

**FINAL**  
**MEETING SUMMARY**  
**Technical Oversight Committee (TOC)**  
**South Florida Water Management District**  
**3301 Gun Club Road, West Palm Beach, FL 33406**  
**Tuesday, June 3, 2003**

**TOC Attendees**

<b>Garth Redfield</b> , TOC Chair and agency rep., SFWMD	Jason Lichtstein,
<b>Bill Baxter</b> , TOC agency rep., USACE	Linda Lindstrom, SFWMD
<b>Mike Waldon</b> , TOC agency rep., USFWS	Paul Linton, SFWMD
<b>Ken Weaver</b> , TOC agency rep., FDEP (via teleconference)	Joette Lorion, Miccosukee Tribe
<b>Mike Zimmerman</b> , TOC agency rep., NPS/ENP	Philip Mancusi-Ungaro, USEPA/DOI
Carlos Adoriso, SFWMD	Juan Manzano, SFWMD
Nick Aumen, NPS/ENP	Loren Mason, USACE Jacksonville
Amer Awwad, FIU-HCET	Jim McAdams, USACE
Bob Barron, USACE	Linda McCarthy, FDACS
Tim Bechtel, SFWMD	Kevin McCarty, SFWMD
Bob Blair,	Paul McGinnes, SFWMD
Kelly Brooks, Miccosukee Tribe	Damon Meiers, SFWMD
Kirk Burns, SFWMD	Trudy Morris, SFWMD
Bahram Charkhian, SFWMD	Frank Nearhoof, FDEP
Maxine Cheesman, SFWMD	Tracy Piccone, SFWMD
Ken Chen, SFWMD	Kathy Pietro, SFWMD
Dione Carroll, Miccosukee Tribe	Dean Powell, SFWMD
Linda Davis, SFWMD	Pete Rawlik, SFWMD
Charles A. Demonazo, DOI	Barbara Ross,
Barbara Dickey, SFWMD	Dan Scheidt, USEPA (via teleconference)
Naomi Duerr, SFWMD	Pam Sievers, SFWMD
Gene Duncan, Miccosukee Tribe	Randy Smith, SFWMD
Rebecca Elliott, FDACS	Rajin Srivastava, FIU-HCET
Tony Federico, MFL, Inc. (Ag. consultant)	Patricia Strayer, SFWMD
Gary Goforth, SFWMD	David Struve, SFWMD
Larry Grosser, SFWMD	Jim Sturgess, SFWMD
Matt Harwell, USFWS	Kimberley A. Taplin, USACE
Nenad Iricanin, SFWMD	Sharon Trost, SFWMD
Delia Ivanoff, SFWMD	Carrie L. Trutwin, SFWMD
Ron Jones, Miccosukee Tribe	Stuart Van Horn, SFWMD
Robert Kadlec, DOI	Mike Waldon, USFWS
Bob King, Palm Beach Post	Bill Walker, DOI
Julia Lacy, SFWMD	Jeff Ward, SGGC
	Craig Wilson, SFWMD
	Mike Zimmerman, ENP/NPS

Garth Redfield convened the meeting at 10:05 a.m., and attendees introduced themselves. Nick Aumen announced that the Park was changing its TOC representation. Aumen will now be the Park's primary representative, and Mike Zimmerman will be the alternate. Redfield said the agenda was full and asked if there were any last-minute additions or changes to today's agenda. He noted that some people were having problems accessing the new TOC website and said that anyone having problems accessing the website materials, etc. should contact the appropriate District staff.

**Agenda Item #1: Approval of TOC minutes from the February 11, 2003 TOC meeting – Garth Redfield, SFWMD.**

Redfield asked if there were any changes to the February 11, 2003 TOC meeting minutes (**Attachment A**). There were none. He moved that the minutes be approved. Frank Nearhoof seconded the recommendation, and the February 11, 2003 TOC minutes were formally approved.

Before moving to the next agenda item, Nearhoof asked that more attention be focused on STA-1E, saying the project is important to Everglades restoration and that FDEP is greatly concerned that construction of the STA is behind schedule. Additional concern was expressed over the STA's construction. Nearhoof stressed that these issues should be resolved. Redfield noted that an agenda item regarding STA-1E was already included on today's TOC agenda. He acknowledged Nearhoof's concerns and said the TOC would address them later in the afternoon.

**Agenda Item #2: Water Quality Conditions Report to the TOC and Water Quality Assessment Report for Water Quality Monitoring – Tim Bechtel, Delia Ivanoff, and Juan Manzano, SFWMD.**

Tim Bechtel reviewed the data presented in the October–December 2002 Settlement Agreement report (**Attachment B**). Referring to the graph (Figure 2 and Table 1), he noted that in October, November, and December, the Refuge geometric mean was below the Interim Level. Values for the Refuge decreased with increasing stages, and most of the sites were sampled during October and November. Someone asked why the October 2001 data were not also highlighted, since they were also above the calculated level. Bechtel explained that in October 2001, the value was 13 months from the previous exceedance in 2000. It fell out of the 12-month range, and thus was not considered an exceedance by itself. He also indicated that it would be highlighted in future reports, as would other instances where geomeans exceed the limit. It was further suggested that the caption at the bottom should be modified to reflect that information.

A lengthy discussion concerning the 12-month compliance period was identified as a technical aspect that needed clarification. After further discussion, it was determined that “samplings”, not “months”, was the key word in the Settlement Agreement, so the exceedance was considered to be within 12 samplings. It was determined that the caption should be changed to reflect that it is samples, not months. Functionally, sampling and stage are related in that only two or three sites can be sampled when stage falls below 15.42 ft msl, which is the lower bound in the Settlement Agreement. After further discussion, the TOC agreed to use the compliance dates as the functional definition of sampling events.

Bechtel continued his presentation with data for Shark River Slough. He indicated that in 2002 the 12-month average was lower than the Interim Limit for the first time in three years but

did not achieve the long-term level. Someone suggested that the October values in Table 2 should be shaded, and Bechtel agreed to do so.

He continued with the distribution of flow, suggesting that up until November the District was putting all the water through the S-12 structures. He reviewed the graphs for Taylor Slough and the Coastal Basins, noting a continuing trend of compliance with the 11-ppb limit. Gene Duncan asked whether that included all the flows entering Taylor Slough. Bechtel replied that the District is temporarily using the locations for inflows as compliance and that the inflow points will change as improvements are made in the C-111 Project monitoring locations (Figure 5) in the Settlement Agreement report.

There was a lengthy discussion regarding measuring and reporting of all water going into the area through the C-111 Project. Patricia Strayer said that a meeting on monitoring is scheduled for July. She noted that the GRR for the C-111 has culverts discharging into the Park, and she said they would be coming out of the detention areas into the Park.

Bechtel said he was unaware that any water was being discharged and that if the Corps was reporting those data, then they were not being reported to the District. Frank Nearhoof said FDEP has that data set. Redfield asked how the monitoring and communication process was going to be fixed. Aumen suggested this should be an agenda item at a future TOC meeting. Naomi Duerr added that it was necessary to have a process to bring the data to the District. **(Action Item – Changes to Settlement Agreement Report; Agenda Item – Data delivery for C-111).**

Redfield asked what the connections are between the QA process used for all compliance data by Tim Bechtel and the Corps. It was confirmed that there are data the District is not getting. Redfield asked how the QA process fits into this scheme. Pete Rawlik suggested that this is the primary problem, because the Corps does not have to fit into the District's QA process. Bechtel said the District could always highlight the data that does not come through the District's system. Redfield said the bottom line is that a system will be worked out to acquire the data and get them quality assured.

Gene Duncan asked if phosphorus was being contributed to the Park through groundwater flows. Bechtel said he did not know, but that there are wells that were drilled on the transects and are being sampled as part of C-111. He also said the District is in very good shape according to the summary of 12-month moving averages for Taylor Slough (Figure 6, Table 3). He said data are available for the first quarter of 2003 for the Loxahatchee National Wildlife Refuge and are provided in a supplemental to the report (**Attachment C**). Bechtel said the District hit a minor concentration increase in January. He further pointed out that as the stages declined in February and March, the concentrations have gone up slightly. Referring to the associated table, Bechtel said that as stages dropped, the number of sites that can be sampled decreased from 14 to 9.

Juan Manzano presented a Quality Assessment Report for Water Quality Monitoring, October–December, 2002 (**Attachment D**). He began by listing the sites that are part of the report, followed by a summary of the field and equipment blank results, a summary of flagged data, and results of TP split samples. He noted that all the data correlated very well. The example

of QC3 was within range. He noted that QC5 was used to monitor the MDL and said that the precision was very good. Overall there were no notable problems with data quality.

Manzano noted that at the last TOC meeting, someone had requested District/FDEP split data. Real splits (not duplicates) between the District and FDEP were plotted and analyzed in three different ranges in the QA Report. The first graph of the low range shows a good correlation. These are cumulative of the entire period from June 2000–December 2002. The second graph shows 20 to 50 ppb, which is midrange, and the correlation is excellent. The third slide is also excellent and indicates that the data are very comparable at higher levels.

Mike Waldon said he would like to see the graph improved. Manzano said that overall, what the lab looked at was that it fluctuates and that the District compared very well. He added that 1 to 2 ppb is excellent. Maxine Cheesman said it is important to look at results from many different labs, as is done in the Round Robin testing. She pointed out that these data are from two labs only. Others noted that the comparison should primarily be with FDEP and that it is necessary to know whether they are on the same track, because historically there have been differences between the District and FDEP. Redfield agreed that some additional analysis would be helpful and said the District would run a 1:1 line and test the hypothesis that the line of best fit is not different from the 1:1.

Someone asked a question about the Round Robin report. Frank Nearhoof said it has been ongoing, and one was just completed. He said the final report isn't out yet but that all the labs have received a copy of the report. The TOC agreed to add to the agenda for the next meeting a presentation by Nearhoof of the Round Robin report. **(Action Items: Modify graphs and report statistical findings on DEP/District comparison).**

### **Agenda Item #3: Discussion and Approval of Letter to Principals on Exceedance of Interim Limits in the Refuge - Garth Redfield and Tim Bechtel, SFWMD.**

Redfield referred to copies of Appendix B of the Settlement Agreement (**Attachment E**) and outlined the process that is specified for assessing compliance. If there is an exceedance and if inflows average less than 50 ppb, then no action is required. If there is an exceedance and if inflows exceed concentration limits of Walker 1996, then FDEP may take action. Redfield also said the District is required to report monthly data, and in the future the data will be put on the Web on an ongoing basis. He said the District will report to the TOC, and if the numbers go above two exceedances within a 12-month period, then the TOC must evaluate the potential for violation; if discharges are greater than that allowed by Walker (1996), then FDEP is required to consider additional P control components.

Redfield said the TOC has been presented with an apparent exceedance and thus needs to evaluate what factors were involved and decide whether the exceedance was caused by P loading error or by natural phenomena. He said that in the past the TOC had asked the District to compose a letter, which the TOC then reviewed and criticized. Reaching consensus is the TOC's primary goal. If the TOC cannot reach a consensus, then it is necessary for the TOC principals to meet or go to mediation, as specified in paragraph 19 on dispute resolutions. Bill Walker suggested that FDEP was responsible for enforcing the limits. Frank Nearhoof said FDEP's permits are enforceable and are being enforced.

After the discussion, Redfield provided background as to why the exceedance letter (**Attachment F**) was written, saying the letter is a focal point for discussing the issues to reach consensus on reasons for the second exceedance within a 12-month period. He said a rapid rise in stage often results in going above the limits (exceedance). Redfield also reminded attendees that the TOC has discussed these issues at length in previous meetings.

In summarizing the letter, Redfield indicated that he and Bechtel had looked at the data for any type of pattern that might explain the exceedance and that there was no clear or obvious pattern in the data from the 14 stations individually or collectively. He briefly outlined the status of phosphorus control, adding that it is clearly late to mid-stream and that further progress is needed. He said Gary Goforth would review the Conceptual Plan later on in the agenda and would detail the actions that would be necessary to achieve lower P levels. He also indicated that the District was not seeing a negative change in marsh P levels. The letter from Redfield and Bechtel was available on the TOC website for one week prior to the meeting. A second letter was introduced by the federal agencies (**Attachment G**). Nearhoof said he did not think either of the letters was completely correct or incorrect. He suggested the two letters could be merged into one consensus letter and that it should be a primary goal of today's meeting. Nick Aumen agreed and suggested that a process for achieving one letter be followed expeditiously.

Naomi Duerr invited everyone to come to the WQM offices, where she said a prototype composite sampling system had been set up; she said that after the meeting Bahram Charkian would show the prototype to anyone interested in seeing it, including the public.

Following the summary of the District's letter, Nick Aumen introduced Bill Walker, who presented a technical analysis of data from the Refuge (**Attachment H**) accompanied by paper copies of slides. Introductory slides provided general background, Refuge station locations, the stage-phosphorus relationship based on 1978-1979 data, and notes from the Consent Decree on exceedance criteria. Using a slide titled "Compliance with interim marsh P levels", he noted there has been a pattern of exceedances since 1999. He introduced the general hypothesis that the exceedances could be associated with a loading-response relationship in the Refuge. Walker noted that re-wetting events may promote recycling of phosphorus previously accumulated in the marsh soils and vegetation and that direct correlations with external load and marsh hydraulic gradients suggested that external loads also contributed to the exceedances. He stated that it was up to the TOC members to determine whether there was substantial evidence that the exceedances were due to error or extraordinary natural phenomena. There was a question about definitions, and Walker indicated that he was using the terms "excursion" and "exceedance" interchangeably for purposes of this presentation.

Using recent data plotted with the baseline median values, Walker indicated that 81% of monthly geomeans were still above the median; the goal is an even distribution of points around the median. Another slide showed the linkage between exceedances and stage and between stage and phosphorus loads. He noted a positive change, which is that sudden pulses of loading have been reduced by the recent application of STAs. He went on to provide a data summary showing the temporal correspondence between stage differential as an indicator of potential marsh inputs and the exceedance pattern. A slide on sediment P levels was the backdrop for an assertion that there is direct evidence that P was entering the marsh via canal loading. His presentation continued with several slides concerning the recent overloading of STA-1W at about twice its

design capacity, resulting decline in performance, and resulting increase in Refuge phosphorus loads to a level twice that consistent with achieving the 85% reduction required under the Consent Decree. It was recommended that design and/or operational changes be developed and implemented to bring STA-1W phosphorus loads down to levels that are consistent with its design basis.

A subsequent lengthy discussion included the question of whether there was any sign of worsening P conditions relative to the loading hypothesis. Walker indicated that there was not and that there could be signs of improvement in the P climate of the Refuge. He cautioned that there were only four years of data to assess trends and indicated that he had not done a formal trend analysis. He noted that there was little apparent change in values relative to the baseline median. When asked about how the loading and stage could be separated for analysis, he suggested that there are correlative data only and that the two cannot be dealt with in an experimental context. When asked if a written version of his presentation would be made available, Walker indicated that no written version was available, and that he would rather leave it to the TOC to interpret his summary.

Nick Aumen reiterated that no written product would be provided for Walker's analysis and suggested that a smaller group of agency staff should continue working on these issues. Naomi Duerr stressed that it would be problematic for the District to provide additional technical staff time and monitoring efforts due to resource limitations. Gary Goforth noted that several of the federal recommendations are beyond the scope of the Settlement Agreement. Aumen suggested that a lack of resources was a problem the TOC principals would need to address.

Redfield adjourned the meeting until after lunch.

After the lunch break, Redfield reconvened the meeting and continued the discussion of the two letters. He emphasized that the presentation of STA-1W data was not relevant to the July exceedance or to earlier exceedances. Bill Walker's presentation showed that maximum overloading of STA-1W occurred in fall-winter 2002-2003, after the July 2002 exceedance. It also showed that loads to STA-1W had exceeded its 31-year maximum design since the fall of 2001. Therefore, overloading could have been a factor in the July 2002 exceedance, as well as in the generally deteriorating performance of the STA. Gene Duncan noted that the two letters ended with different conclusions, one suggesting a natural phenomenon associated with changes in stage and the other suggesting that external loading drove the exceedances. Redfield raised concerns over Walker's logic and conclusions, suggesting that the loading hypothesis could not yet be supported. Nick Aumen pointed out that the TOC was not a court and that the data would need to be evaluated by the TOC at future technical meetings.

It was agreed that the next TOC meeting would be a technical meeting that would include both an in-depth discussion of phosphorus data from the Refuge and the completion of STA-1E. The TOC agreed to schedule the special technical meeting for July 24<sup>th</sup> and a subsequent, regular TOC meeting for August 12<sup>th</sup>. In the meantime, the TOC web board will be used to communicate issues.

**Agenda Item #4: Final Conceptual Plan for Achieving the Long-Term Water Quality Goals  
- Gary Goforth and Tracey Piccone, SFWMD.**

Gary Goforth provided an overview of the Conceptual Plan (**Attachments I and J**). He reviewed the progress to date on the District's activities in evaluating basin-specific alternatives, research related to P treatment, and source controls to achieve compliance with WQ standards. He noted that the District has implemented EAA BMPs, that they are performing better than expected, and that there are four operational STAs that have also performed better than expected. However, despite the good performance, the District feels additional measures will be needed to meet long-term water quality goals.

Craig Wilson presented a brief update on the schedule for STA 3/4. It will be the largest of the STAs, and it is estimated that it will remove about 40 tons of phosphorus annually. Although construction of the STA began in November 2000, problems with contractors have added approximately six months to the schedule. Initial flooding of the cells is scheduled to begin by October 2003. The District will not have full control structures until June 2004 but will be able to move water into the cells and get the start-up moving. Additionally, the District is proceeding with design enhancements that should be completed by August 2003. This may allow for the turning of negative impacts into positive ones. The District should not lose the time of mobilization, and the work may get rolling earlier than anticipated.

Goforth said the bottom line is that while there have been some delays, the District will try to meet the initial start-up date of October 2003 anyway. He continued his presentation on the basin feasibility studies, saying that despite some scientific uncertainties, the models suggest that it will be possible to achieve the goal of the reduction of 80-90% of discharges by 2006. He again underscored that there are still uncertainties and they will continue to be pursued. Based on results of the feasibility studies, and after meeting with stakeholders and land owners, between November and January a Conceptual Plan was developed to achieve compliance with the WQ standards.

Goforth highlighted some specifics of the Conceptual Plan:

- Implement scientifically defensible improvements by 12/31/2006
- Continue technical investigations to evaluate further improvements
- Implement additional steps as soon as the need arises
- Integrate with other regional efforts, particularly CERP
- Accelerate essential monitoring and research and the recovery of impacted areas within the Everglades

Goforth said that nothing that is recommended in the Conceptual Plan conflicts with the existing relationship or responsibilities between the state and the federal government. The CERP process will make the final decision on the projects.

He continued by presenting simulated results of the actual load reduction. Prior to 1994, the east and west basins were discharging an average of 250 metric tons (mt) per year into the Everglades. With the implementation of the STAs, this loading has been reduced to just over 100 mt per year. By following the Conceptual Plan, the District can reduce P loading to about 35-40 mt per year. By 2006, the prediction range is 22-43 metric tons.

Regarding the recovery of impacted areas, the District will investigate ways to accelerate recovery and improve forecasting models before December 2006. After December 2006 the District will implement hydropattern restoration and will integrate that with CERP hydropattern restoration. Active management within the Water Conservation Areas should help accelerate recovery of those areas. Goforth noted that the total cost of the Conceptual Plan is estimated to be just over \$450 million, and there could be additional costs for further integration with CERP.

He said another progress update will be available at the August TOC meeting. Someone asked who on the development teams was involved in creating the plan. Goforth read the names of those involved. He also pointed out that information on the plan has been made available since late 1999 through the Everglades Stormwater Program, and many people have been involved.

**Agenda Item #5: Modifications to Non-ECP Permit Monitoring - Paul McGinnes, Stuart Van Horn, Linda Crean, and Pam Sievers, SFWMD.**

Paul McGinnes began the presentation by saying the non-ECP permit was issued to cover the operation of those structures that are discharging into and from the Everglades and which are not covered by the ECP. He noted that the handout (**Attachment K**) lists the changes and five requests. Using the handout, he explained why the changes to the monitoring schedules and in the monitoring parameters were being requested.

Bill Walker expressed a concern about dropping grab sampling under no-flow conditions. He suggested that biweekly samples be taken no matter what, because there is information to be gained. McGinnes acknowledged that those were valid considerations. He pointed out that he provides a lot of data with this request. Stuart Van Horn noted that there are autosamplers in those areas and suggested that the impact is only going to be on the “within” and “from” structures. Walker concluded that that made a significant difference regarding his concern and further discussed this with Van Horn. A map showing the non-ECP structures was provided.

Redfield interrupted the discussion, saying this was obviously an important issue. He asked that input be provided to McGinnes and said the decisions on changing sampling regimes should not be rushed. Maxine Cheesman noted that some of the Settlement Agreement sites were also on the list and should be removed. It was concluded that the station list was confusing, and Redfield asked if this was clarified some other way.

Cheesman added that it was necessary for the TOC to buy off on changes to the monitoring. However, McGinnes said he was not asking for any changes related to the Consent Agreement, and the TOC did not need to be concerned officially. Input would be accepted if provided. Bill Walker offered that he very much considered this to be of interest to the TOC. A discussion followed between Nearhoof and Walker with respect to the information.

McGinnes suggested that in the interest of time, interested TOC participants should provide him with written comments on these points. Nearhoof said there would be a notice of another comment session. He said he would rather receive comments now, and then submit a modification request. McGinnes suggested that the TOC should decide upon a date by which all comments would have to be submitted. It was agreed that comments should be provided to the District within two weeks (by June 17th).



**Agenda Item #6: Update on C-111 Project and Water Quality - Kim Taplin, USACE.**

Pete Rawlik said a new version of the C-111 monitoring plan (June 1, 2003) (**Attachment L**) drops the downstream WQ monitoring from seven to six sites. He noted that it is a Corps permit application, and in the long term the structures will be turned over to the District. Redfield clarified that everyone at this meeting (TOC reps) would need copies of the information. Most changes to the plan are minor. He welcomed any comments and input.

**Agenda Item # 7: Progress on the S-5A Sampling System - Bahram Charkhian, SFWMD.**

Charkhian shortened his discussion by telling the committee that a new autosampler had been transferred from Florida International University (FIU) to its facility in West Palm Beach. Eventually it will be placed at S-5A side-by-side with the existing autosampler for one year. He said there is a plan for a one-year study to compare several types of sampling. Everyone was invited to go and see the prototype at the FOC on Belvedere Road. It is a manifold system, a vast improvement over the existing system at S-5A (**Attachment M**).

**Agenda Item # 8: Status Report on STA-1E Monitoring and Operational Plans and Water Quality Considerations - James McAdams, Peter Besrutschko, and Dennis Duke, USACE.**

Frank Nearhoof expressed concerns regarding this project, based on comments made earlier in the meeting. He pointed out that the Corps has not yet provided critical information regarding a permit application for the treatment system. During a discussion of the project, Bill Baxter of the Corps said the Corps is overseeing building of the project but is not operating it. Nearhoof continued, saying FDEP is still working on getting the permit but has yet to be provided with all the information after asking for it repeatedly. Sharon Trost said her office is applying for the permit and is still in the process of gathering all the data. She said there are other issues, as well. Nearhoof and Trost will be discussing these issues at another meeting tomorrow (June 4). Redfield commented that he has been listening to discussion of this issue for months and months, and there has been no movement on it. Nick Aumen said the discussion should have been elevated to a higher level by this time. Trost was prepared to go forward with it but was asked to hold off due to other concerns at the time.

Kirk Burns stated that under the Settlement Agreement the Corps is required to build this wetland according to the criteria set forth in the agreement for a water quality treatment system (**Attachment N**). Nearhoof moved that the TOC elevate this concern to the level of the TOC Principals; Redfield seconded the motion, and it was agreed. Trost will take the lead on moving forward. The letter will be presented to the TOC for input as an action item. (**Action Item: Present a draft letter regarding STA-1E to the TOC for its input**). Redfield asked for specific suggestions for the agenda on the Principals' action and said they will circulate a draft letter. He also said the Corps will be asked to come to the next TOC meeting to speak about this topic. (**Agenda Item: Continuing discussion of STA-1E**).

**Agenda Item #9: Additional Public Comments and Date for the Next TOC meeting (8/24/03).**

There were no additional comments from the public or TOC participants. The next TOC meeting will include technical discussion of exceedances in the Refuge and progress on permitting and completing STA-1E. The meeting is scheduled for July 24<sup>th</sup>, 2003. The next regular TOC meeting is scheduled for August 12<sup>th</sup>, 2003. Redfield adjourned the meeting at 4:23 p.m.