



Combined Operational Plan (COP)

Purpose:

1. Define water management operations for the constructed components of the MWD and C-111 SD projects.

Documents Produced:

Water Control Plan (Decision Document) and EIS with adaptive management appendix

Objectives:

1. Improve water deliveries (timing, location, volume) into ENP and take steps to restore natural hydrologic conditions in ENP given current C&SF infrastructure or infrastructure expected to be completed by the time of implementation, to the extent practicable by
 - a. Changing schedule of water deliveries so that it fluctuates in consonance with local meteorological conditions, including providing for long term and annual variation in ecosystem conditions in the Everglades (Timing)
 - b. Restoring NESRS as a functioning component of the Everglades hydrologic system (Location)
 - c. Adjusting the magnitude of water discharged to ENP to minimize effects of too much or too little water (Volume)
2. Maximize progress toward restoring historic hydrologic conditions in the Taylor Slough, Rocky Glades, & eastern Panhandle of ENP.
3. Protect the intrinsic ecological values associated with WCA-3A and ENP.
4. Minimize the damaging* freshwater flows to Manatee Bay/Barnes Sound through the S197 structure and increase flows through Taylor slough and coastal creeks
5. Include consideration of cultural values and tribal interests & concerns within WCA-3A and ENP.
6. Explore opportunities for enhancing the recovery of federally and state listed species under the Endangered Species Act, consistent with the restoration objectives, the USACE's authorities for MWD and C-111 projects and operational considerations.
7. Explore objectives to enhance opportunity for flood control and mitigation.

* “damaging” will be defined

Constraints:

1. C&SF project purposes
2. 1992 MWD GDM: mitigation for project induced flood damages
3. 1994 C-111 GRR: flood damage reduction
4. ERTTP WCA-3A Regulation Schedule (pending results of the Baseline and Modification Modeling [BAMM])
5. L-29 Canal maximum stage (8.5 ft NGVD)
6. 2008 Tamiami Trail Modifications Relocation Agreement (FDOT/USA)

Planning Considerations:

1. Burial Resources Agreement
2. Avoid or minimize adverse effects to cultural resources. Explore opportunities to develop monitoring protocols for “at risk” cultural resources
3. Water Quality Standards (CEPP language - Section 6.3.2 Paragraphs 1-4)
4. Maintain multi-species objectives (2012 WCP) and comply with requirements of the applicable BO from USFWS to include the July 2016 ERTTP BO and the CERP C-111SC Western Project
5. Compatibility with CEPP implementation
6. Consider compatibility with future restoration actions. Reasonably connect the planning under this project authority to other near-term changes that are likely to be implemented in the system in the next few years using an Adaptive Management framework.

Scope:

1. Raise the maximum operational limit in the L-29 canal
2. Relax the 6.8 foot NGVD constraint at G-3273
3. Operate pump station S-356 to manage canal levels with the intent of managing seepage and water stages in L-30 and L-31N canal levels between S-335 and G-211.
4. Develop modifications to the Rainfall Plan for discharges from WCA-3A
5. Modifications to the WCA-3A Regulation Schedule below Zone A (including IOP/ERTTP Column 1 and Column 2 operations) pending results of BAMB
6. Modifications to operation of the C&SF structures for flood protection (including S-197)
7. Operation of S-328 (proposed under the SFWMD Florida Bay Initiative in 2016)
8. Ecological water deliveries to Taylor Slough
NOTE: Regulation schedule changes for Lake Okeechobee will not be included in the COP. The Corps is considering inclusion of WCA-1, and WCA-2 in the COP effort.

Planning Conditions:

1. 1983 Base – identifies the original water supply purpose for delivering water to the lower C111 canals.
2. 1994 GRR C-111 Base – identifies the level of flood protection that will be maintained in the COP process.
3. Existing Condition (ERTTP, Increment 1.1/1.2 Ops, existing C&SF infrastructure, TTNS not complete, C-111 SC Western Project, C-111 SD NDA [North Detention Area] and other C-111SD features)
4. No Action/Future Without Project Condition (ERTTP, Increment 1.1/1.2 Ops, existing C&SF infrastructure, C-111SC Western Project, TTNS (2.6 mile western bridge), Old TT modifications, C-111 SD NDA and other C-111 SD features)

Alternative Formulation and Modeling:

1. Initial array of Alternatives
2. Screening of Alternatives
3. Round 1: Modeling of selected alternatives (2-4) plus No Action
4. Round 2: Alternative(s) developed that incorporates the best components Round 1 alternatives.

Evaluation Methods:

1. Hydrologic Models: RSM-GL/MD-RSM, Mike-She model developed by ENP.

2. Ecological analysis using Eco Planning tools (examples include MARL Prairie Habitat Suitability, WADEM, Apple Snail, Slough PM, Soil oxidation PM, etc.)
3. 2016 ERTTP BO RPA Hydrological Targets
4. Water Quality – using RSM-GL model output

Other Factors that may affect scope/schedule:

1. New information from G-3273/S-356 Field Tests (Increment 1/1.1/1.2/2)
2. Modeling support and funding (assumed through DOI MOU with SFWMD)
3. Time frame – Implement COP by 2019
4. BMM flood routing analysis: potential new WCA 3A stage constraints
5. Flood analysis – estimate economic damages –versus– use only hydrological performance measures
6. Burial Resources Agreement and ERTTP effects determination
7. Planning conditions or alternative formulation different from above
8. ESA