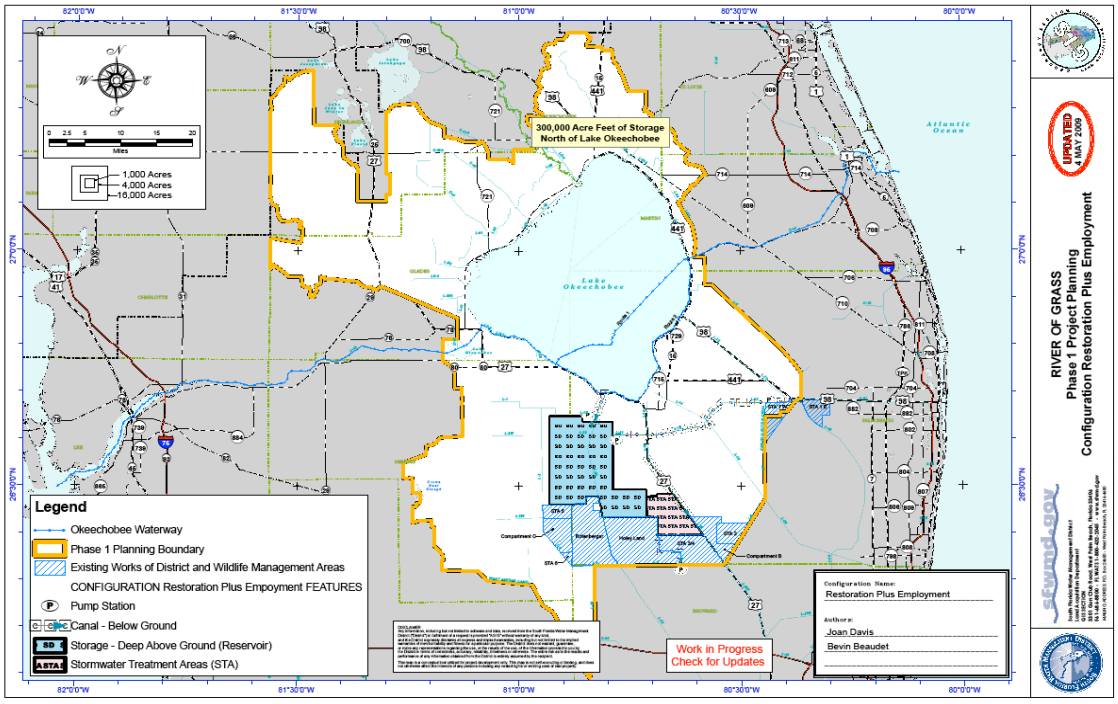
Restoration Plus Employment (RPE)

Joan Davis, Bevin Beaudet

This configuration is to provide storage and treatment components that will meet performance targets of 90% to 95% for Lake Okeechobee discharges and Everglades water delivery while avoiding interference with the proposed inland port facilities.



Major Components:

- North Deep Storage – 300,000 acre-feet
- South Deep Storage – 900,000 acre-feet
- South Stormwater Treatment Area – 18,000 acres

General Description of How Water Flows Through System/Operational Intent: Water north of Lake Okeechobee is pumped into the North Reservoir and released by gravity when this water is needed by Lake Okeechobee or the Everglades. Water in Lake Okeechobee is conveyed through gravity structures using improved sections of the Miami and Bolles Canals to reach the South Reservoir. Two (2) pump stations are utilized to bring water into the reservoir. Gravity structures are used to discharge from the reservoir into the Talisman stormwater treatment area (STA) which provides treatment before discharging through a pump station in to Water Conservation Area-3 (WCA-3).

Total Acreage Identified:

- 22,500 acres north of Lake Okeechobee
- 103,000 acres south of Lake Okeechobee

Of the total acreage identified 37,420 acres is in public ownership and the remaining 88,080 acres would need to be acquired.

Hydrologic Performance: Achieved 95% (overall result of four (4) months total in Lake-triggered high discharges during the 41-year period of record) reduction in Lake-triggered high discharges to the Northern Estuaries. Received a 83% standard score for Lake Okeechobee Stage Envelope Standard Score Above. Received a 96% standard score for Everglades demand target delivered and a 96% standard score for dry season Everglades demand target delivered.

Water Quality Performance: This configuration requires an additional 0 to 19,100 acres of Stormwater Treatment Area depending on inflow phosphorous concentration from Lake Okeechobee and whether deep storage provides treatment.

Environmental / Ecological Advantages or Benefits: This configuration incorporates a deep storage feature that provides improved wet and dry hydrologic conditions within the Everglades protection area and Everglades National Park.

Environmental / Ecological Impacts or Concerns: Uncertainty of effects of reservoirs deeper than 12 feet on the ambient water quality.

Increased Spatial Extent of Shallow Storage/Treatment (≤ 4 feet water depth): 20,000 total acres. Results of relative landscape viability comparisons between the alternative configurations (based on maintenance of minimum depths) indicate that this configuration fell in the high range.

Economic / Recreational Advantages or Benefits: This configuration avoids the proposed inland port footprint which is anticipated to provide economic benefits to the region.

Economic / Recreational Impacts or Concerns: Results of relative sugarcane production comparison between alternative configurations indicated that this configuration fell in the medium to high range.

Major Infrastructure Impacts: Railroad lines and bridges will be impacted and will need to be replaced. Pump stations, control structures and additional canals will need to be constructed to offset impacts to local 298 drainage district.

Operation and Maintenance (O&M) Considerations (if any): This configuration contains a substantial amount of embankment (primarily > 9 feet height) that will have to be maintained.

Uncertainty Concerns: Level of water quality performance achieved through the use of deep storage that is allowed to dry out in favor of meeting both irrigation and natural system dry season demands.