

DR Redfield

MINUTES

Everglades Technical Oversight Committee Meeting

Tuesday, Jan. 25, 2000

10 a.m. to 4 p.m.

South Florida Water Management Headquarters

3301 Gun Club Road, West Palm Beach, FL 33467

Storch Conference Room

TOC Members Present

Garth Redfield, South Florida Water Management District (SFWMD), Chair

Laura Brandt, A.R.M. Loxahatchee National Wildlife (Refuge)

Mike Zimmerman, Everglades National Park (ENP)

Frank Nearhoof, Florida Department of Environmental Protection (DEP)

Bob Barron, U.S. Army Corps of Engineers (USACE)

Others Present

Shawn Komlos, National

Audubon Society

Bahram Charkhian, SFWMD

Linda Crean, SFWMD

Mary Ann Poole, Florida Fish and

Wildlife Conservation Commission

Karen Smith, SFWMD

Nick Aumen, ENP

Tim Fitzpatrick, DEP

Mike Chimney, SFWMD

Susan Gray, SFWMD

Susan K. Brown, U.S. Sugar Corp.

William Walker, Consultant to

Dept. of the Interior

Pete Rosendahl, Florida Crystals

George Schard, ENP

Gene Duncan, Miccosukee Tribe

Delia Ivanoff, SFWMD

Stuart Van Horn, SFWMD

Linda McCarthy, FDACS @ SFWMD

Sherry Scott, SFWMD

Larry Fink, SFWMD

Paul Parks, DEP

Pete Rawlik, SFWMD

Tony Federico, MacVicar, Federico
and Lamb Inc.

Richard Pfeuffer, SFWMD

Fran Matson, SFWMD

Maxine Cheesman, SFWMD

Tracey Piccone, SFWMD

James Kunard, SFWMD

David Struve, SFWMD

Sharon Trost, SFWMD

Jennifer Jorge, SFWMD

Tim Bechtel, SFWMD

Linda Davis, SFWMD

Susan Bennett, SFWMD

A. Introductory Comments

Chair Garth Redfield called the meeting to order at 10:10 a.m. and asked Everglades Technical Oversight Committee (TOC) members to review the draft minutes and handouts of the Aug. 18 TOC meeting and to forward him comments by Feb. 8. Redfield reviewed the agenda, which was accepted without any changes.

B. Findings from the 2000 Everglades Consolidated Report

Redfield presented a brief overview of the 2000 Everglades Consolidated Report. He reported that the publication was well-received, and the report itself is full of good news and had no major new issues. Some highlights of the report's findings include, 1) the water quality data generally shows compliance with standards and showed relatively little change from last year, 2) the hydrology chapter reports that the South Florida Water Management District (District) is making progress with tree island research and ecological modeling, 3) the exotic plants chapter, new to the report, will expand next year include animals, perhaps adding more co-authors outside of the District, 4) ENR/STA programs are moving ahead and overall data reveal promising performance for these constructed wetlands, 5) the mercury issue is being addressed by continued research and monitoring, 6) nine advanced treatment technologies are being studied and some show promising results, and 7) the Everglades Stormwater Program chapter (covering areas outside of the Everglades Construction Project) will grow each year as more programs are implemented on basins tributary to the EPA.

Redfield added that the report is available in a variety of formats: 1) brochure, which highlights all of the major findings of the report written for the lay person, 2) Executive Summary, 3) full printed report, 4) on the Web, and 5) on CDs. Redfield added that the Web version is difficult to download, but CDs are being made available. He asked TOC members and interested parties to e-mail him with any CD requests. Nick Aumen of Everglades National Park suggested sending report copies to the newly formed CROGEE committee (the National Research Council's Committee on Restoration of the Greater Everglades Ecosystem). Redfield asked TOC members and interested parties to give him lists of names and addresses of the CROGEE committee, as well as any other people who want the report.

The Everglades Consolidated Report is designed to meet a whole series of permit requirements. For this year's report, Redfield suggested refocusing some of the chapters and cutting down the size of the report. The cost of the 2000 report was about \$750,000, which includes staff time, printing and overhead. However, Redfield said in order to maintain quality assurance through peer-review value to the decision-making community, it's worth it to keep the whole report as one volume.

Frank Nearhoof of the DEP suggested bringing the report "into the 21st Century" by publishing the report, especially the appendices, electronically on CD. Redfield responded that the District would "be delighted," but the permit stipulates that the report be in a printed, hard-copy format. Nearhoof said the DEP could modify the permits to allow CD publication to "help streamline it – it's too cumbersome now." Nearhoof added that most data they receive now is on CD, and receiving the appendices data on CD – not hard copy – is acceptable to the DEP. He said the hard copy just "goes on a shelf," and joked, "I don't

think there's anyone on the planet that actually reads that," while they do, indeed, use CDs. Redfield said the District will revisit the way it produces the report and said, "I guarantee we'll go with the CD to DEP if it satisfies the permits." Nearhoof responded, "You bet!"

C. Water Quality Conditions Report to the TOC

Tim Bechtel of the SFWMD presented the Technical Oversight Committee Report for July-September 1999 (**attachment 1a**). This report covers water quality data from Arthur R. Marshall Loxahatchee National Wildlife Refuge, Shark River Slough, Taylor Slough and Coastal basins. The Quality Assessment Report for Water Quality Monitoring, July-Sept. 1999 was also distributed (**attachment 1b**).

Bechtel pointed out some compliance issues in the Refuge and asked for TOC guidance. The date for compliance with the interim phosphorus concentration level was Feb. 1, 1999. Values for September represent the second time within 12 consecutive sample collections that the interim level was exceeded. In such cases, the Settlement Agreement requires the TOC to review the data and forward their opinions and recommendations to their respective agencies for relevant action. The June 1999 geometric mean of 14.2 ppb exceeded the interim level of 11.7 as well.

Bechtel said that in this case, there were two occurrences of exceedences in the 12 consecutive months of sampling. Also, in two periods within 12 months, the Refuge went dry. Bechtel asked under conditions where the District cannot calculate limits because the minimum depth is below 15.42 feet, as was stipulated in the Agreement, do we consider any samples collected at the sites that had enough water as a sampling event? The Settlement Agreement does not discuss that issue. Bechtel assumed, yes, such cases should be viewed as events. He added that in April, three stations were sampled, and in May, two were sampled and asked if there are a minimum number of stations that constitute an event. He said if we exclude those two periods, the exceedence of the interim limit occurred in June and September 1999. In June, 12 of the 14 sites were sampled; all 16 sites were sampled in September, which was not a month with low water levels. The August 1999 geometric mean of 12.7 is less than the interim limit but greater than the long-term limit. Just September and June are a problem with interim limit. Bechtel proposed these questions to TOC: Are those months in which interim and long-term limits *can't* be calculated because water was below stipulated depth considered collectible months? Do we use the numbers as part of a rolling average in 12 consecutive months? Ignore those months? How should the District approach compliance monitoring?

After a discussion, Bill Walker suggested that the District always look at 12 consecutive months assuming you're always going to be able to collect some samples in every month. Any time the stage is below 15.42 feet during the 12 months, the Refuge is assumed to be in compliance. Bechtel asked what would happen if most sites are dry, and there are not any concentrations? Bill responded that what is there doesn't matter; the point is that stage is below range of data we use to calibrated the model. The TOC concluded that District could use the 12 consecutive month data points and count the two dry months as in compliance. Bechtel pointed out that doing so creates another problem: The District is out of compliance with interim level.

TOC Action/agenda item: After a discussion, the TOC agreed to flag the anomalies and revisit the issue between depth and water quality data because concerns with stage/discharge relationship may not be as representative as is possible with the large mass of data currently available.

TOC Action/follow-up item: The TOC came to the consensus that when flags go up at sampling events, the District should notify the principals by letter stating concerns and recommendations. Garth Redfield and Tim Bechtel will co-author the letter, then will e-mail out to TOC members for comments. Gene Duncan of the Micussukee Tribe asked that the letter be sent to all interested parties, not just the principles. TOC agreed

Discussion of using data less than the MDL -- Bechtel asked TOC for comments on the use of values one-half the method of detection limits (MDL) for total phosphorus (TP) as a substitute for data less than the MDL (4 ppb). There are differences in substitute values used in different monitoring programs, and consistency needs to be considered (see **attachment 2**). Nearhoof said it was the convention for the DEP is to use the one-half MDL, e.g., data sets being used for the TP criterion development.

Discussion of Everglades National Park data -- Bechtel presented the Everglades National Park third quarter 1999 water quality data and pointed out that data are not officially used in compliance until 2003 for interim and 2006 for long-term levels.

Generally, Shark River Slough was above the long-term level and less than interim level as of September 1999, which is the end of the water year. Taylor Slough (**Figure 3a, attachment 1a**) was below the 11 ppb long-term limit and looking good. Composite sampling concentrations at Taylor Slough (**Figures 2b and 3b, attachment 1a**) reported several high phosphorus concentrations in late '98 and early '99, but the area hasn't seen high numbers recently. The long-term trend is going negative.

Bechtel said pump test data are not available for S332D because it's going through QA/QC now. When the data comes in, the figures will be redone using the S332D flows in the compliance calculation.

Nearhoof pointed out that calculations will get complicated if S332D and S332 are both in operation at the same time because water coming through S332D will in turn go through S332, so you double count the phosphorus at S332 if using both sites.

After a discussion on obtaining S332D data, Gene Duncan asked the TOC to think about this scenario: "We've closed two S-12 structures. We're routing water that would normally go in the Park that we just said meets compliance through the South Dade Conveyance System, turning on the S332 pump, collecting Ag discharge from a whole different basin and putting it into the Park that may not meet compliance test based on this water quality data. Some information we have says it does not meet requirements. We're making a situation that would be acceptable if water were to come into the north end of the Park, but we're sending it around instead and making a situation unacceptable by routing it through this ISOP plan. That's the reason why I'm asking for quality data? Who's collecting it? When is it going to be entered into these calculations?"

Bechtel said the data would be included in the next issue of the Water Quality Conditions Report.

After a discussion of issues of obtaining, calculating and reporting water quality data and flow of S332, S332D and S333, Redfield asked Walker to put a recommendation in writing and make it clear to TOC at the next meeting. Redfield added if redirecting water leads to a change in Taylor Slough, which in turn causes a water quality issue, we'll have to deal with that as a TOC, no matter where it comes from.

Nearhoof said TOC would need to report that to the principals, but what the principals do with the information, he didn't know.

TOC Action/agenda item: Duncan made a formal request from the Miccosukee Tribe to the TOC to look at the issue of pumping water with S332D and asked for a report on it at the next TOC meeting. Redfield responded that TOC can't answer Duncan's request completely because it not responsible for implementing other agreements. TOC is only responsible for reporting data. Duncan said that unless we look at water quality issue, the principals would never know what's happening out there. Describe issue to principals of water coming in top end of the Park is different that water at the bottom end. Redfield stressed that the report will only summarize existing data and take a look at water quality problems, and will be included on the next TOC meeting agenda.

Bechtel added that S332D water quality data collected in the first quarter of 2000 won't be available until May or June, and reported until July's report. April's report covers data collected from October through December.

TOC Action/follow-up item: Redfield suggested that a special report, prepared by the District's reporting people, on S332D be presented at the next TOC meeting. After a discussion of testing conditions and parameters, it was decided to collect data at S332D like the other sites for the time being and to note any changes on the QA section of the report for S332D.

D. Comparison of TP data collected by the South Florida Water Management District and USFWS in the ARM Loxahatchee Wildlife Refuge

Bill Walker presented the "Analysis of Water Quality Monitoring Data from ARM Loxahatchee National Wildlife Refuge" report (**attachment 3a**). The primary focus of the report covers the middle of 1997 to the end of 1998. A special study was done to collect triplicate samples for each lab so data analysis can look at variability of replicate samples and the relationship of variance to water depth and to make a recommendation whether it is appropriate to sample when the marsh is shallow. The bottom line: The data shows no correlation between replicate sample variability and water depths, and the overall variability of FIU and SFWMD data sets is not significantly different.

Walker said one thing popped out in the report: Variance among replicates is plus or minus 18 percent for both data sets. This finding suggests that duplicate sampling is not efficient. Walker pointed out there's another variance component (noise) associated with differences between the labs themselves and not so much sampling process. Need to find out the difference between labs.

Discussion of Analysis of Round Robin Data (attachment 3b) – Samples were distributed to five major labs: District, DEP, USGS, FIU and Duke. Walker pointed out a concern: Consistent differences between labs were noted, i.e., the computed mean sample differences between labs. The bottom line: the labs are providing better data than before, but there is low consistency between labs, particularly at low TP concentrations.

Laura Brandt asked the TOC if it's OK for the U.S. Fish and Wildlife Service (USFWS) to discontinue sampling in the marsh because District is doing it. Instead, she proposed the USFWS would randomly sample six stations quarterly and have District analyze and split samples by DEP lab as a double check.

Maxine Cheesman of the SFWMD said the District would have no problems with the quarterly splits with DEP. Cheesman said she would start quarterly sampling in March. Tim Fitzpatrick of the DEP agreed to do the split samples at no cost.

Brandt asked if there is a need for the District to continue sampling downstream S5A and S6 (inside the marsh) since these sites are also sampled upstream. Cheesman responded that the District was sampling these sites to meet the downstream requirement of the Settlement Agreement.

TOC Action/agenda item: After a discussion, Redfield recommended that the DEP take a look at potential ways of monitoring downstream effects of the Refuge, and follow up as an agenda item at the next TOC meeting. He asked the DEP to bring specific documentation on the subject. Cheesman said that in the meantime, the District will continue to follow the "immediately downstream" directions spelled out in the Agreement.

TOC Action/follow-up item: Brandt asked if DEP will continue the round robin sampling program. After a discussion, the TOC came to a consensus for a new round robin

and continue the program. The DEP expressed concerns on funding. Nearhoof said he could not give the go ahead until they get the OK from the higher-ups at the DEP.

Discussion of atmospheric deposition: Walker discussed sampling methods for atmospheric deposition. Overall, the results seem to track pretty well. He also discussed contaminated effects in relation to rainfall, i.e., animal droppings, feathers, insects, organics, ash and spider webs.

Redfield discussed a two-year study the District is planning that will take a stab at getting one site nailed down using better, more advanced techniques to reduce uncertainty; but there's no simple way to solve problem. Redfield said he would announce the report to TOC when available. He added that it's the District's Governing Board's decision to decide if it's worth the board to spend thousands of dollars to bring down uncertainty in data just a little bit.

E. An introduction to "Preliminary Baseline Data for the Basin-Specific Feasibility Studies to Achieve the Long-term Water Quality Goals for the Everglades" report:

Tracey Piccone and James Kunard distributed "Preliminary Baseline Data for the Basin-Specific Feasibility Studies to Achieve the Long-Term Water Quality Goals for the Everglades" report to TOC members for their review and comments (**attachment 4a**). After a presentation by Piccone, who summarized the report for the TOC (**attachment 4b**), she requested comments back by mid-February. The report covers both inflow and outflow data, and will form the basis for developing non-point source pollution control programs to assure compliance with water quality standards.

F. Proposed Reductions to the Trace Metals and Mercury Sampling

Brahram Charkhian of the SFWMD presented a proposal (**attachment 5a**) requesting the TOC to approve a proposal to change the current grab sampling method (1998 SFWMD Comp QAP) to the clean-hands/dirty-hands technique as per 1999 SFWMD CompQAPP for trace metals and mercury. During the presentation, Charkhain pointed out a correction to Table 5 of proposed total iron frequency at S337: The frequency should be quarterly, not zero (see **attachment 5b**, summary of excursions from Class III Water Quality Standards Relative to the Total Number of Samples for Trace Metals).

The proposal also featured maintaining the current monitoring frequencies at the STAs and other permitted sites; maintaining consistency with non-ECP permits by eliminating all trace metals and iron monitoring at all "within" and "from" structures (with the exception of S333); change all biweekly monitoring at "into" structures to quarterly for iron and semiannually for trace metals; and revise the program as STA and NECP programs are modified.

TOC Action/follow-up item: During the presentation, Nearhoof suggested eliminating the sampling of beryllium and other trace metals that may be simply artifacts of the sampling analytical processes to save time and money. Cheesman responded that those trace metals are sampled because of the permit requirements. Nearhoof said the DEP is open to modifying the permit to make the provisions to drop the artifacts.

Mike Zimmerman of the Everglades National Park asked for an explanation of clean hands/dirty hands technique for a technician. Larry Fink of the SFWMD explained the two-person sampling method.

Cheesman summarized the proposal. She said the District is proposing making separate trips – a semiannual trip to sample the routine trace metals and quarterly trips to sample mercury, separate from the routine sampling. The mercury samples would need to be analyzed by the DEP.

Tim Fitzpatrick of the DEP expressed concerns on having the additional mercury analytical work. Larry Fink assured him that it was a two-person sampling protocol and could not be performed otherwise. He also questioned the analytical regime for the samples collected using the clean hands/dirty hands technique versus the normal routine monitoring. Would there be a difference in results?

Cheesman responded that the District is proposing to change the metal sampling methodology. She added that the District analyzes the ENP's (Mike Zimmerman's) samples.

Fink asked if District's WQMD could piggyback ultratrace mercury sampling with routine metals sampling. Pete Rawlik of the SFWMD noted that doing so would require an increase in the number of blanks and in-field equipment cleanings to assure representative sampling, thus increasing the workload substantially. Maxine Cheesman indicated that they could accommodate that change if necessary. Fink noted that there had never been evidence of carry-over in any of the end-of-the-day equipment blanks even when the most

contaminated site was sampled last, so there was no need to add an equipment blank and in-field cleaning of sampling equipment between each site or a need to use a clean sampling train between each site. He then again requested an evaluation of the potential labor and cost savings of piggy-backing the ultratrace mercury sampling on the routine trace metals sampling trip.

Fitzpatrick said the DEP lab might not have capacity to take additional mercury samples from the District. The lab is limited by its facility and simply can't work longer to accommodate more samples.

After Charkhain concluded the presentation, there was a discussion of the current and proposed (reduced) ultratrace mercury sampling locations. Nearhoof questioned why S333 was not eliminated because there's no source of anything there. Sharon Trost of the SFWMD said she looked that up before the TOC meeting and couldn't find the answer. Cheesman said she couldn't remember either.

After a discussion concerning the reduction in the number and location of proposed sampling sites including interior marsh sites in ENP, Larry Fink clarified that non-ECP permits do require canal monitoring but not interior marsh monitoring. Charkhain agreed to modify the maps to clarify these distinctions.

Fink said that the total number of stations was reduced, the remaining effort was refocused on key locations in the system that receive drainage from specific watersheds or specific water conservation areas. He added if we see a potential problem based on the differences between upstream or downstream flows that change over time, that would trigger an adaptive management response of increased frequency of sampling of that source watershed or water body. The number of sampling sites is reduced, Fink said, but ultra-trace techniques are used on the ones we do sample to get meaningful data. So, the amount of useful data will go up greatly.

Redfield asked if there are any changes in tissue sampling. Fink and Cheesman responded that this proposal does not propose any changes to fish tissue sampling.

Redfield asked the TOC for a consensus to approve the trace metal and mercury monitoring proposal. Nearhoof suggested that the District and the DEP work on crunching through the data in developing the rational before putting the final game plan together, and bring it back to the next TOC meeting.

Trost suggested that if a decision is not going to be made now, to roll in the beryllium issue and investigate S333 and other side issues – resolve everything at one time at the next TOC meeting.

In the meantime, Nearhoof said he would set up some teleconferences among the TOC group and loop Fitzpatrick and the lab folks in to resolve the analytical questions.

Cheesman said the District will continue sampling routine trace metals the way it is right now until TOC agrees on everything, stop the routine mercury sampling and initiate ultratrace mercury sampling, based on the agreement at the last TOC meeting.

Fitzpatrick asked if permits specify method of analysis. Cheesman and Fink responded that they do not, but permits do specify the method detection limits (MDLs) of ultratrace mercury analysis.

Cheesman said that whatever consensus we get here, we still have to make some changes to memorandum of understandings (MOUs) before we can get things implemented, like the ENP MOU.

TOC Action/follow-up and agenda items: Redfield asked the District and DEP to work out an agreement on the trace metal and mercury monitoring program proposal and that a final recommendation be presented at the next meeting so the TOC can “express consensus” on the proposal.

Adjournment

No further comments were made. The meeting adjourned at 3 p.m. The time and date of the next TOC meeting will be announced.

A video tape-recording of this meeting and all attachments are saved with the minutes.

Addendum:

After an e-mail polling of members, the next TOC is slated for May 12 at 8:30 a.m. at District Headquarters.