Combined Structural and Operating Plan Advisory Team
Technical Expert Sub-Team
Friday, January 21, 2005

MEETING SUMMARY

Broward Field Station
SFWMD
2535 Davie Rd.
Ft. Lauderdale, FL 33328

Participants in attendance: Antonio Cotarelo, Miami-Dade; Marcia Levinson, Miami-Dade DERM; Paul Linton, SFWMD; Jerry Lorenz, Audubon; Tom MacVicar, Consultant; Terry Rice, Miccosukee Tribe; Shawn Sculley, SFWMD; Teleconference participation: Bob Johnson, ENP

I. Introduction and General Comments

Kate Elliott reviewed the day's agenda and the team's charge from the CSOP Advisory Team. There was concern expressed that no member of the USACE or ENP would be present to participate. It was agreed that Paul Linton would give an overview of the East and West Bookend Model Results. Though Paul related some of the perspective of the USACE, the SFWMD does not necessarily have the same official position.

The group did not have any corrections or comments on the Sub-Team meeting summary for November 22, 2004. There were some requests to receive a copy of the presentation given by Bob Johnson to the De-Comp Committee on January 20, 2005. It was also agreed that each Sub-Team member would be allowed to give their presentations instead of going through the CSOP Expectations by geographical area.

Bookends Overview

Paul Linton offered and overview of what a bookend is: a set or structures and their operations that are implementable within the project's authority. According to the District, the West Bookend has "fallen off the book shelf." The Corps was asked to explore uncontrolled inflows and the DOI determined that maximum stage. Mod Waters would require less than De-Comp which, according to Terry Rice, is in violation of federal law. Paul explains they didn't explore opening 197.

The West bookend was going to explore the 1994 GRR. According to Paul, the ENP proposed a March Operated detention area to act as a buffer that would hold water back. Paul says that would mean pumping into the detention area. They would limit pumping based on gradient and only put water into the detention area to hold water in the park. That would be ineffective from 5 down; 5.5 is constrained by Marsh Ops. Terry Rice asked for an explanation of what the expectation was for the West Bookend.

The East Bookend is within budget and within its authority. ERDO Light (Everglades Rain Driven Operations) measures rainfall in the last 60 days as estimated by the Natural System Model (NSM). The USACE agreed to include ERCO Light in the West Bookend run. Paul said that you would have to add ERDO Light to the East Bookend if you wanted the West to

accomplish what was intended. Both Tom MacVicar and Paul agreed that the L-31N is too high in the East bookend. Paul explains that is happening because the 355 pump is "burping". Jerry Lorenz asked what it means to have burping at 355 and Paul clarified that there is more water being released than planned. Jerry asked if you could run the East Bookend the "burping" problem fixed and Paul confirmed that the Corp will fix it in the next alternative. Jerry Lorenz then asked whether you would move closer to the East Bookend (looking at the WBE) by increasing the S-256 capacity. Tom confirmed that would happen if the pump was actually turned on.

Other Comments:

- The high level of 3B (from the East or West Bookend?) is a concern; not releasing water until [its] below 3' affects the resources in 3B.
- Stages going up to 8.5' means 3B has to be above 8.5' because flow goes down.
- Paul will check with Dave (?) to answer some of Jerry Lorenz's salinity questions.
- They are doing a sensitivity run with the East Bookend of the S-356 capacity at 1000 cfs., and they are including adjustments that will fix burping at the 355 pump.
- In his presentation to the CSOP AT he will try to show how seepage from the Park will stay in the Park

Terry Rice: Overview of East and West

Terry Rice expressed concern with a portion of Bob Johnson's presentation to the De-Comp committee on January, 20, 2005. The East Bookend is a reasonable alternative where the West bookend is not legitimate and is outside of its authority. Terry requested an explanation from the USACE and ENP on how the West Bookend was developed.

Terry looks at water going to the 332 structure and the amount is much less than what they need for restoration. The water is raising an average of .4'. His concern is the duration. Taking data from the USACE web-site, water goes up to 2' in the high end. Looking at the West Bookend power point presentation provided by Dan Crawford, Bar Chart on WCA-3A East, Indicator Region 128, Terry says they are trying to get to NSM instead of increasing the number of weeks above 2'. (See Appendix A for power point from Dan Crawford). Marcia Levinson agrees that that many weeks above 2' affects the urban area as well. Paul Linton added that 106 weeks above 2' (part of the East Bookend) is within the authority, but the West exceeds that. Terry questioned whether the '94 GRR was the goal and not NSM.

Terry provided a map to the group that showed arrows indicating water flow, emphasizing his point that the system can't handle water flows run in the West bookend. There is a clear limitation on 3B. The East Bookend shows more desirable (drier) water levels in the WCA's where the West Bookend makes WCA 3A even too dry. 3A is helped by reducing high water levels but the WBE over dries it almost 40% of the time.

Speaking on behalf of the recreationalists: with the WBE, Shark River Slough is closed off (not accessible) and it destroys the WCA 3B are as well as Florida Bay.

Tom MacVicar: Overview of East and West

The West Bookend didn't meet the screening of whether it was implementable or authorized. Tom does not believe the West bookend is legitimate and he would like an explanation from the

USACE and the ENP of how the West Bookend was developed. He thinks the USACE has to police changes to ModWaters/C-111implementablility and authority. You can not re-define Mod Waters.

Toms' overall concerns are flood-related in the Agricultural area. With the West Bookend, water levels are higher than in the East Bookend.

(See Appendix B for slides from Tom MacVicar's presentation.)

Slide 3: Shows overland flow in the Park; Taylor Slough is reduced.
Slide 4: The blue line represents the WBE meaning significant impacts East of the 8.5 SMA; it use 331 on Angel's Well criteria; Alt7R doesn't have a levee in place ; 357 is run on at 6' and off at 5.7; 173 is run open at 5.5' and off at 5'; here, the East Bookend is acceptable
Slide 5: Limited by WBE; East BE is better in terms of what the C-11 GRR said would be produced; East should be used
Slide 7: There is a .25' difference between the EBE and the WBE
Slide 9: WBE goes dry; the flat line represents where they are supplying water
Slide 10: WBE vs. current conditions: amount of time 1' higher
Slide 11: WBE vs. current conditions: amount of time .25' higher; Tom thinks they are producing impacts east of the Park

(Terry Rice would like to see the same comparison between the EBE and the current conditions)

Slide 13: Peak time shows too much flooding (.5') with extreme infrequent events showed on the left side of the curve.
Slide 14: The East was not a Bookend: it stayed N of IOP
Slide 16: caused by closing 331; (NSM shouldn't be displayed on this curve); WBE line is due to the canal in the East

Shawn Sculley asked why the C-111 GRR isn't being used instead of the Alt7R. Tom explained that was because the 1994 GRR had differences in the North/South orientation of pumping. Alt7R represents something close to IOP (currently authorized) which is used for reference. With the levee in place, it allows you to raise the level of water but there is still no way to tell how good both the East and the West Bookends are.

At the close of the meeting Tom asked for clarification of the Mod Waters funding issue to be discussed at the CSOP Advisory Team meeting on January 27, 2005: What budget is being submitted and when; why is a 4 mile bridge in the budget and not pump 356?

Bob Johnson: Responding to Questions from Tom MacVicar and Terry Rice

The West Bookend was intended to restore the Northern part of the system and reconnect WCA 3A and WCA 3B to NE Shark River Slough. They replaced the 345 culverts with 3 weirs and replaced the existing structures with more passive structures. In the L-29 they added in 3 weirs that supplement outflows the same way they were evaluated in the EIS; same structural design. Bob is not sure what part of the West Bookend is not within the authority that Terry is referring to.

Bob does not agree that the WBE floods Miami-Dade or changes in Taylor Slough. The 1992 Plan and the C-111 GRR increased water levels above NSM. He is meeting the level of flood protection in the Purposes and Objectives document. Match inflows and outflows: 355 and L-29.

In the West Bookend, inflow exceeds outflow in 3B. There will be further removal of L-29 as a barrier. Bob wants to see more water go down Shark River Slough and wants less water impounded in WCA 3B. If you can't get more water out of 3B then you have to send less water into it. There is no authority that says how much water you can move through 3B. Bob doesn't know how to otherwise bring water through 3B

At 12:15 p.m., the telephone connection with Bob Johnson was lost and never restored.

Jerry Lorenz: Comparison of the East and West

Looking at effects on Florida Bay; G-211 and 331. With the EBE there is no divide, the WBE is a little better. To benefit Florida Bay you need to stop flow in the C-111 and the West Bookend does that better by stopping water in 331.

(See Appendix C for Slide presentation by Jerry Lorenz)

Slide (?): Indicator Region (IR) 133, he EBE accomplishes desired water depths in Taylor Slough; for IR 145 the WBE does better than the EBE; for IR 146 (East of C-111) both the EBE and the WBE are above NSM; for IR 147 he NSM is the preferred low-end depth and the EBE and the WBE are both too high in NSM, the water is indicated as too low when you are less than 1'

Jerry's main areas of concern are the Rocky Glades, the area east of C-111, Taylor Slough and Shark River Slough.

For Biscayne Bay the WBE is better in the dry season when we're not supposed to get flow. Both the EBE and the WBE criteria remain the same for FL Bay though the EBE is a little better. EBE mainlines water in 331 and the WBE stops water in 331 but the net result is the same. The WBE would be better at 197 because it has it shut, but that doesn't accomplish anything. If the C-111 spreader is operated in the EBE it does okay. 100,000 acre feet of water through S-18 is too much water.

The salinities used from Bill Nodel's models for Joe Bay are off (box-model and imperical equations). If the WBE is higher than NSM then there's a problem: either too much in C-111 or not enough in Taylor Slough. The salinity level in Little Madeira Bay is close to NSM in EBE but he can't predict any ecological impact since the salinity data is off.

The numbers in Jerry's first slide represent thousands of acre feet per year.
Slide 1: If you fix the "burping" and reduce 107 then you reduce the problem at the bottom of the system.

S-18Cis too high – the dry season amounts exceed what is desired.

Marcia Levinson: Overview of the East and the West

Focus is on the the Bookends mean in 3A and 3B to see downstream effects.
The "existing conditions" are higher than the baseline being used. That means that stages are being kept too high. In the EBE there is a rise of .75' which is not that much related to existing conditions. Marcia would like to see the run with the "burp" fixed.

Looking at the 2X2 in the C-4 canal area (which is flood prone): Alt7R shows an increase of .75'. The EBE doesn't impact this area where the WBE shows a rise of 1' in relation to the October water table. Alt7R is .75' higher than what Dade uses. The EBE is performing similar to Alt.7R. Since 355 is burping three times more water, fixing the burp makes L-31 go down because that's what was taking the hit.

Slide: (Stage duration curve foe L-30 at S-355) WBE, 10% of the time ground water level is above the ground level. This is a result of the high stages in 3B. Marcia needs to see the changes to the 335 and then the EBE most likely will be acceptable. With the WBE, the high stage in 3B puts water into L-30. The high levels can be fixed by opening downstream structures.

Appendix A: Power Point from Dan Crawford

Appendix B: Tom MacVicar's Adobe file

Appendix C: Presentation by Jerry Lorenz

Appendix D: Presentation by Marcia Levinson