



Desired Outcomes for CSOP in Everglades National Park

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Purpose of the Modified Water Deliveries Project in CSOP Evaluations

- Construct modifications to the C&SF Project to improve water deliveries into the Everglades National Park and, to the extent practicable, take steps to restore the natural hydrologic conditions in the park.

CSOP Overview and Purposes and Objectives Document



Purpose of the C-111 Project in CSOP Evaluations

- Restoration of the ecosystem in Taylor Slough and the eastern panhandle of Everglades National Park, while maintaining flood damage reduction within the C-111 basin consistent with the authorities provided to the Corps of Engineers.

CSOP Overview and Purposes and Objectives Document



Purpose of CSOP

- *Purposes and Objectives* document moves from these directives to specific objectives (Section 3)
- Technical and scientific statements are increasingly specific metrics to determine if objectives are met

Pre-drainage Conditions in the Southern Everglades

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The original vegetation patterns were driven by local physiographic features (topography, soils, hydrology).

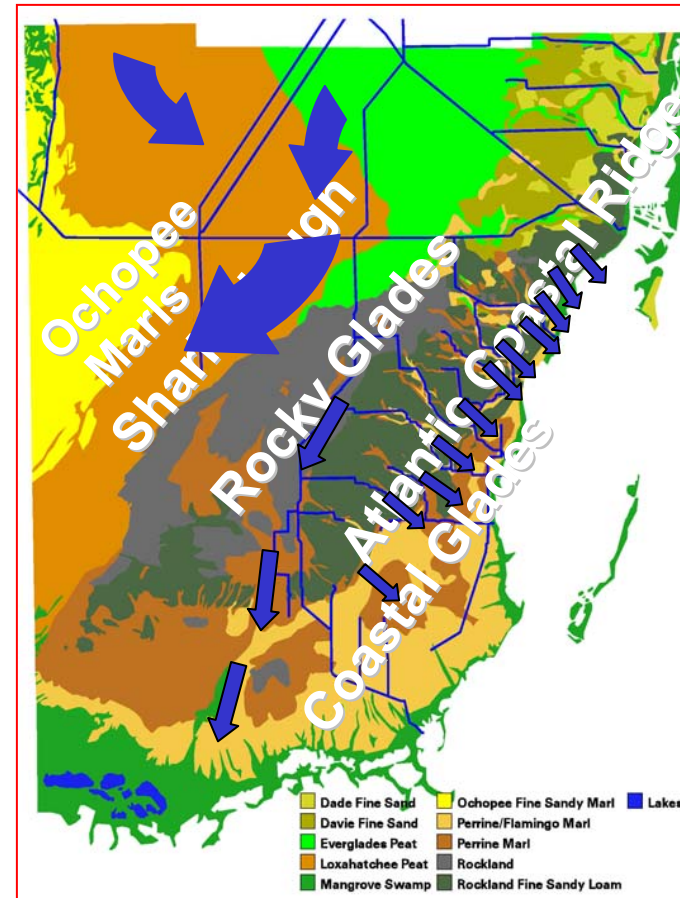
Atlantic Coastal Ridge - Upland Pine Forests and Hammocks, over thin well drained soils, rarely flooded.

Rocky Glades - Freshwater marshes over thin rocky soils, that seasonally flooded.

Coastal Glades - Fresh or brackish water marshes, over slow draining soils, that seasonally flooded.

Shark Slough - Sawgrass and open-water sloughs, over thick well drained peat soils, that permanently flooded.

The Atlantic Coastal Ridge forms a watershed divide, eastward flows went to Biscayne Bay, westward flows went to Taylor Slough and Florida Bay.



Early Flooding Patterns

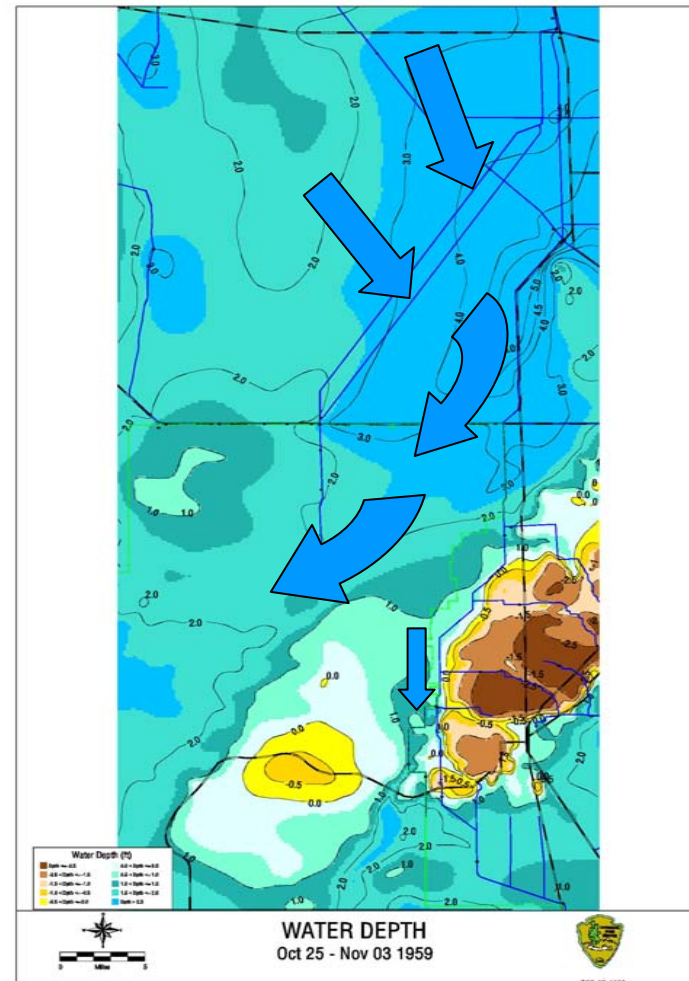
(November, 1959)

The early flooding patterns were also driven by these same physiographic features (topography, soils).

Extensive flooding occurred east of the protective levee system in the low-lying wetland areas.

Everglades flow patterns followed the historic flow-way (through WCA 3B and into Northeast Shark Slough).

A strong surface water connection formed across the Rocky Glades, that linked Shark Slough with Taylor Slough.



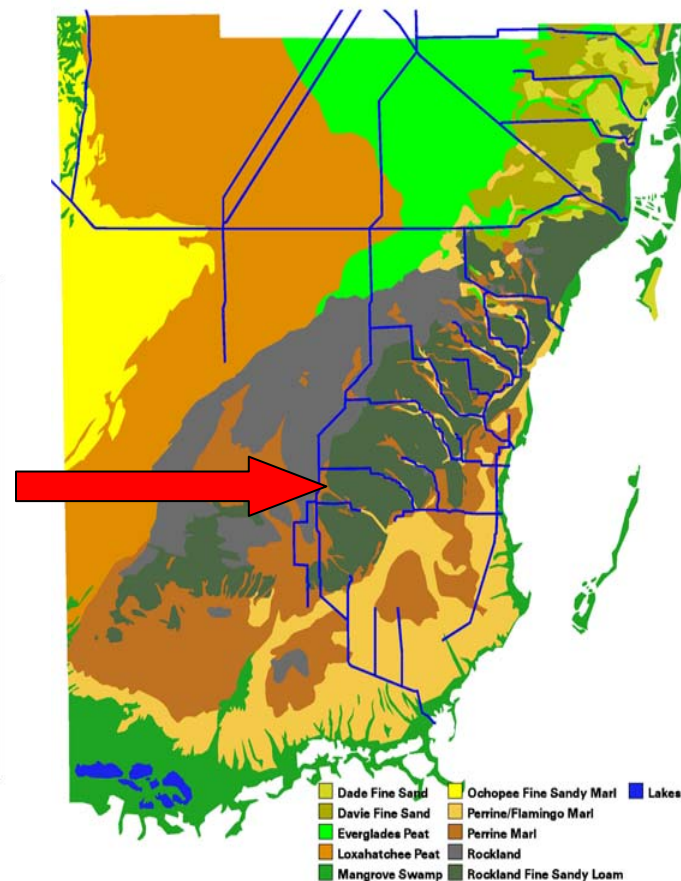
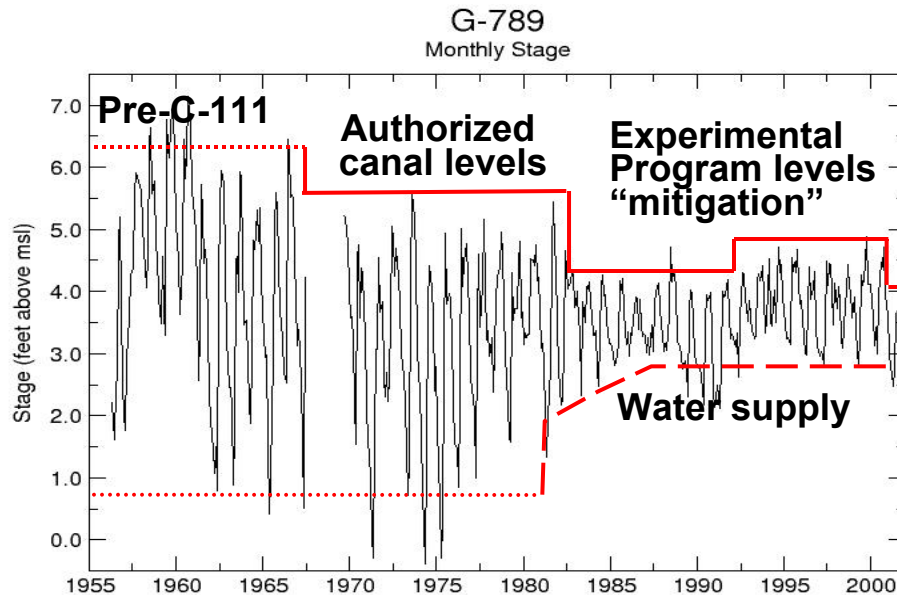


Changes in Water Levels Taylor Slough Basin

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The lowered canal operational levels have drained the eastern transitional marshes in Taylor Slough.

This wetland drainage has diminished the aquatic communities and modified vegetation patterns.



Post-Drainage Flooding Patterns

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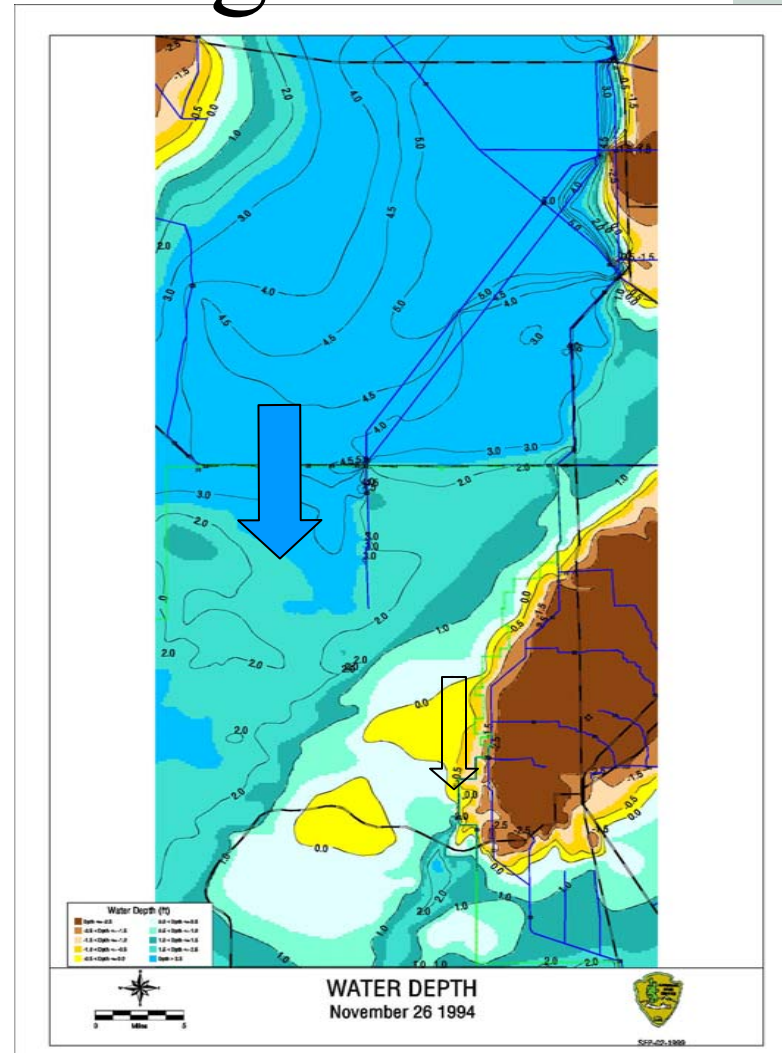
(November, 1994)

The WCA levee system has created a pool of persistent deep water north of Tamiami Trail. This reduced inflows and lowered water levels with the downstream areas of Everglades National Park.

Everglades flow patterns have been shifted westward away from the historic flow-way (now flows pass from WCA 3A and into the marl prairies of Western Shark Slough).

The canal and levee systems have greatly reduced flooding east of the protective levee system, but flooding still occurs in low-lying areas.

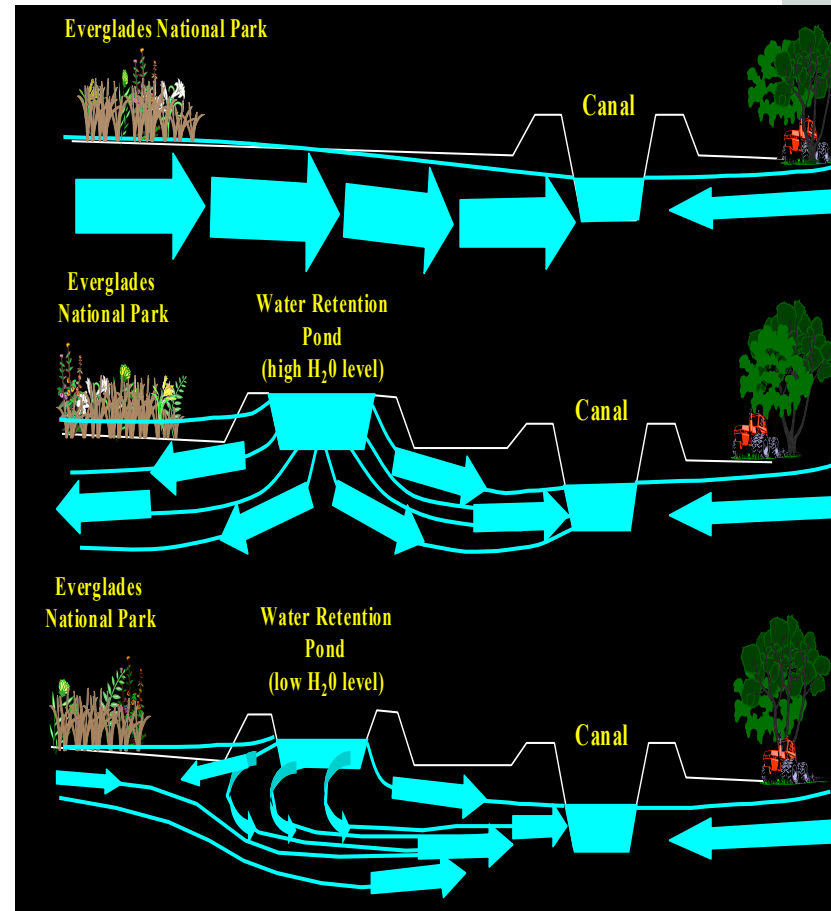
We have lost the strong surface water connection across the Rocky Glades, that linked Shark Slough with Taylor Slough.



Utility of a Buffer

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- Current Conditions - Operations of canal system over-drains the adjacent Everglades wetlands.
- Excessive Depths - If reservoirs are too deep, the adjacent wetlands will be excessively flooded. Marl prairie could become too "slough-like".
- Marsh-Driven Criteria - Objective should be to operate reservoirs, pumps, and canals to reproduce water levels that allow for a marl prairie in the Rocky Glades, surface water transfer between Northeast Shark Slough and Taylor Slough, with no water quality problems

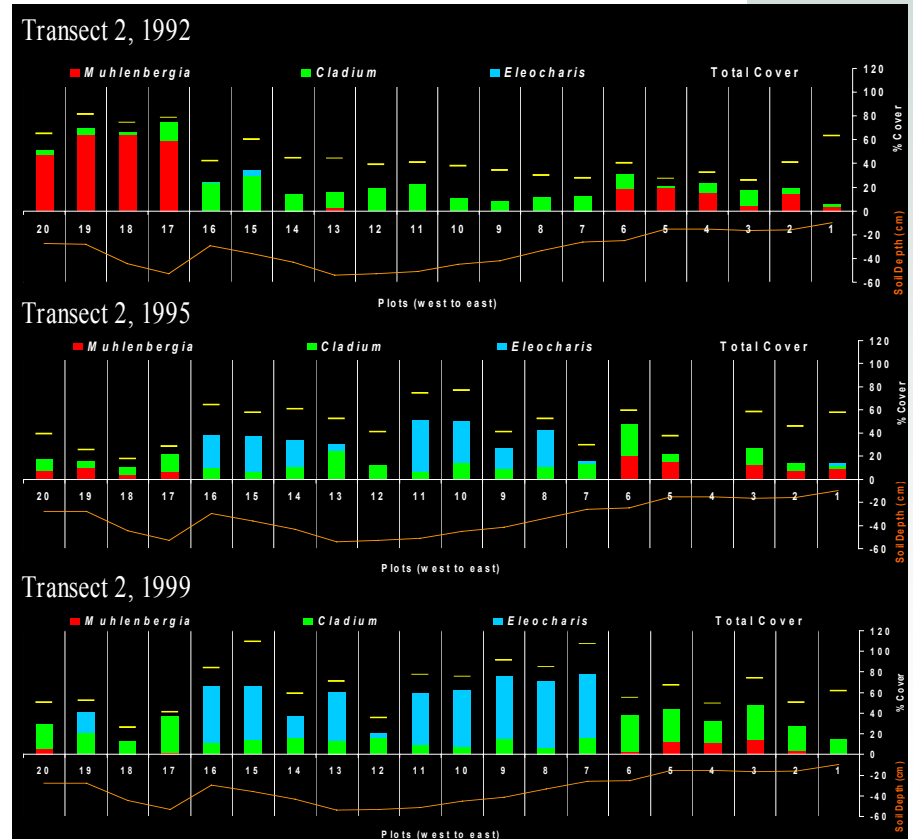


Vegetation Response

- Research has demonstrated that vegetation is very sensitive to hydroperiod changes.

- After new pumping regime into Taylor Slough, took only 3 years to dramatically alter habitat structure.

- Aquatic communities also show rapid changes to water level fluctuation and duration.





Desired Outcomes in Everglades National Park

- Recovery and maintenance of habitats and aquatic communities that are compatible Rocky Glades as marl prairie and Shark Slough as a slough, using high-quality water
- Restoration of hydrologic connections between Shark Slough and Taylor Slough, with recovery of appropriate quantity and timing of flows to estuaries

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