Everglades Agricultural Area
Storage Reservoir Project Update

Governing Board Meeting
February 8, 2018
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Everglades Policy & Coordination Division

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Optimization of Cost Effective Best Buy Alternatives

Alternative R240A:

240,000 acre-foot reservoir with ~6,500 acre STA
Single-purpose operations – environmental benefits

Alternative preserves the A-1 FEB identified in “Restoration Strategies” which is consistent with CEPP

Plan Capital Cost $1.74B(1) – CEPP New Water Component $0.40B(2) = Capital Cost to Implement Plan $1.34B

(1) Includes Reservoir + Stormwater Treatment Area + Real Estate $1.64B, Canal Conveyance Improvement $100M, and Recreation Plan $2.2M Costs
(2) Includes CEPP A2 FEB and A2 Recreation Plan
Optimization of Cost Effective Best Buy Alternatives

Alternative C360C:

360,000 acre-foot reservoir with ~11,500 acre STA
Multi-purpose operations – environmental benefits and other water related needs

Alternative modifies “Restoration Strategies” A1 FEB to deep storage but would still ensure achievement of Water Quality Standards

Plan Capital Cost $2.11B\(^{(1)}\) – CEPP New Water Component $0.40B\(^{(2)}\) = Capital Cost to Implement Plan $1.71B

\(^{(1)}\)Includes Reservoir + Stormwater Treatment Area + Real Estate $2.01B, Canal Conveyance Improvement $100M, and Recreation Plan $2.2M Costs

\(^{(2)}\)Includes CEPP A2 FEB and A2 Recreation Plan
How Modeling Fits into Project Planning

Along this path, there are many opportunities for refinement. Intermediate products serve the immediate need and then are enhanced, incorporating feedback and information as the process progresses.

First Phase:
Screening Modeling to Assist in Selection and Sizing of Features that will be Evaluated in More Detail

Second Phase:
Detailed Modeling of a Variety of Options to Determine how to Route Water to Achieve Desired Project Benefits

Third Phase:
Detailed Modeling of a Variety of Options Provides Information for System Evaluation (e.g. Habitat Units)

Final Phase:
Incorporating Feedback and Information Gained in Earlier Steps, Refine Detailed Modeling of a Highly Performing Options

Optimization Results – The C240 scenario combines elements of the two “best buy” plans from the alternatives array to identify a highly performing and efficient tentatively selected plan that meets water quality standards
Alternative C240A

- 240,000 acre-foot reservoir
- Reservoir ~ 10,500 acres and ~ 23 feet deep
- Stormwater Treatment Area (STA) ~ 6,500 acres
- Multiple purposes operations consistent with CERP – environmental benefits and other water related needs
- Alternative preserves the A-1 FEB identified in “Restoration Strategies” which is consistent with CEPP

Plan Capital Cost $1.74B\(^{(1)}\) – CEPP New Water Component $0.40B\(^{(2)}\) = **Capital Cost to Implement Plan $1.34B**

\(^{(1)}\)Includes Reservoir + Stormwater Treatment Area + Real Estate $1.64B, Canal Conveyance Improvement $100M, and Recreation Plan $2.2M Costs
\(^{(2)}\)Includes CEPP A2 FEB and A2 Recreation Plan
Alternative C240A
Optimized Best Performing Alternative

Lake Okeechobee
Promotes Sustainability

- Improves amount of time lake is in preferred ecological stage envelope
- Decreases the number of extreme low lake events
- Improves water shortage cutback performance
Alternative C240A

Optimized Best Performing Alternative

Northern Estuaries

Promotes Resiliency

- Approaches CERP goal in reducing damaging discharges from Lake Okeechobee
- Provides a 40% reduction in high-flow discharge events lasting longer than 60 days in the Caloosahatchee Estuary
- Provides a 55% reduction in high-flow discharge events lasting longer than 42 days in the St. Lucie Estuary
- Provides a 55% reduction in discharge volumes from Lake Okeechobee to the Northern estuaries with authorized projects
- Provides a 63% reduction in discharge events from Lake Okeechobee to the Northern estuaries with authorized projects
- Improves the salinity conditions in the St. Lucie Estuary by reducing the number of Lake Okeechobee events that exceed the preferred salinity envelope by 39%
- Improves the salinity conditions in the Caloosahatchee Estuary by reducing the number of Lake Okeechobee events that exceed the preferred salinity envelope by 45%
Central Everglades

Promotes preferred flow patterns and sheet flow

- Increases flows to approximately 370,000 ac-ft (average annual)
- Improves slough depths and durations
- Restores vegetative communities and habitat for fish and wildlife
- Reduces dry-outs
- Increases overland flow into ENP
- Provides some benefit to salinity in Florida Bay
Next Steps

- Proceed with Alternative C240A as Tentatively Selected Plan
- Identify water protected for the Natural System
- Complete Independent External Peer Review
- Complete Agency Technical Review
- Complete 1501 Compliance Requirements
- Complete project documentation
- Seek Governing Board Authorization to submit Post Authorization Change Report (PACR) in March
- Submit PACR to the Assistant Secretary of the Army for Civil Works on March 30, 2018