LAKE OKEECHOBEE WATERSHED RESTORATION PROJECT

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South Florida Water Management District
Project and Lands Committee Meeting
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Presentation Outline

- Project Overview and Planning History
- Siting of Project Features
- Tentatively Selected Plan
- Project Benefits
- Current Policy Concerns
- Next Steps
- Discussion
Lake Okeechobee Watershed Restoration Project Planning Area

- Focus on storage features north of Lake Okeechobee
- ~920,000 acres
- Historically dominated by wetlands
- Current land use includes:
  - Agriculture
  - Natural/Open land and water
  - Urban/Infrastructure
Restudy Components Included in LOWRP Scope

- **Component A – North of Lake Okeechobee Storage Reservoir**
  - ~200,000 ac-ft reservoir north of Lake Okeechobee
  - 2,500-acre Stormwater Treatment Area (STA)*

- **Component GG – Lake Okeechobee Aquifer Storage and Recovery (ASR)**
  - 200 ASR wells adjacent to Lake Okeechobee

- **Other Project Element (OPE) – Lake Okeechobee Watershed Water Quality Treatment Facilities**
  - ~3,500 acres of wetland restoration
  - 2 reservoir-assisted STAs*

*Water quality components are not included in LOWRP scope.
LOWRP Planning History

- Original planning effort – mid-2000s
  - Feb. 2007 – Tentatively Selected Plan (TSP) identified
  - Planning suspended based on water quality cost-share guidance from the Assistant Secretary of the Army

- Planning effort reinitiated - 2016
  - 3-year planning process
  - July 2016 - Scoping meetings
  - May 2018 - TSP identified
  - June 2018 – Governing Board update
  - July 2018 - Draft Project Implementation Report (PIR)/Environmental Impact Statement (EIS) released
Goals and Objectives

- Improve the quantity, timing, and distribution of flows into Lake Okeechobee to maintain ecologically desired lake stage ranges more often.
- Improve estuary discharges from Lake Okeechobee to improve the salinity regime and the quality of oyster, submerged aquatic vegetation, and other estuarine community habitats in the Northern Estuaries.
- Increase the spatial extent and functionality of aquatic and wildlife habitat within Lake Okeechobee and the surrounding watershed.
- Increase availability of the water supply to the existing legal water users of Lake Okeechobee.
Reservoir Siting Analysis
<table>
<thead>
<tr>
<th>Key Considerations</th>
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<tr>
<td>Dam safety/flood impacts to downstream communities</td>
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<td>Seepage concerns</td>
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<td>Publicly owned land</td>
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<td>Feedback from local communities and the Seminole Tribe of Florida (STOF)</td>
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<td>Presence of cultural resources</td>
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<td>Presence of threatened and endangered species</td>
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ASR Well Locations Considered
Wetland Locations Considered
Tentatively Selected Plan (TSP)
Alternative 1BW - Wetland Attenuation Feature (WAF): $1.4 B

- K-05 WAF
  ~12,500 acres
  43,000 acre-feet storage

- 80 ASR wells
  448,000 acre-feet of storage per year (400 MG/Day)

- KRC: ~1,200 acres
- PR: ~4,100 acres

- Water storage feature that provides for wetland habitat within the footprint
- Provides ~43K ac-ft of storage for both regional and local benefits
- Provides measureable benefits to Lake Okeechobee Ecology and the Northern Estuaries
Why the Tentatively Selected Plan (TSP) Works

- Planning is performed in a “future” scenario where benefits from Kissimmee Restoration, Central Everglades, C43/C44, etc. are already assumed.
- Proximity to Lake Okeechobee is a key driver of the TSP performance.
- The TSP performs well because it relies on the synergy of using multiple types of project features.
- These features are expected to work well with CERP and other efforts (e.g., EAA Reservoir).
Why the TSP works – Above Ground Storage Co-Located With ASR Wells Improves Project Performance

- Above-ground storage co-located with ASR provides a high diversion capacity tool with recoverable storage volume
- Can be used to divert water to directly provide relief to the Lake and avoid estuary releases
- Can also be filled more than once during a season or event as ASR empties the storage (not limited by storage volume)
- Helps to realize CERP storage goals in an efficient manner.
Northern Estuaries

Promotes Resiliency

- Provides a 30% reduction in high-flow discharge events lasting longer than 60 days in the Caloosahatchee Estuary
- Provides a 44% reduction in high-flow discharge events lasting longer than 42 days in the St. Lucie Estuary
- Provides a 57% reduction in discharge volumes from Lake Okeechobee to the Northern estuaries with authorized projects
- Provides a 67% reduction in discharge events from Lake Okeechobee to the Northern estuaries with authorized projects
- When combined with the Everglades Agricultural Area Reservoir planned by SFWMD last year, the TSP is close to achieving the CERP goal of 80% reduction in discharge events from Lake Okeechobee to the Northern estuaries
Lake Okeechobee

- Improves amount of time lake is in preferred ecological stage envelope
- Decreases the number of extreme low lake events, avoiding excursions of the Minimum Flows & Levels (MFL) criteria
- Allows for faster recovery from high Lake stage events (more capacity and locations to discharge flood waters)
- Increases effective Lake storage volume retaining water for restoration efforts south of the Lake.

Promotes Sustainability

Lake Okeechobee
Lake Okeechobee Water Supply Improves Reliability

- Reduces the frequency of time in below the Lake Water Shortage Trigger Line
- Provides for a 33% reduction in water shortage cutback volumes for existing legal LOSA uses

The green bars illustrate that the plan reduces cutbacks during the most severe droughts.
Tentatively Selected Plan – Alternative 1BW

Wetland Habitat
Increases Spatial Extent

- Kissimmee River Center and Paradise Run high quality wetlands ~5,300 acres
- Wetland attenuation feature also expected to be an emergent marsh ~10,000 acres
- Proximity to reservoir feature helps provide sustained flow through the wetland features
Current Policy Concerns

- Water supply objective
- ASR water quality treatment cost-share
- Feedback from stakeholders
  - STOF concerns
  - Landowner concerns
  - Cultural resources
Discussion

www.sfwmd.gov/lowrp