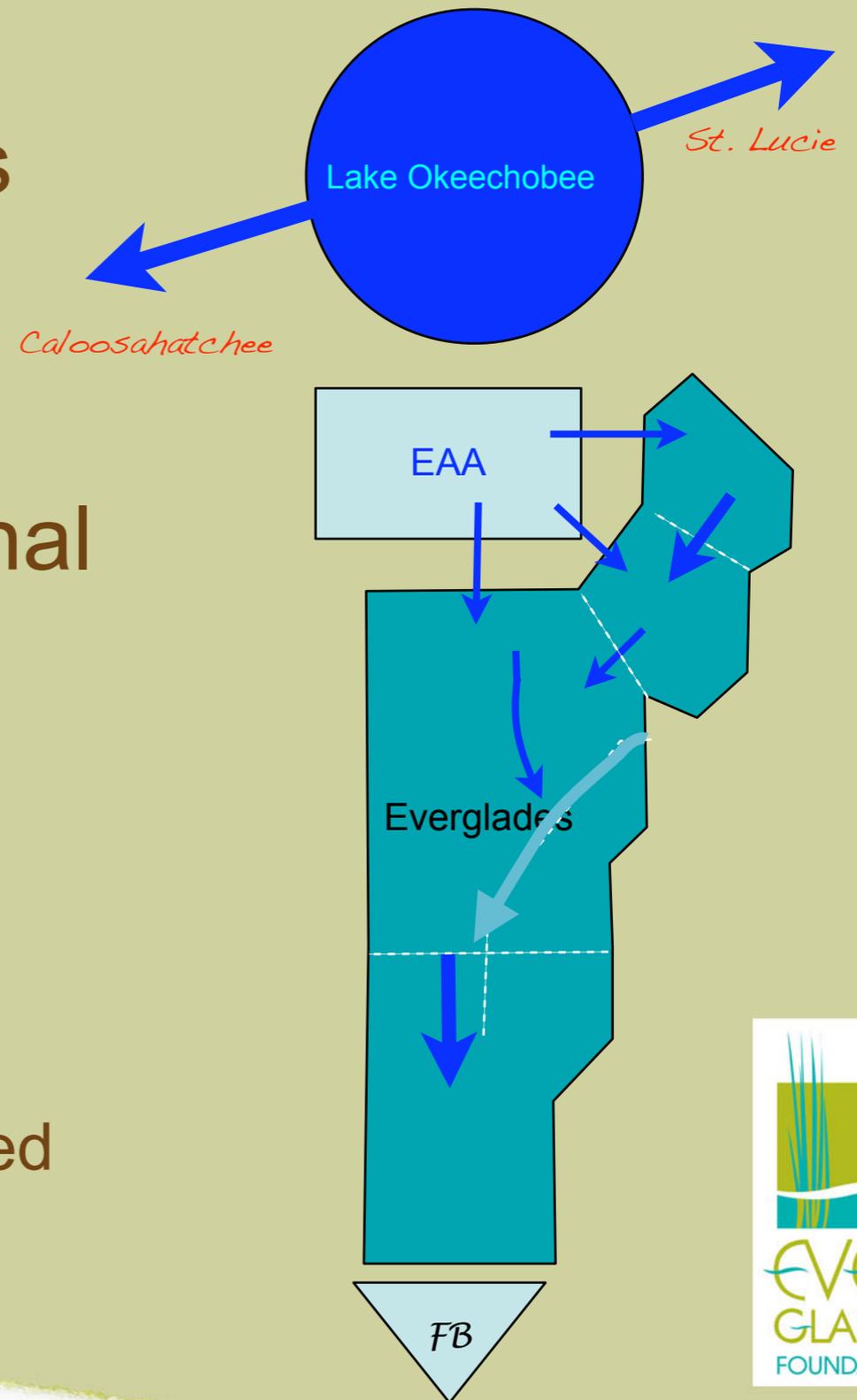
“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades
- Some surface flow, mostly canal flow
- Reservoir operations define outflows, water levels
 - water piles up in reservoirs during wet times



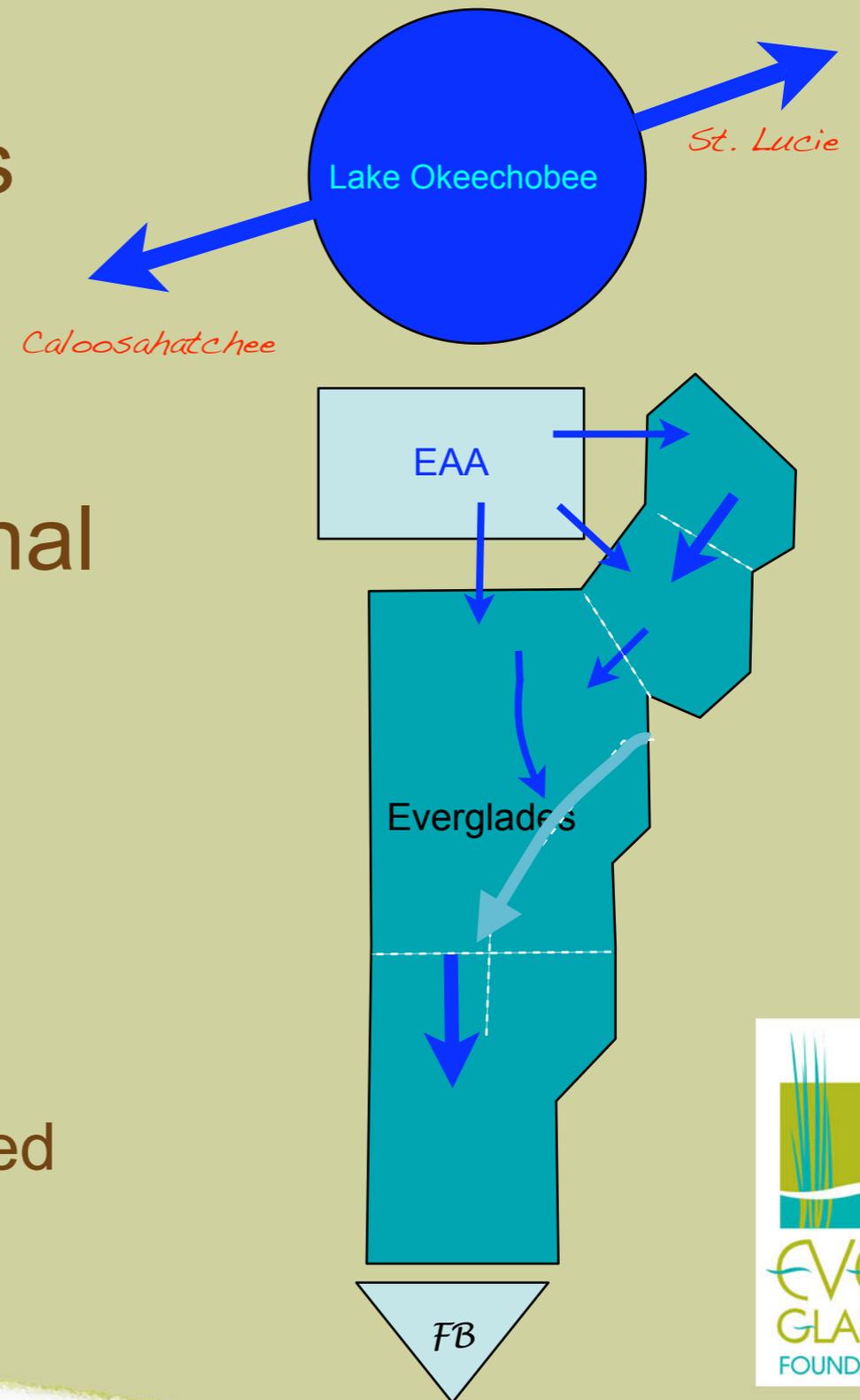
“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades
- Some surface flow, mostly canal flow
- Reservoir operations define outflows, water levels
 - water piles up in reservoirs during wet times
 - released into the wrong places, diverted westward

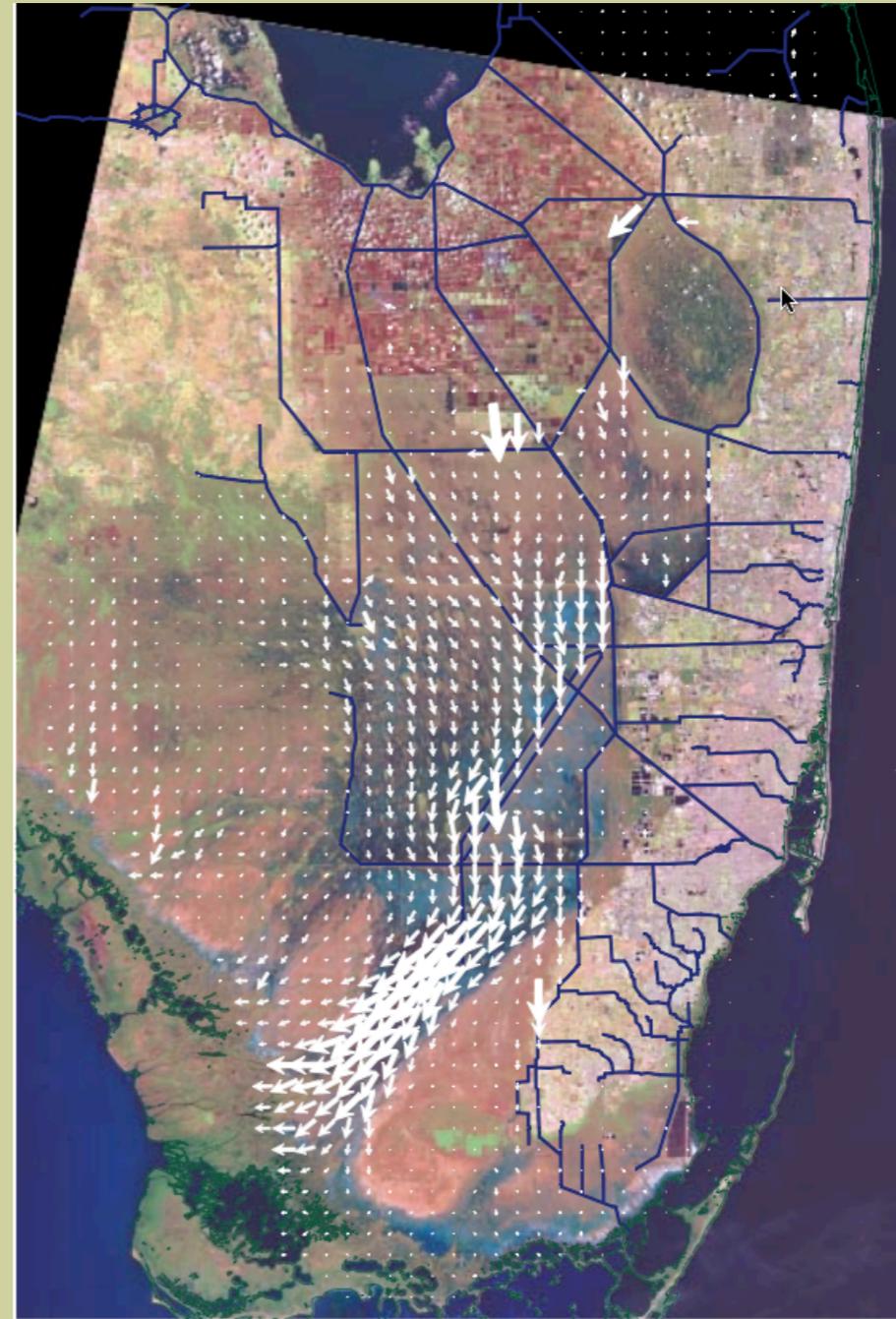


“Today”

- Excess from Lake to estuaries
- Dams in Everglades
- EAA run-off to Everglades
- Some surface flow, mostly canal flow
- Reservoir operations define outflows, water levels
 - water piles up in reservoirs during wet times
 - released into the wrong places, diverted westward
 - no flows during dry times, no water to ENP

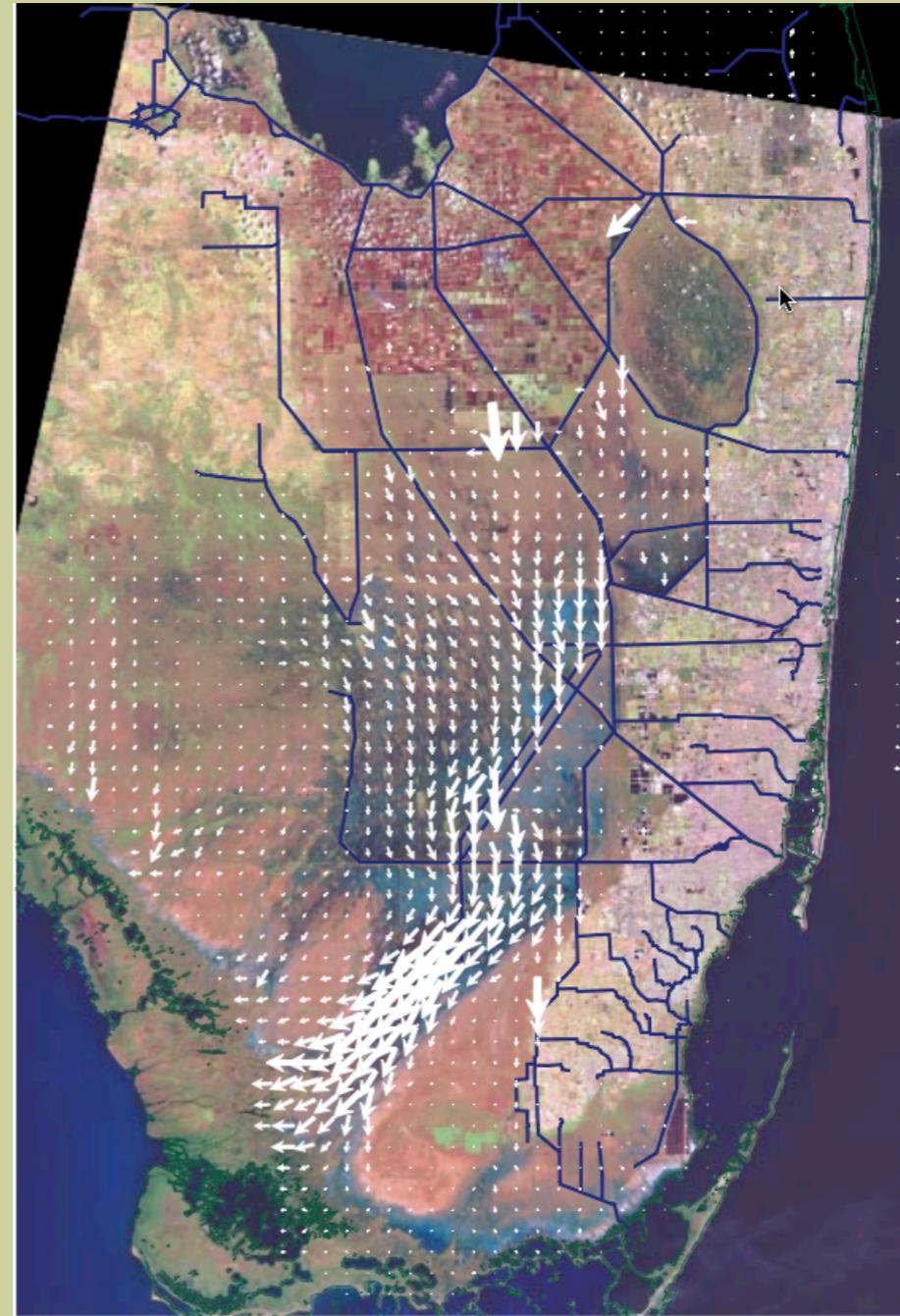


“The Plan”



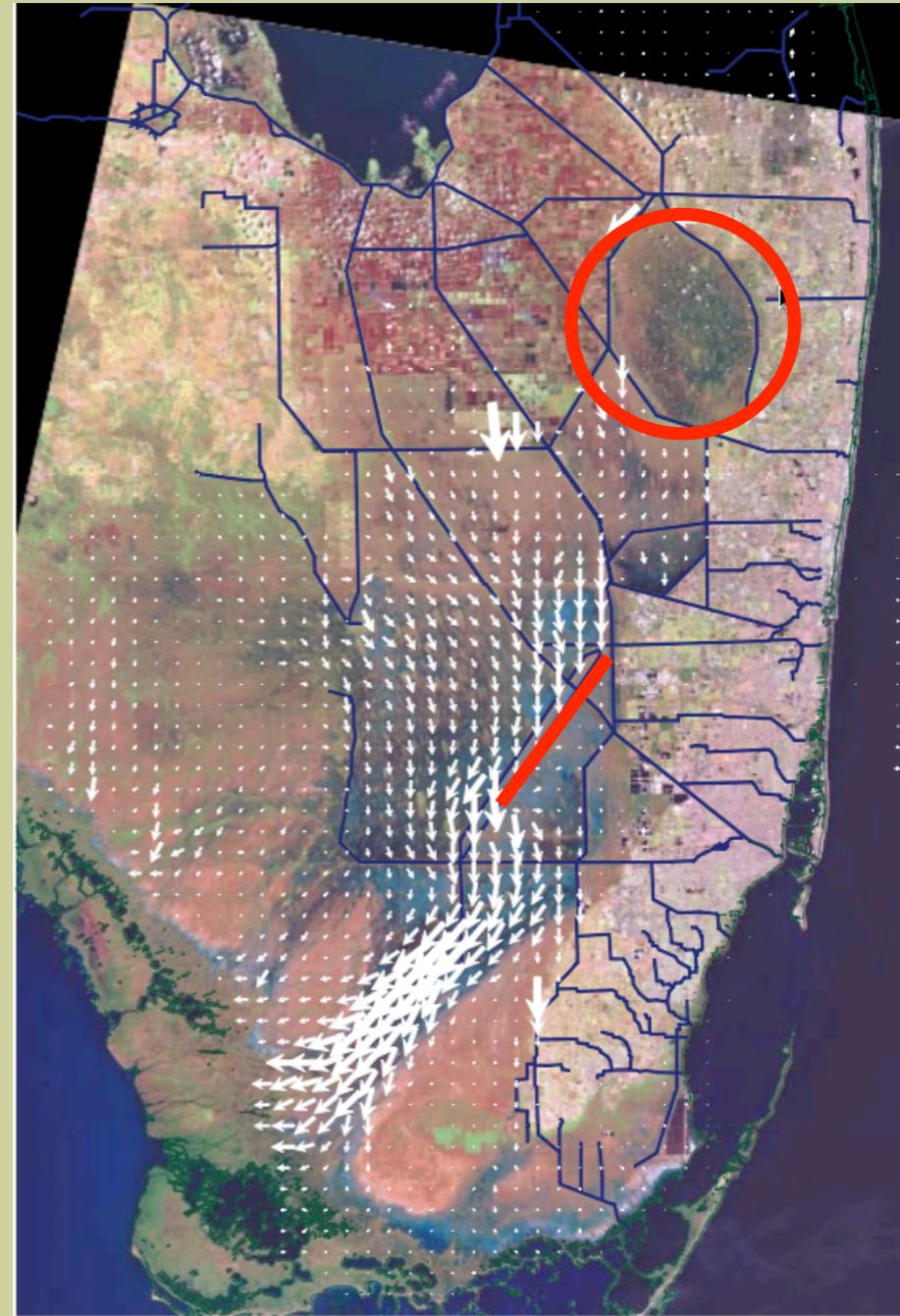
“The Plan”

- Hydroperiods are good



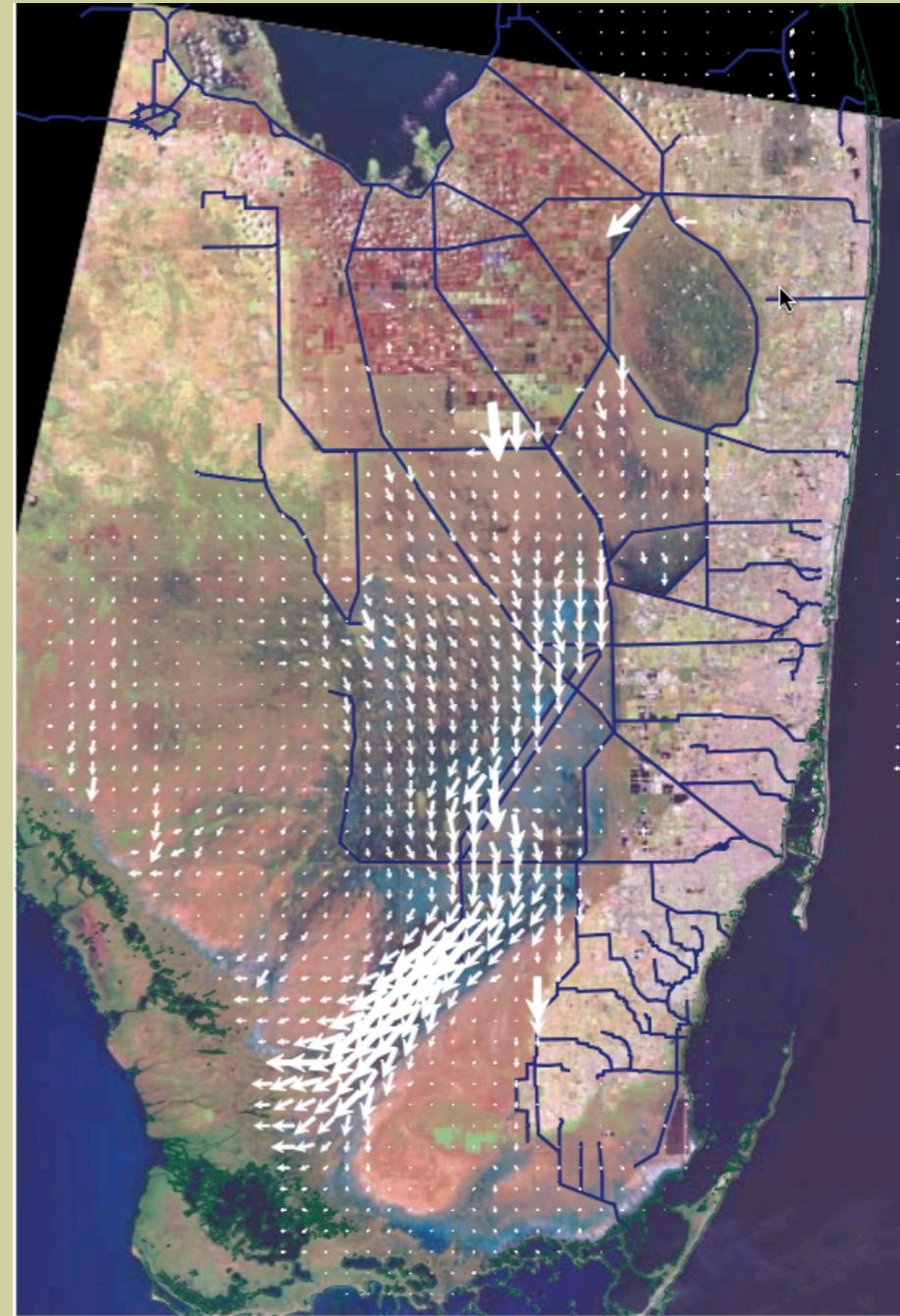
“The Plan”

- Hydroperiods are good
- Compartments still apparent



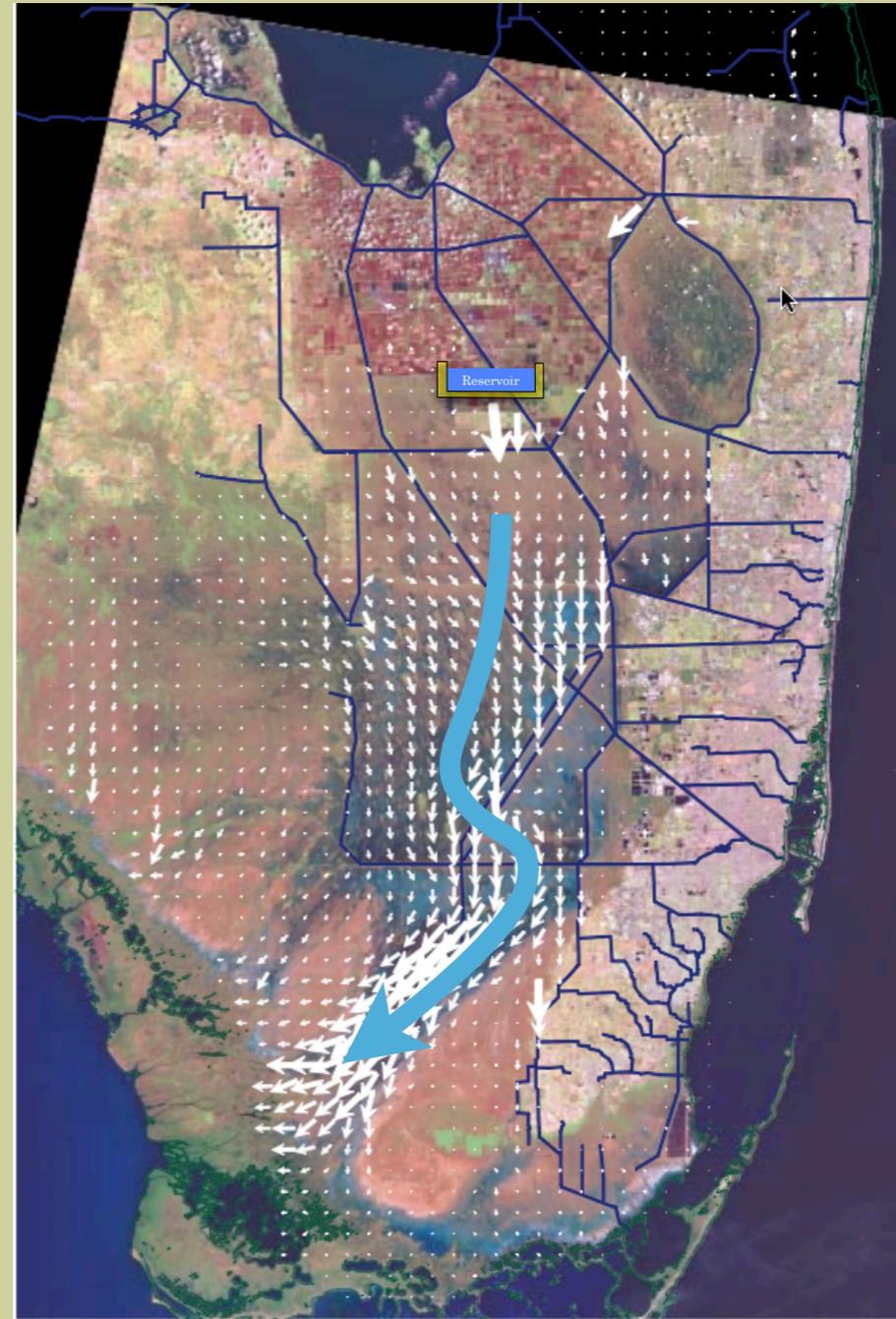
“The Plan”

- Hydroperiods are good
- Compartments still apparent
- Canal flow still dominant



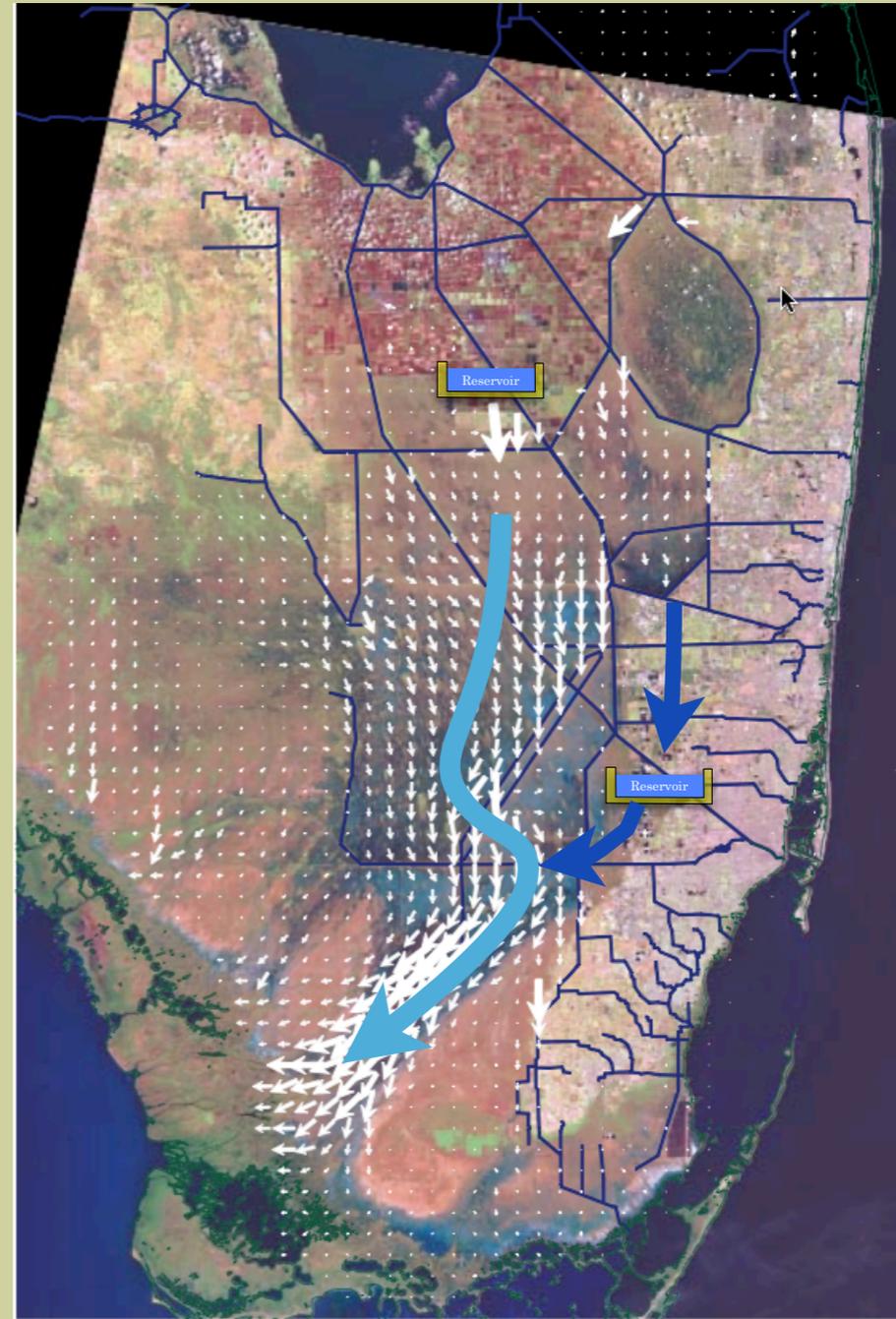
“The Plan”

- Hydroperiods are good
- Compartments still apparent
- Canal flow still dominant
- Surface flow patterns restored in ENP

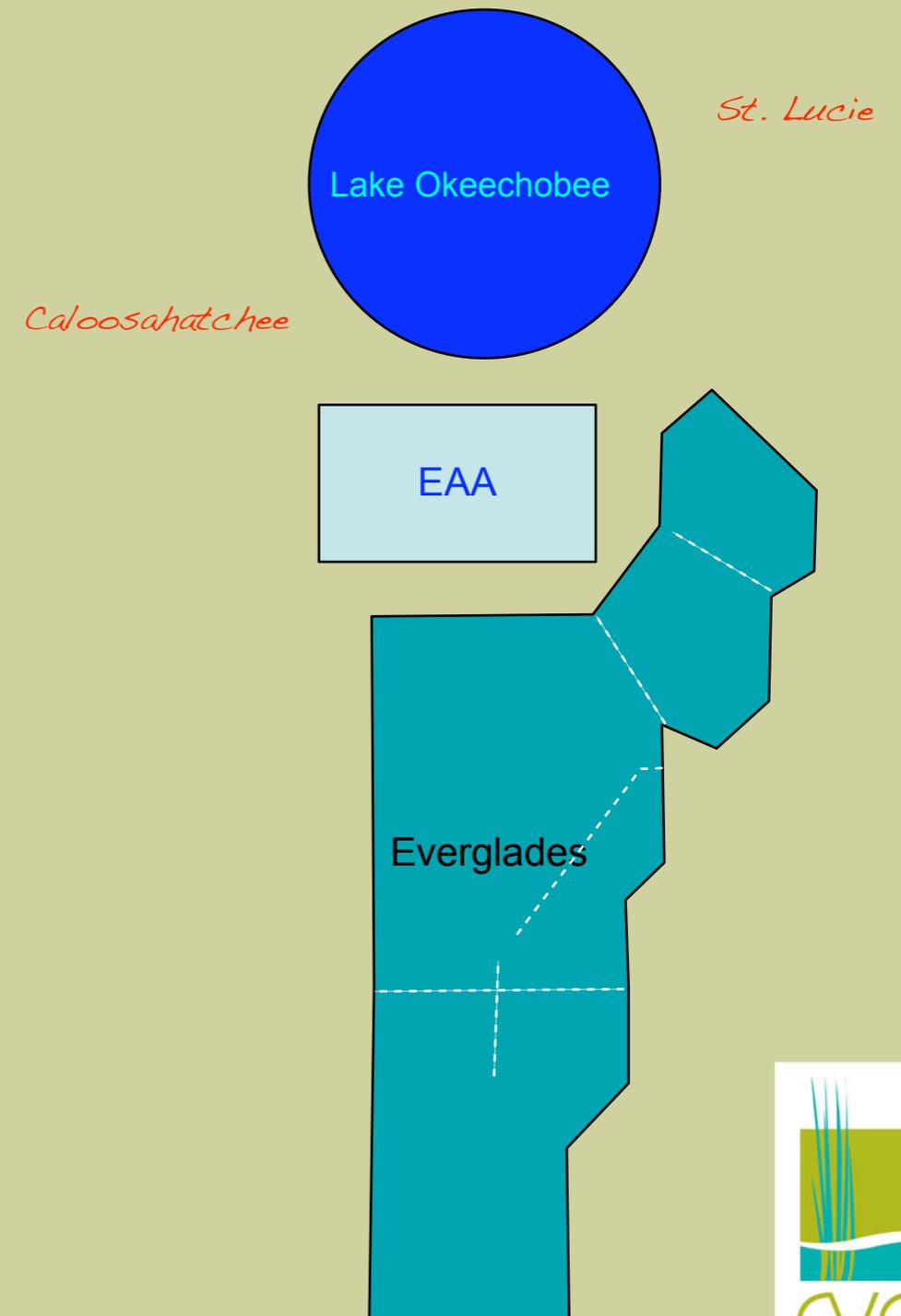


“The Plan”

- Hydroperiods are good
- Compartments still apparent
- Canal flow still dominant
- Surface flow patterns restored in ENP
 - In-ground reservoirs are essential plan

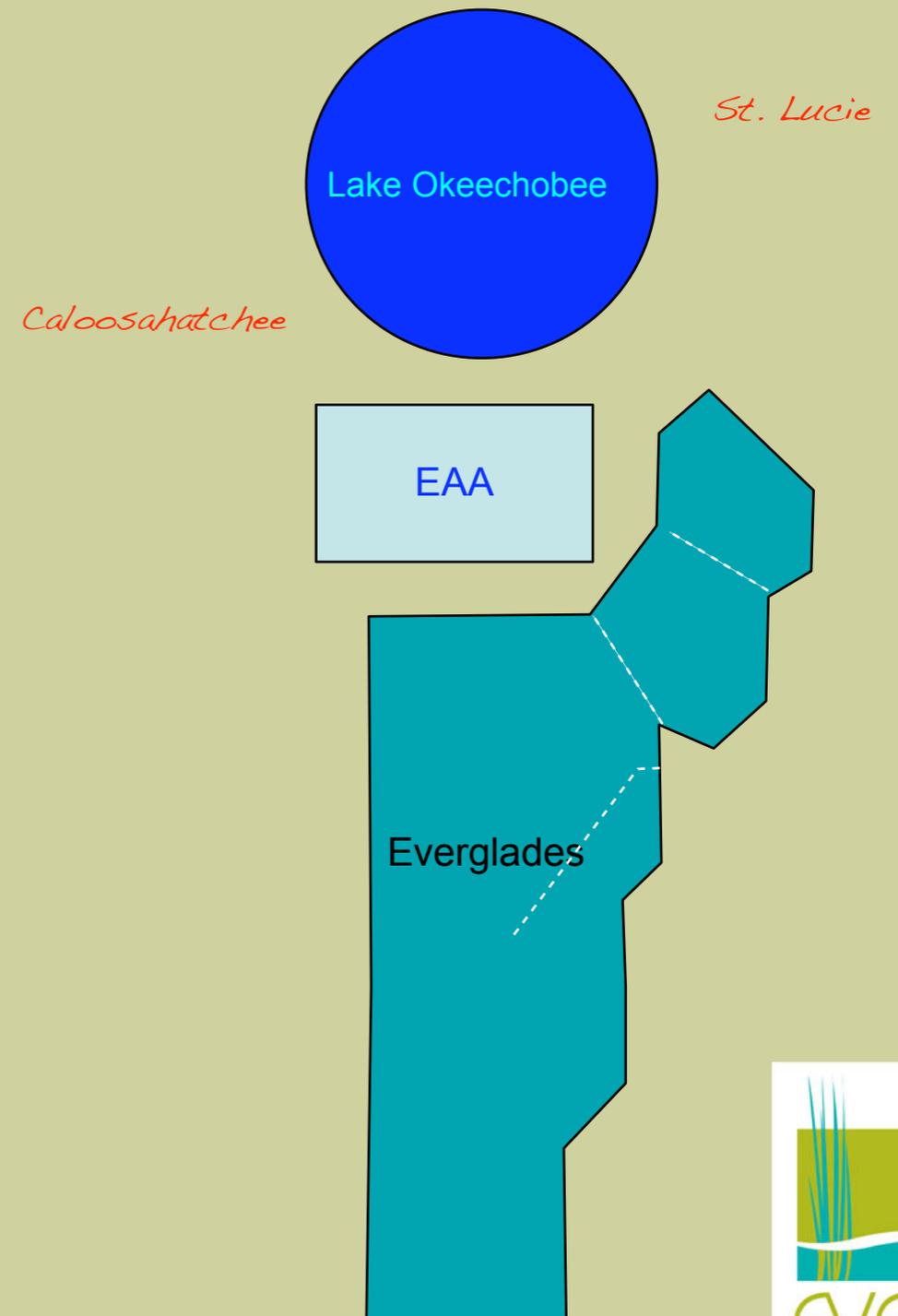


“The Plan”



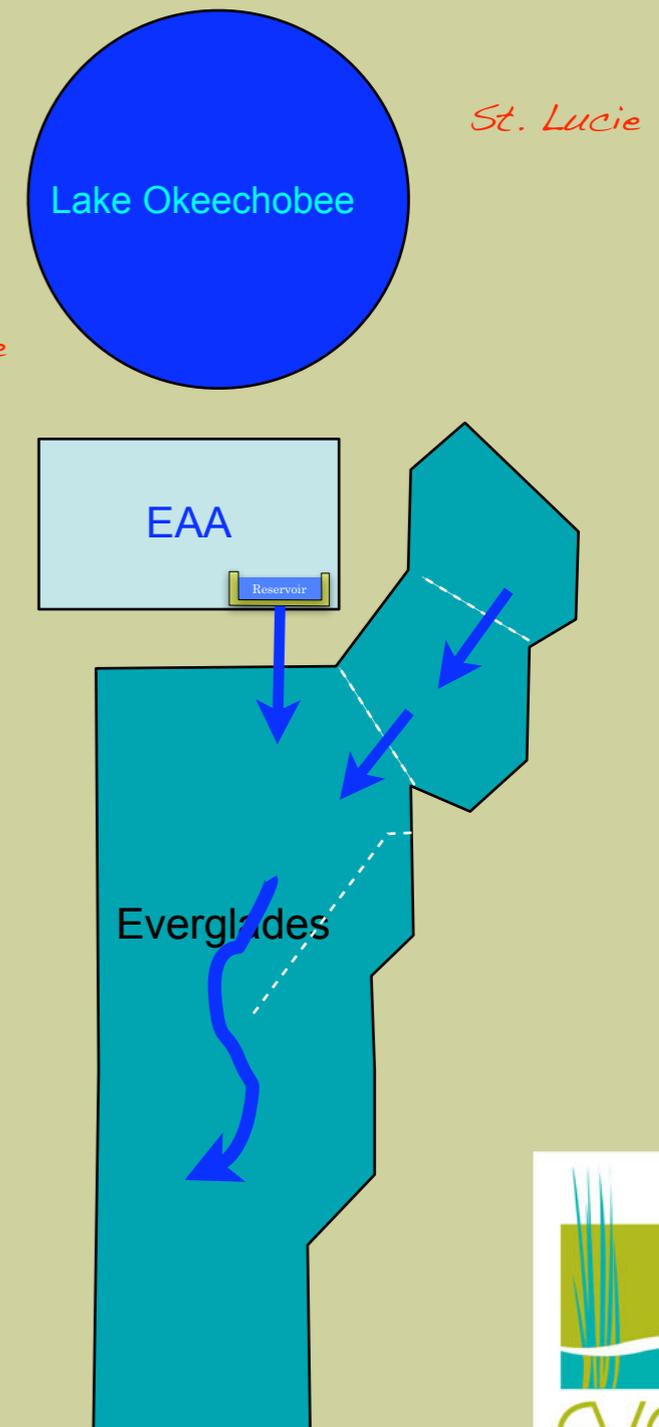
“The Plan”

- Remove some dams



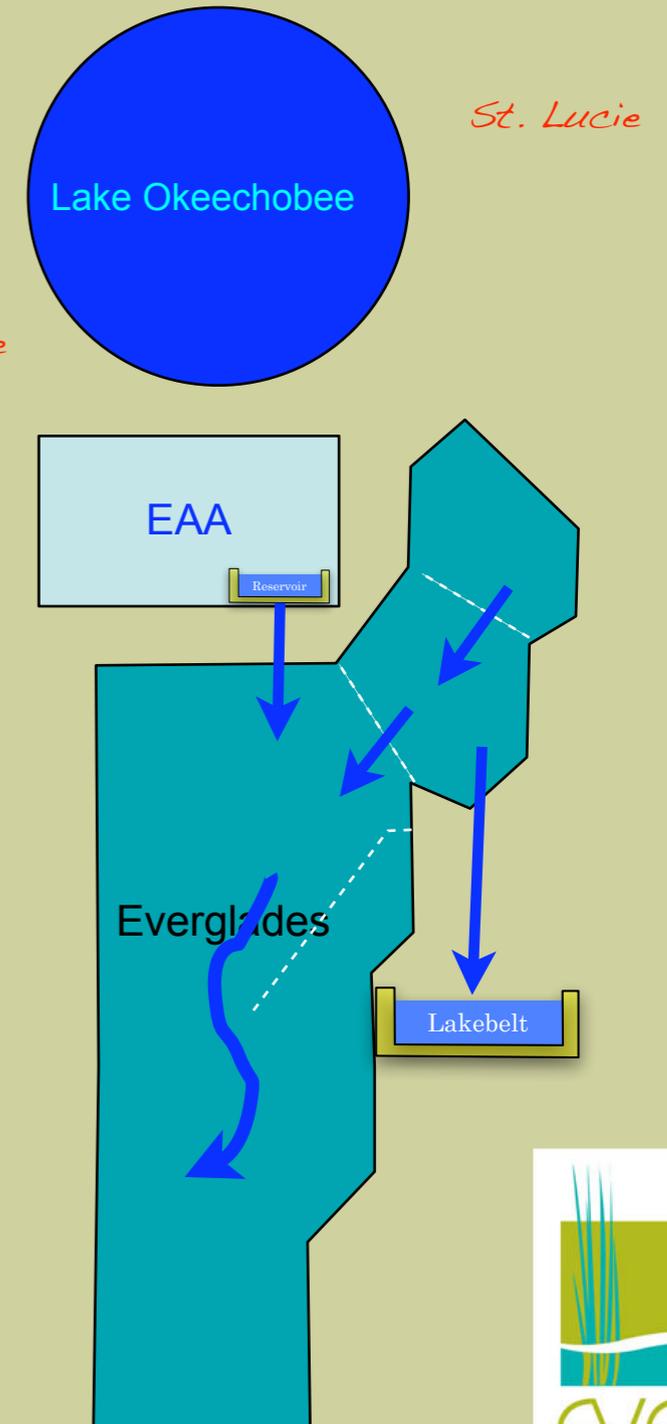
“The Plan”

- Remove some dams
- Water from EAA stored, sent to Everglades



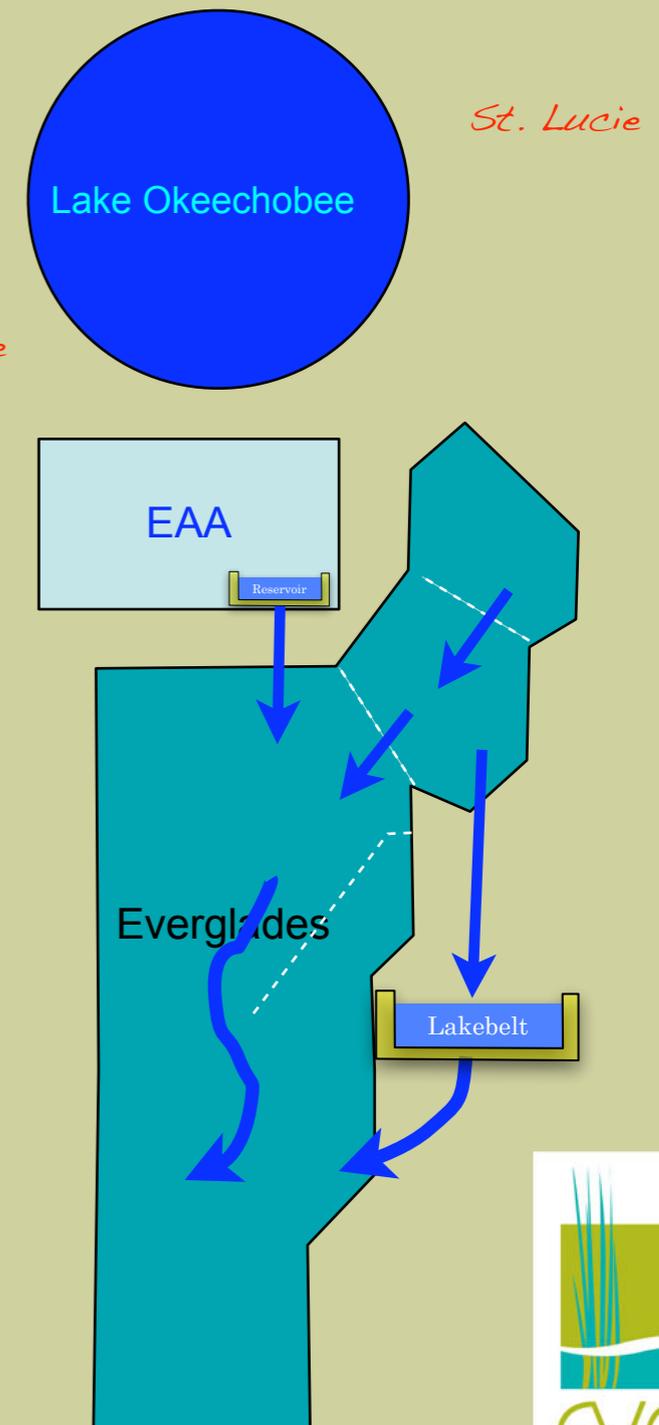
“The Plan”

- Remove some dams
- Water from EAA stored, sent to Everglades
- Excess water from Everglades sent to Lakebelt



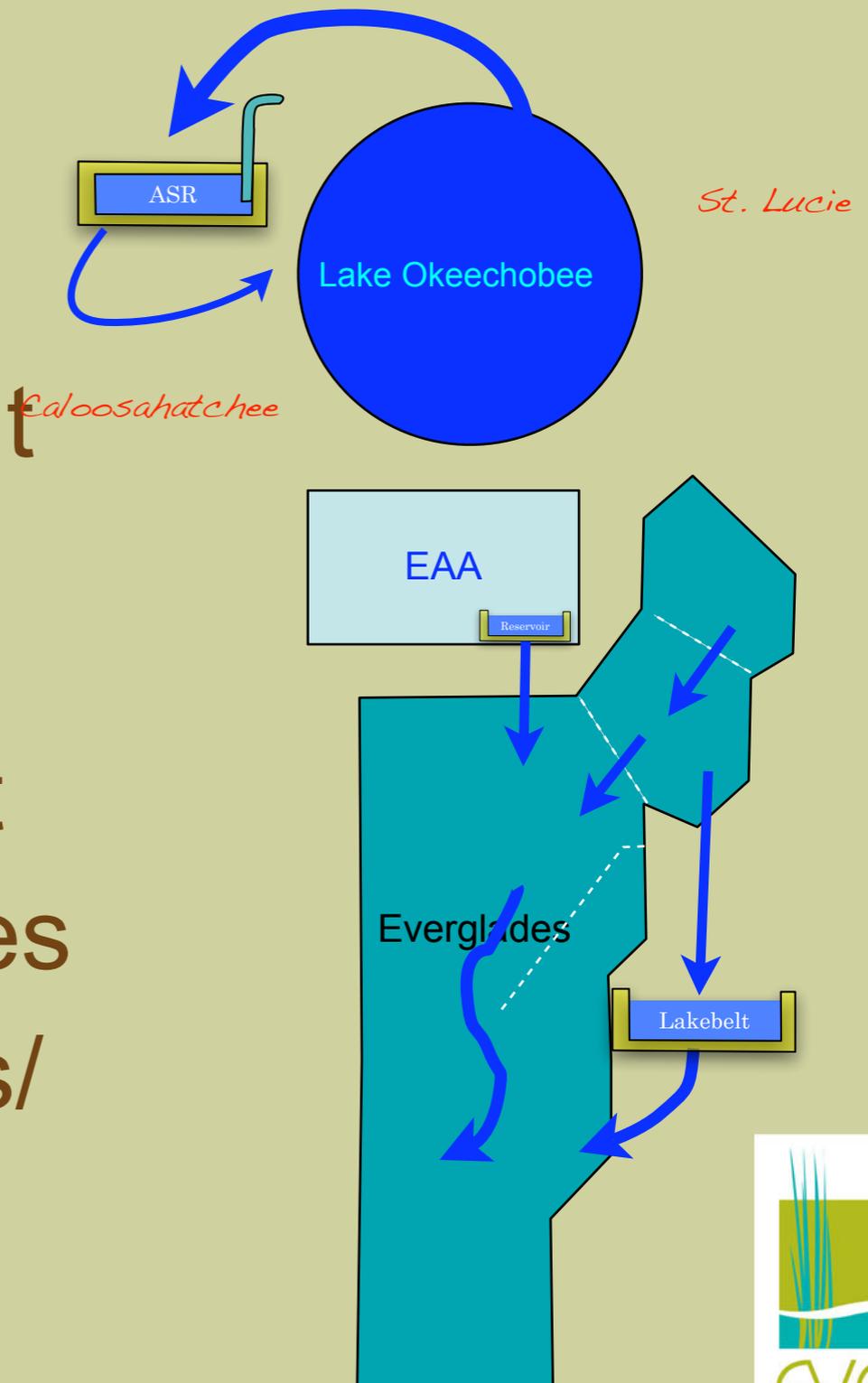
“The Plan”

- Remove some dams
- Water from EAA stored, sent to Everglades
- Excess water from Everglades sent to Lakebelt
- Lakebelt supplies Everglades



“The Plan”

- Remove some dams
- Water from EAA stored, sent to Everglades
- Excess water from Everglades sent to Lakebelt
- Lakebelt supplies Everglades
- Lake Okeechobee/estuaries/ rely almost exclusively on ASR



“The Plan”



“The Plan”

- Difficulties arose late with high Lake Okeechobee levels and estuary releases



“The Plan”

- Difficulties arose late with high Lake Okeechobee levels and estuary releases
 - high water undesirable in the Lake



“The Plan”

- Difficulties arose late with high Lake Okeechobee levels and estuary releases
 - high water undesirable in the Lake
 - large releases to estuaries unacceptable



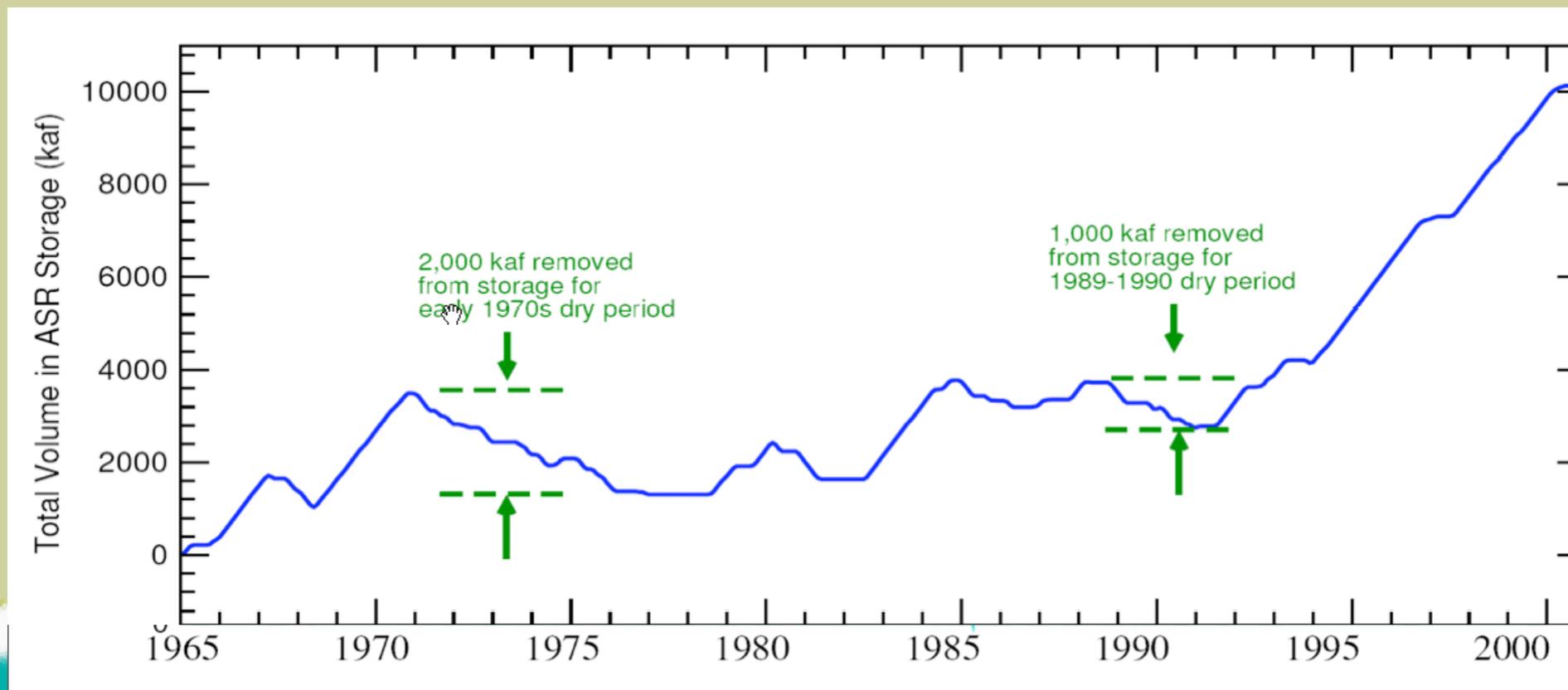
“The Plan”

- Difficulties arose late with high Lake Okeechobee levels and estuary releases
 - high water undesirable in the Lake
 - large releases to estuaries unacceptable
- ASR only option



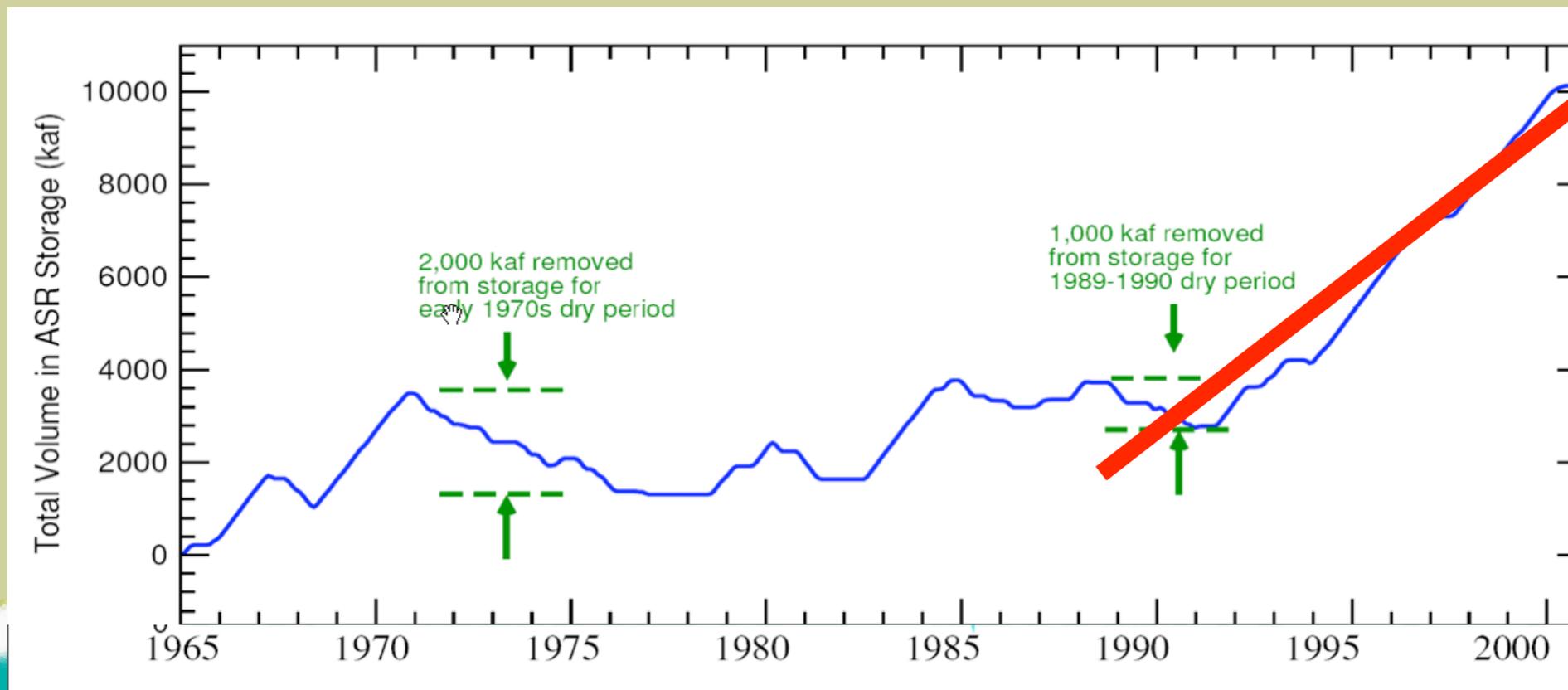
“The Plan”

- Difficulties arose late with high Lake Okeechobee levels and estuary releases
 - high water undesirable in the Lake
 - large releases to estuaries unacceptable
- ASR only option
- “Storing your way out of a flood”

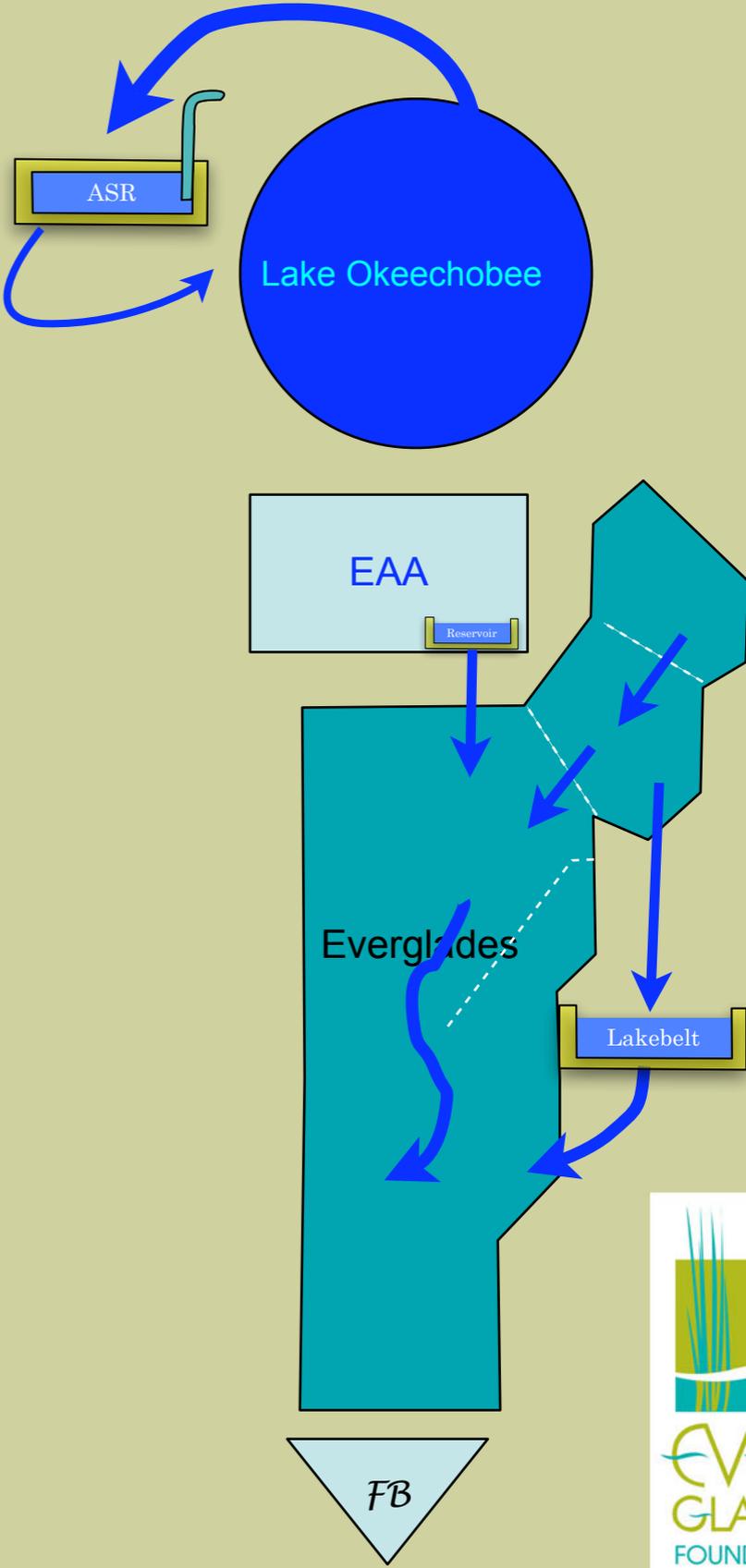


“The Plan”

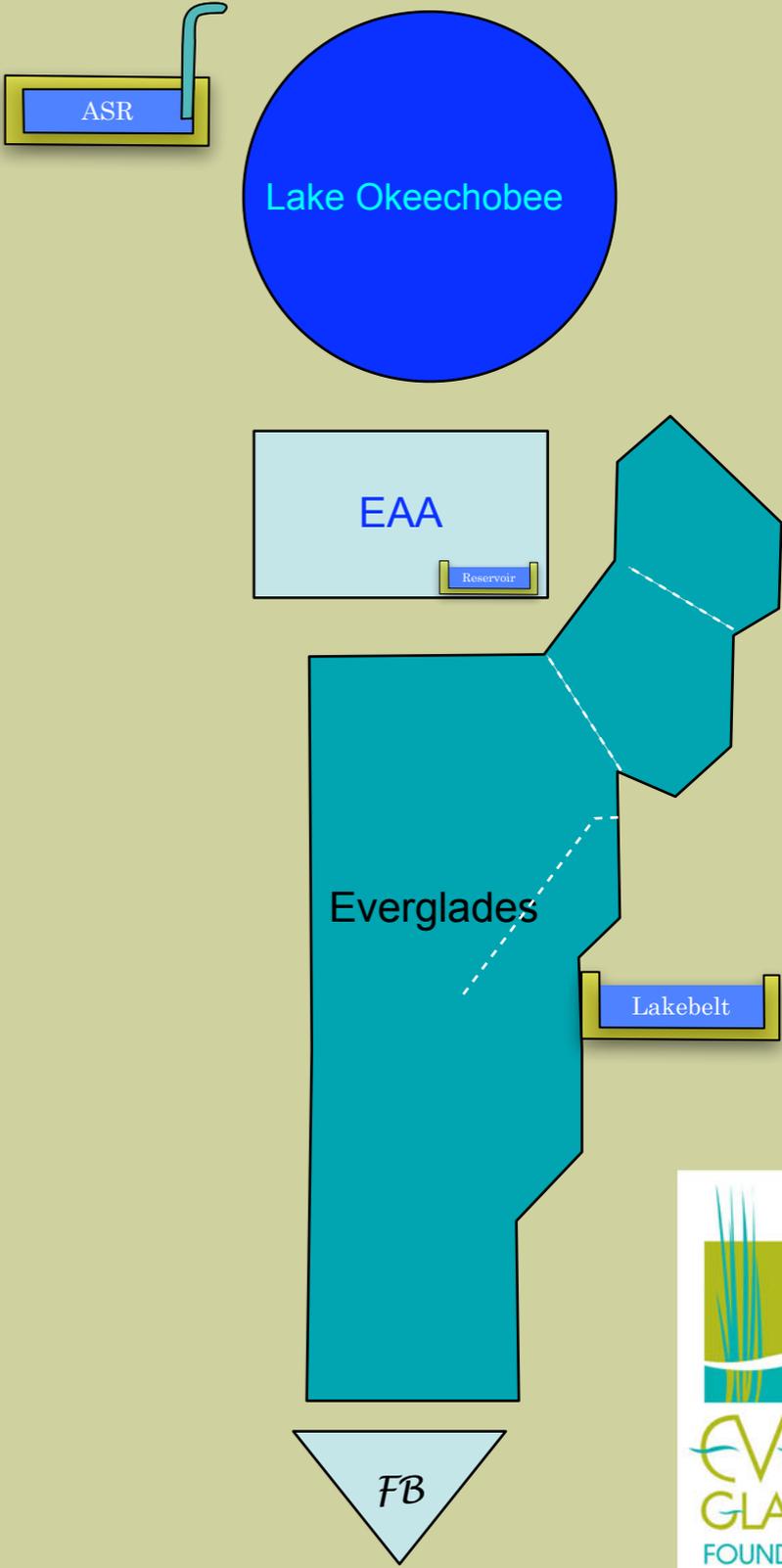
- Difficulties arose late with high Lake Okeechobee levels and estuary releases
 - high water undesirable in the Lake
 - large releases to estuaries unacceptable
- ASR only option
- “Storing your way out of a flood”



The Alternative

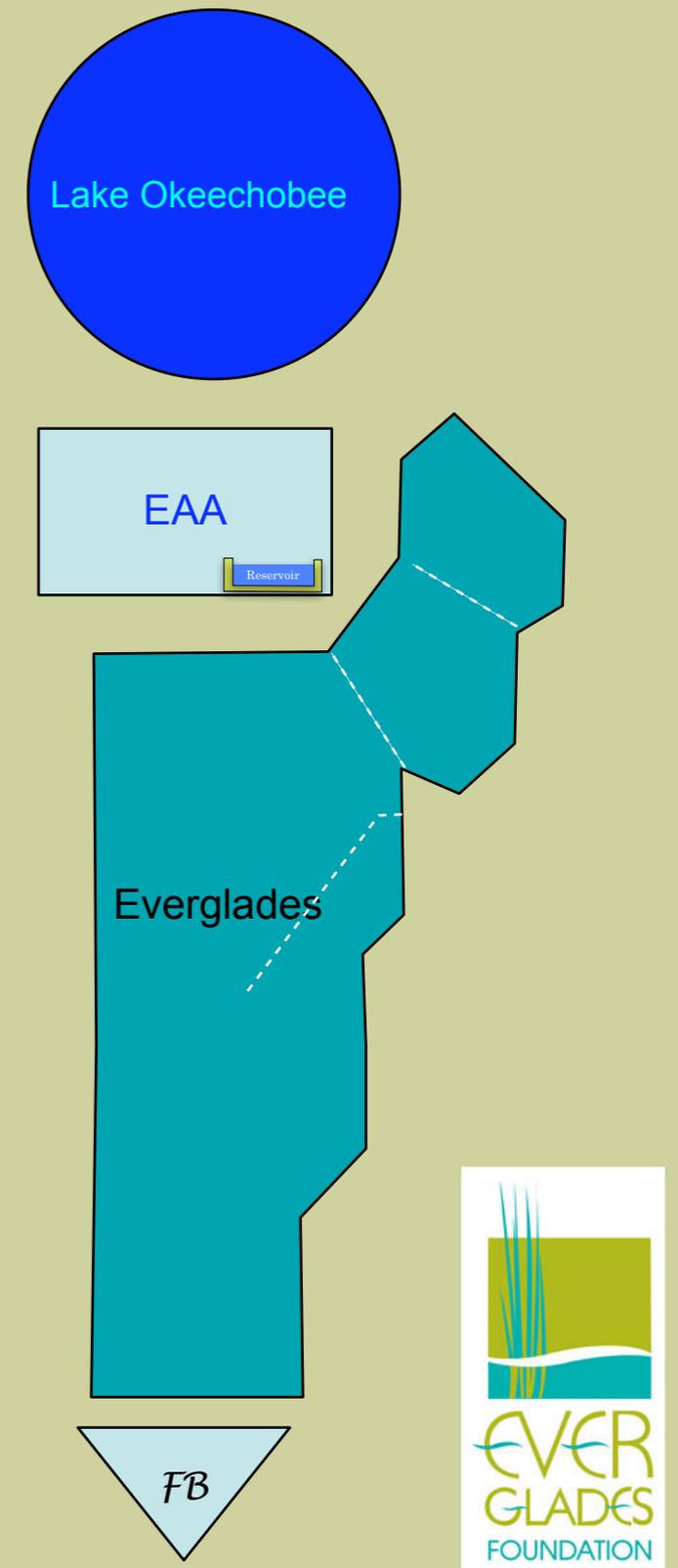


The Alternative



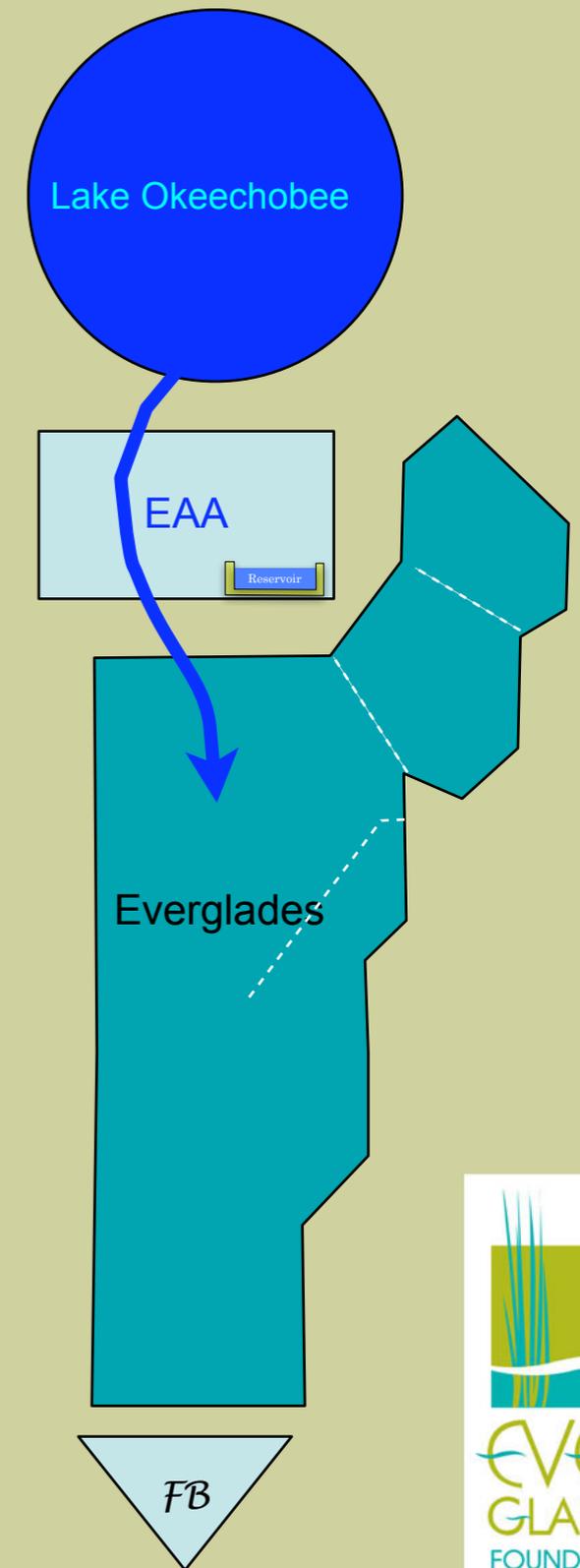
The Alternative

- Replace risky storage technologies



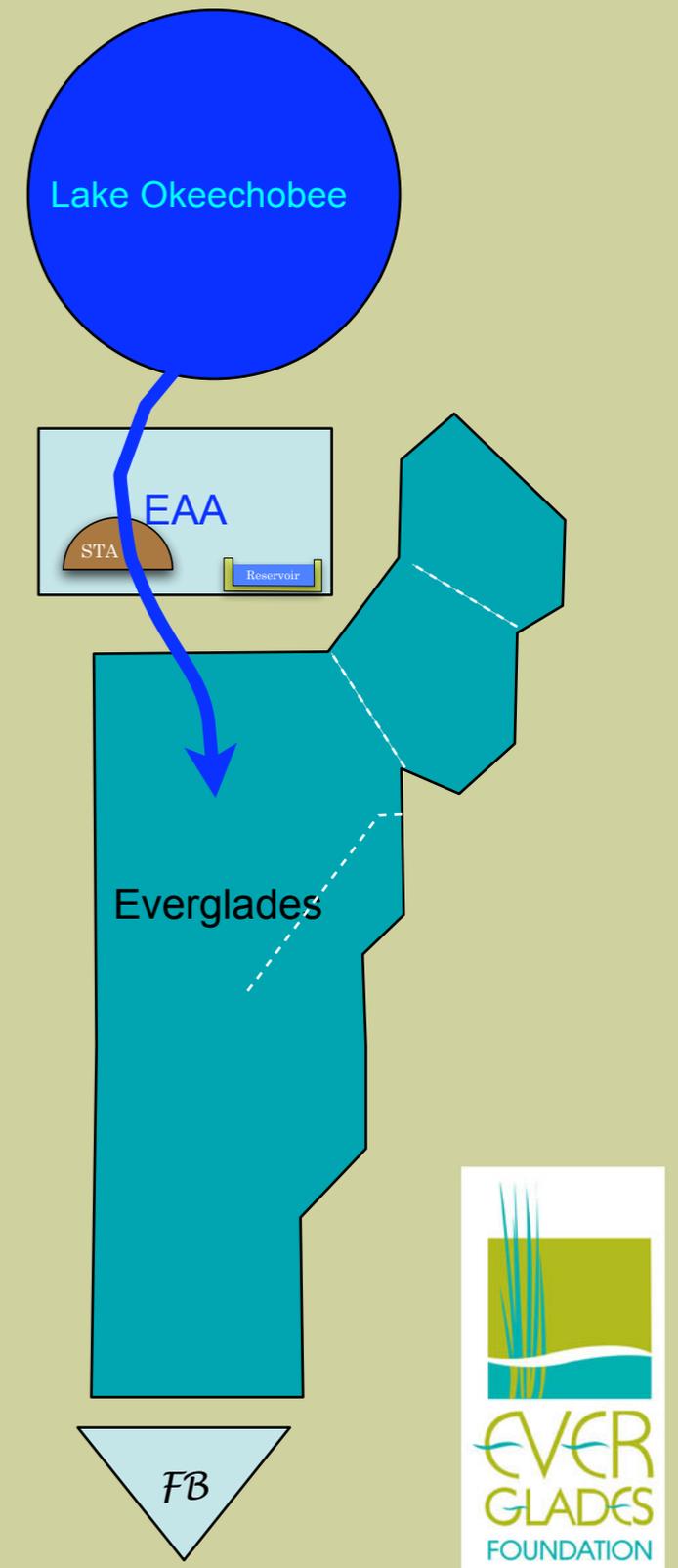
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades



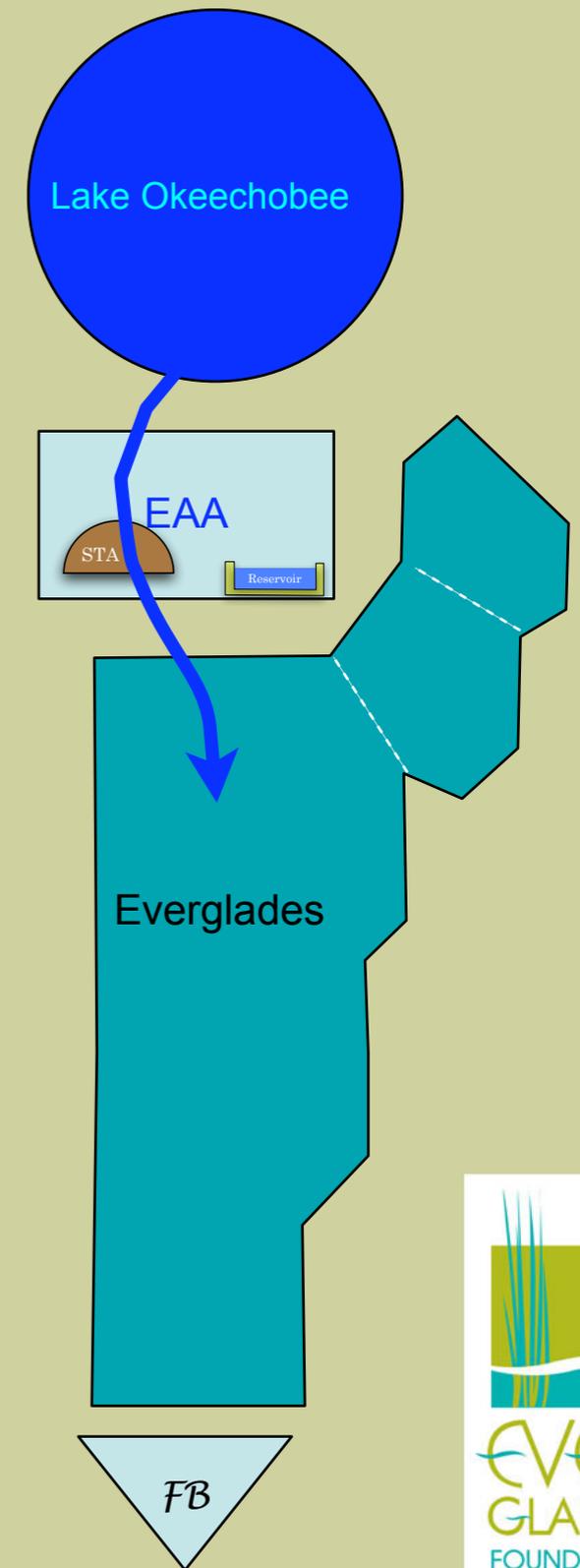
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs



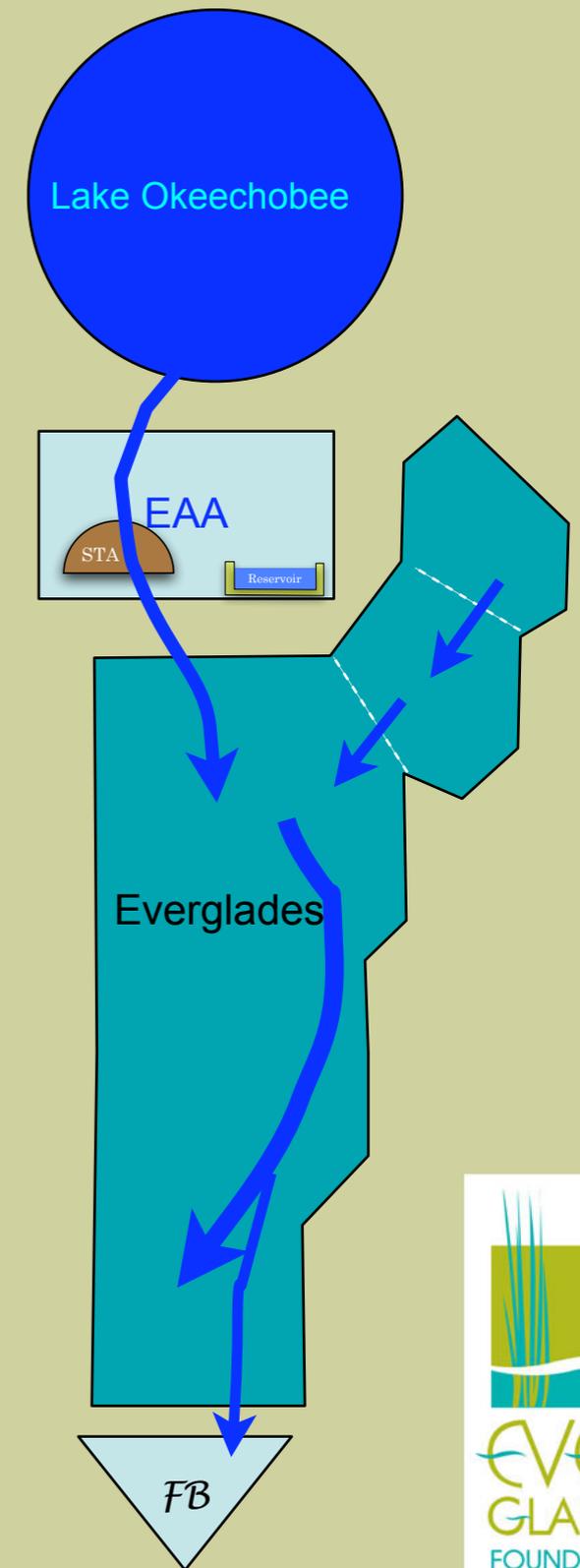
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs
 - remove barriers to flow



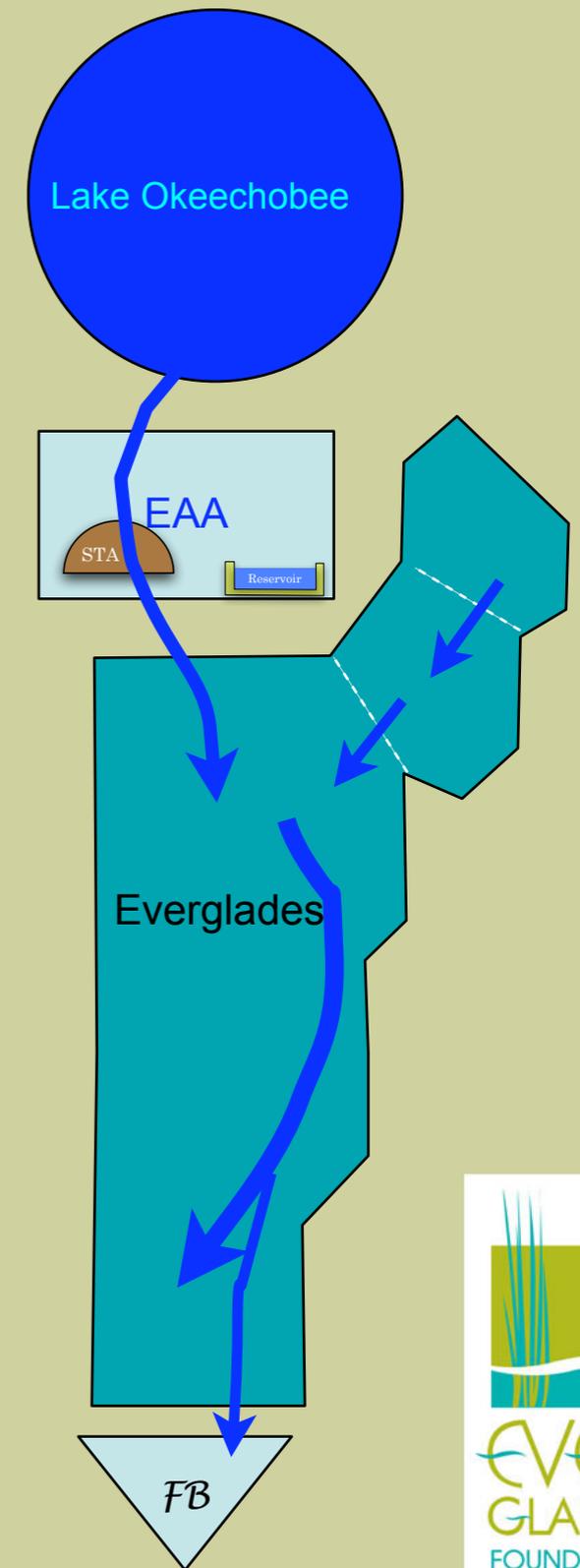
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs
 - remove barriers to flow



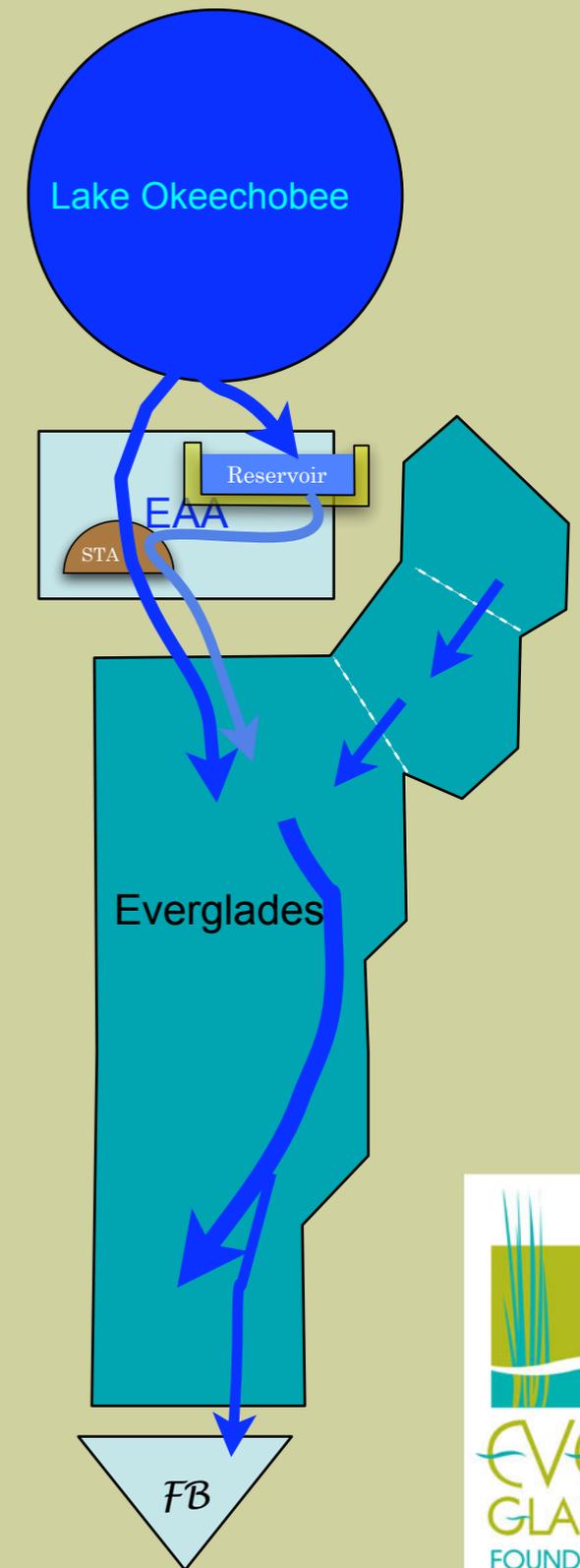
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs
 - remove barriers to flow
- Provide sufficient water to flow during dry years



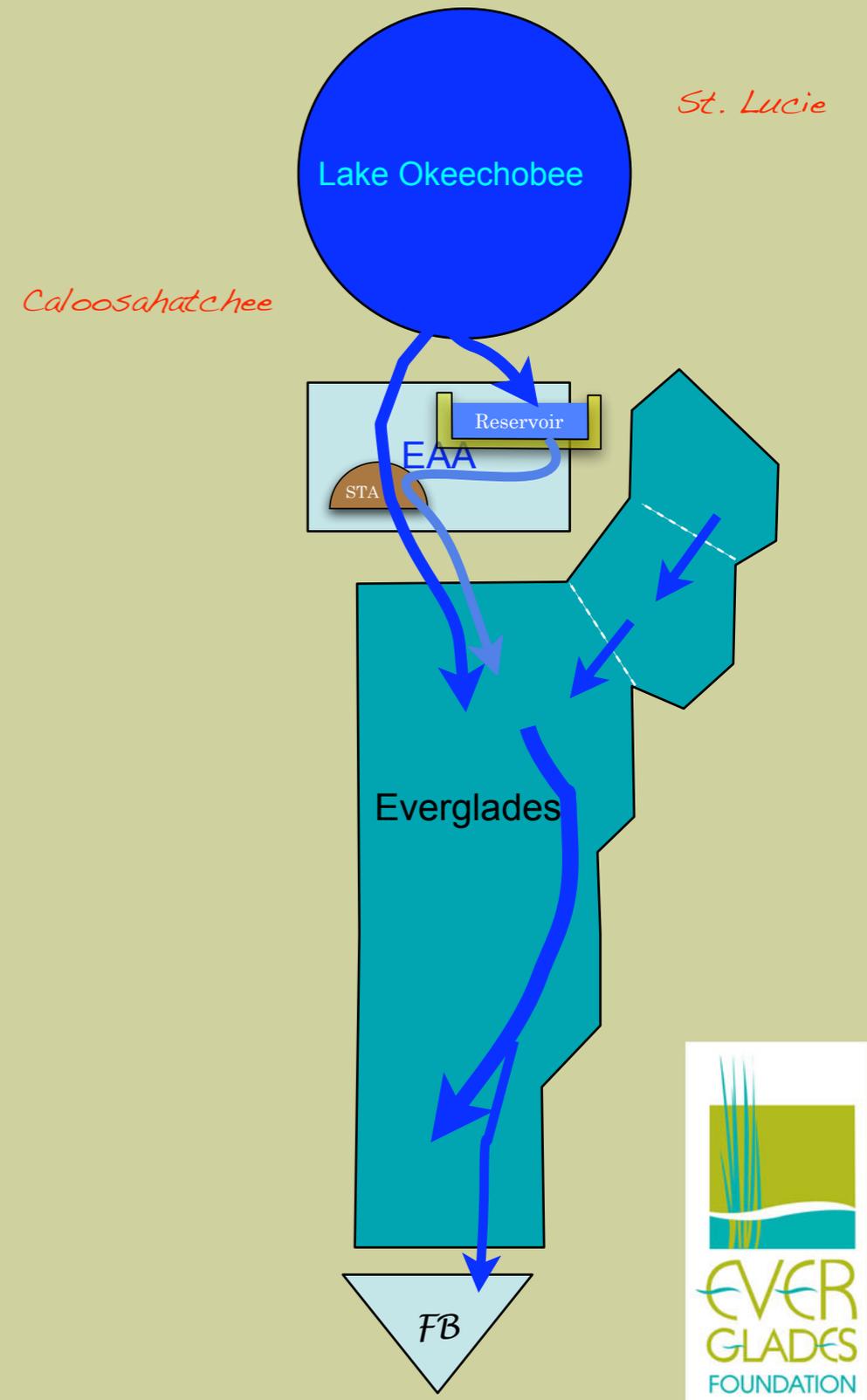
The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs
 - remove barriers to flow
- Provide sufficient water to flow during dry years
 - expand EAA reservoirs



The Alternative

- Replace risky storage technologies
- Flow wet year water from the Lake to the Everglades
 - expand STAs
 - remove barriers to flow
- Provide sufficient water to flow during dry years
 - expand EAA reservoirs
- STAs and reservoirs are made possible by US Sugar proposal



Next Steps

- Determine demand and storage for the Everglades that will assure restoration, such as maintaining soil formation.
- Determine quantities of water that can be sent to the Everglades under a full Decommission scenario.
- Identify storage/treatment/conveyance options that yield feasible alternatives.
- This is what the SFWMD is doing.



Thank you.

