

Final Meeting Notes
Quarterly Meeting of the Technical Oversight Committee
Thursday, February 24, 2005, 10 a.m.

South Florida Water Management District
Headquarters, B-1 Building, Auditorium
3301 Gun Club Road, West Palm Beach, FL 33416-4680

10:12 a.m. Call to order.

Modifications to the agenda. The final agenda reflects guidance from the Principals, February 2005. Garth Redfield (TOC Chair), SFWMD.

- Pete Rawlik requested (Attachment 1) that TOC reconsider dropping ammonia from the parameters being measured in samples from autosamplers. The data simply can not be used for this parameter in autosamplers due to holding times and instability of ammonia.
 - * TOC voted on this matter after lunch and deletion of ammonia was approved as requested in Attachment 1.
 - Copies of the South Florida Environmental Report were made available to TOC Representatives and the public.
 - The SOP for field sampling will be made available via CD to any interested person. A sign-up sheet was provided at the meeting.
 - Frank Nearhoof announced that the ERC will be conducting a public hearing on revision to the phosphorus rule; no date was assigned, but the workshop will be in early April.
- 1. * Approval of TOC minutes from November 30, 2004 and January 25, 2005 TOC meetings. (10 minutes)** Garth Redfield, SFWMD
- The minutes were posted recently (Attachments 2 and 3) and approval was postponed until after lunch to give Representatives time for review. The Representatives did not respond after lunch due to the pressing schedule, so their approval was requested by e-mail on 3/24/05.

10:25 p.m.

2. Presentation of the Settlement Agreement Report. (20 minutes) Julianne La Rock, SFWMD

- Julie LaRock presented the report (Attachment 4) noting no excursions above applicable limits/levels and decreasing phosphorus concentrations in Shark River Slough.
 - **Action Item:** Values above the Long-Term Level in the Refuge will be discussed at the May TOC meeting.

10:45 a.m.

3. Brief Updates for TOC on Relevant Activities and Projects. (60 minutes)

a. Using District GIS Resources for Monitoring Stations, Sue Hohner, SFWMD
Sue Hohner provided information on access to GIS (maps, monitoring locations, etc.) resources at the District (Attachment 5).

b. Update on Regional Water Management Decision Study, Paul DuBowy & Susan Sylvester, COE (presentation time was 1:05 p.m. because Susan Sylvester was unavailable in the morning).

Paul DuBowy and Susan Sylvester (by phone) provided an update on a regional water management decision study (Attachment 6).

c. Status of Refuge Monitoring and Modeling, Matt Harwell & Mike Waldon, USFWS

Matt Harwell provided a brief update (Attachment 7) on Refuge monitoring (presentation time as 10:55 a.m.).

d. Update on development of phosphorus load compliance methodology, Gary Goforth, Consultant to SFWMD

Frank Nearhoof provided a brief update on a cooperative effort to develop a revised phosphorus loading methodology.

- **Action Item:** The draft approach will be made available for review prior to the next TOC meeting in May 2005.

Follow-up: In response to questions from the Miccosukee Tribe on rainfall data under agenda item #3.a., Matahel Ansar, Division Director for the District's Operations and Hydro Data Management Division, described various sources of rain data and the reasons why rainfall estimates vary depending on data source.

e. Hydrologic Mass Balance Analysis for STA-1W Inflows, Wossenu Abteu, SFWMD (presentation time 11:05 a.m.).

The presentation of the accompanying technical publication (Attachment 8) provided an analysis of flow data from structures G300 and G301, inflow points to the Refuge. An approach to improving flow estimates using mass balance was provided.

- **Action Item:** Discussion of inflow estimation and sampling at G300 and G301 will be included at a future TOC meeting.

11:45 a.m.

4. * Revision of 1/25/05 draft and approval of final Progress Report to Principals on remedial measures in the April 2, 2004 agreement. (60 minutes) Garth Redfield, SFWMD, discussion leader.

The Progress Report, posted on the web following the last TOC meeting, received no comments. At the TOC meeting, Matt Harwell made several small changes and these were accepted by the TOC Representatives.

* A motion was made and approved to accept the revised Progress Report as final and the document was signed by all TOC Representatives. The final report will be posted on the TOC website.

1:15 p.m.

5. * Recommendations on water management practices and water quality compliance in the Refuge as requested by the Principals. (60 – 120 minutes)

All TOC Representatives contributed to discussion and development of an outline of a report to Principals concerning water management and water quality. **Action Items** were agreed upon and embedded in the attached outline (pgs 4-7).

Drafts of these contributions should be e-mailed to Garth by April 18, 2005 for posting on the TOC website. While each draft may vary in length, they should be briefing papers of two or more pages. Papers should use the numbering format and titles of the attached outline so that a draft for TOC review can be assembled in this framework.

6. General Public Comment

There were no public comments provided.

**7. Future TOC meeting dates (B-1 Auditorium):
Tuesday, May 17, 2005**

**Quarterly TOC meeting dates selected by the Representatives on 2/24 are:
Tues 8/16/05 and Thur 11/10/05**

* Items for consideration and possible action by the Technical Oversight Committee.

Meeting Notes Attachment

Draft – TOC Preliminary Recommendations for Further Investigations of the Relationship Between Water Management and Water Quality

February 24, 2005 (Document prepared at TOC meeting)

Direction from Principals: Analyze current water management practices and water quality compliance as well as opportunities to alter water mgmt to improve water quality while maintaining water quantity benefits

Time frame: Prepare a report to the Principals by June 2005

1. Backdrop: Settlement Agreement water quality compliance
 - a. Refuge
 - i. Interim levels
 - ii. Long-term levels
 - iii. load reduction targets
 - b. ENP
 - i. Shark River Slough
 1. interim limits
 2. long-term limits
 - ii. Taylor Slough and Coastal Basins
 1. long-term limit
 - c. WCAs
 - i. load reduction targets
2. Analyze current water management practices that influence Settlement Agreement water quality compliance
 - a. Lake Okeechobee regulation schedule – Water Supply and the Environment (WSE)
 - b. WCA-1 regulation schedule
 - c. WCA-2A regulation schedules
 - d. WCA-3A regulation schedule
 - e. Everglades National Park
 - i. Operations for the modified water deliveries to ENP
 - ii. C-111 operations
 - iii. Interim Operating Plan (IOP)
 - iv. Combined Structural and Operational Plan (CSOP) - Cape Sable seaside sparrow
 - f. Other C&SF practices
 - i. flood control
 1. EAA interim action plan
 2. C-51W basin
 3. L-8 basin
 4. Other basins' operations
 - ii. water supply
 1. meeting environmental water supply demands of WCAs
 2. meeting water supply demands of Lower East Coast (LEC)
 - a. agreements with local drainage districts

- g. STA operations
 - i. STA-1E/STA-1W
 - ii. STA-2
 - iii. STA-3/4
 - iv. STA-5
 - v. STA-6
 - h. CERP components
 - i. L-8 basin rock pits
3. Analyze opportunities to alter water management to improve water quality while maintaining water quantity benefits
- a. Near-term initiatives
 - i. Integrated STA-1E/STA-1W operations
 - 1. Finalize DEP permit (**DEP to lead effort**)
 - 2. Develop phased STA-1E operation plan (**DEP/SFWMD to lead effort**)
 - a. Flexibility to incorporate future operations
 - b. Integrate with STA-1W (and G-311) operation
 - c. S-155A divide structure operation plan
 - d. Integrate with L-8 basin operation (CERP project)
 - 3. Inflow and outflow pump station operation – more continuous instead of 8-hr peak pumping. (**SFWMD to continue working with upstream landowners to implement continuous pump operation. No data analysis anticipated beyond routine monitoring associated with STAs and enhanced monitoring and hydrodynamic modeling of Refuge.**)
 - 4. Meeting water supply demands of LEC by moving more water around the Refuge to the C-51 canal – limited at the present time to ~500 cfs. (via G-311) (**DEP/SFWMD to lead effort**)
 - ii. Temporary deviation from WCA-1 regulation schedule (**effort underway led by Corps; Corps to provide estimates of time frames**)
 - 1. Reduce the time period for preceding water supply deliveries. Under some conditions, the refuge water regulation schedule requires that an equivalent volume of water be supplied to the refuge must preceding water supply deliveries from the refuge. There is now a concern that under high stage conditions this process may enhance movement of phosphorus into and across the impacted fringe marsh as a result of water level fluctuations. At present, water supply accounting is routinely performed on a seven-day cycle. It has been suggested that this period be reduced to a daily accounting, or that the regulation schedule be revised to allow simultaneous inflow with water supply deliveries. However, the shorter time frame may impose the requirement to send untreated water to the Refuge, in

recognition that the residence time of water going through the STA is generally a week or more. Since December 2004, Calvin J. Neidrauer, Chief Engineer in the Water Control Operations Section, South Florida Water Management District, has been providing regular detailed water supply accounting to refuge and SFWMD personnel. These reports will support an evaluation of the need for alteration of water delivery procedures. *Note – The above item could be part of the evaluation described in A.4. in the draft Progress Report.*

SFWMD to report on feasibility of reduced accounting time frame

2. Avoid water supply releases in the periods when the regulation schedule is increasing. This practice forces replenishment of the release by new inflows from the rim canal in order to satisfy the regulation schedule. *In Section A.1.a.#6., an update was given on the request for a temporary deviation from the Regulation Schedule.*
- iii. More frequent operation of S-10 gates ***(DOI to prepare paper describing anticipated benefit/operation. If TOC agrees, COE will report back on the feasibility of these operations.)***
- iv. More frequent water quality sampling at the S-10 gates ***(DOI to prepare briefing paper describing anticipated benefits.)***
- v. A related water quality/operations issue deals with the distribution of flow through the individual S-10 gates. Water quality monitoring in the headwater area of the gates reveals a strong gradient of total phosphorus often exists from the highest values at the more western S-10E and S-10D, to lowest values at the more eastern S-10A. It appears from water quality monitoring data, that the S-10D discharges more pumped stormwater while the S-10A discharges more rainwater drawn for the refuge interior. This implies that preferentially discharging from the S-10D might reduce impact on the pristine areas of the refuge by bypassing more stormwater south into the already impacted area of WCA-2. STA-2 discharges to the area historically “fed” by S-10E, and a system-wide balance is needed. The refuge hydrodynamic and water quality model will be used, when available, to evaluate alternative gate operation scenarios that may be more protective of pristine refuge areas. It has also been suggested that intensive field studies associated with controlled gate opening events might support better understanding.

Note – The above items could be part of the evaluation described in A.4. in the draft Progress Report.

(DOI to prepare briefing paper describing anticipated benefits.)

- vi. Investigate, and if appropriate, avoid "reversal" in the stage. In some years (1999, for one), the stage was suddenly dropped during a period with the regulation schedule was still increasing and then subsequently increased back to the original stage to satisfy the schedule. This could effectively double the intrusion of canal water in some years. The reasons for this are unclear (possibly draw-down in anticipation of large storm events so that the Refuge can function as a flood storage facility?). **(DOI to prepare briefing paper.)**
- vii. Water supply
- viii. Placeholder for balancing flows and loads EPA wide, including role of EAA Feasibility Study
Action items: future topic
- b. Long-term initiatives
 - i. Revisions to regulation schedules
Action item: COE to provide summary of time frames associated with revisions to regulation schedules
 - 1. WCA-1 (**Action item – Susan Sylvester**)
 - a. Consider deferring the seasonal increase in stage until later in the wet season? The objective would be to "rinse" the marsh fringe areas with rainfall for a period of time and export the initial flush of elevated P water to the rim canal (vs. interior marsh).
(The Refuge will develop a briefing paper)
Explore developing a rain-driven regulation schedule, under which the seasonal maximum stage would be related to rainfall (vs. fixed). A fixed stage requires more inflow from the rim canal in dry years, whereas rainfall satisfies more of the demand in wet years. This is probably the only way to deal with marsh water quality impacts associated with hardness, chloride, and other conservative substances that cannot be reduced by BMP's or STA's. **(SFWMD to provide technical report in support of this.)**
 - b. Synchronized operation of the S-10 gates and the WCA-1 inflow structures, which will require remote operation capability of the S-10 gates. Would require synchronized operation of structure on the east and west side of the Refuge. **(DOI to prepare briefing paper.)**
 - ii. Explore L-40 low berm extension on west side of L-40 and/or enhancement from G-300 to south of the G94A structure (or S-39); structure at this point to allow delivery of water either to LWDD or into L-40. This enhancement would allow for (~500 cfs) water supply deliveries to southeast Palm Beach County without impacting the Refuge interior. **(Lake Worth Drainage District to develop briefing paper.)**
 - iii. Other initiatives