

# MINUTES

Everglades Technical Oversight Committee Meeting  
Friday, May 12, 2000  
8:30 a.m. to 3 p.m.  
South Florida Water Management District Headquarters  
3301 Gun Club Road, West Palm Beach, FL 33406

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## 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

Aumen, Nick -- ENP	Jorge, Jennifer -- SFWMD
Azeredo, Dee -- SFWMD	Komlos, Shawn -- Florida Audubon Society
Bechtel, Tim -- SFWMD	Lee, Charles -- National Audubon Society
Bennett, Susan -- SFWMD	Marshall, Ana -- SFWMD
Brown, Susan -- U.S. Sugar Corp.	McCarthy, Linda -- SFWMD
Charkhian, Bahram -- SFWMD	Mo, Cheol -- SFWMD
Cheesman, Maxine -- SFWMD	Nungesser, Martha -- SFWMD
Chimney, Mike -- SFWMD	Smith, Lisa -- SFWMD
Colecchio, Gary -- SFWMD	Struve, Dave -- SFWMD
Crean, Linda -- SFWMD	Trost, Sharon -- SFWMD
Davis, Linda -- SFWMD	Van Horn, Stuart -- SFWMD
DeMeo, Barb -- Seminole Tribe	Walker, Bill -- Consultant to Dept. of the Interior
Federico, Tony -- MacVicar, Federico and Lamb Inc.	
Fontaine, Tom -- SFWMD	
Goforth, Gary -- SFWMD	
Gray, Susan -- SFWMD	
Heisler, Lorraine -- Refuge	
Ivanoff, Delia -- SFWMD	

## **A. Introductory Comments -- Garth Redfield**

TOC Chair Dr. Garth Redfield began the meeting at 8:45 a.m. and asked for approval of the minutes of the Jan. 25, 2000, TOC meeting and proposed that they are final. Bob Barron of the U.S. Army Corps of Engineers said he was having trouble with e-mail attachments of the minutes and asked to review a hard copy. Redfield asked Barron and everyone to get back with him if there are any changes to the minutes, and an addendum would be added if so. Otherwise, they are final.

**Addendum:** No comments were received by June 9, 2000, so minutes of the Jan. 25, 2000, TOC meeting are final.

Frank Nearhoof of the DEP suggested that minute taker not to quote light-hearted jesters or jokes in minutes because they could be taken out the wrong way in writing or be misconstrued.

## **B. Update on Everglades Consolidated Report -- Garth Redfield**

Report format and size: Garth Redfield updated the TOC on the 2001 Everglades Consolidated Report. He said that the South Florida Water Management District (District) received feedback from a letter sent out to interested parties that asked for comments to help direct the report efforts. A few comments were received, but one of the most important, major comments is that people want the report to be shorter, less technical, easier to read and wanted it to flow more easily. How? The District worked with the Florida Department of Environmental Protection (DEP) and agreed on this format: The executive summary will be the flag document of the report and expanded into a thorough -- but readable -- executive summary. It will be very substantive, but readable with findings clearly highlighted and key graphics that are designed for a broad audience. Then the entire technical report and appendices, as well as the executive summary, will be included on a CD and nested in a pocket in the back of the hard-copy executive summary. Redfield displayed a prototype. He said that most comments received stated that executive summary needed to be more user-friendly. He noted that the District might make only a few hard copies for the governor, public record or library archives. (The report can be printed off of the CD.)

Redfield said that the goal is to reduce the technical report by 30-35 percent, but some chapters may be longer, such as the Everglades Stormwater Program. Authors of other chapters are asked to only update their chapters. Material from the previous year and information from the years before should be referenced, not repeated. The document will be more readable, shorter and more to the point. All of the data required by DEP or by public will be put in the appendices. By producing the report electronically, it allows the reader to actually use the information in user-friendly formats. Redfield added that the District can produce about 2,500 of the executive summaries plus CD for about \$10,000 less than the 400 printed copies it did last year. Redfield stated that he is the key contact for the report and if there are any comments or other issues, he should be contacted. The "In-Brief" tri-fold, one-page brochure will also be produced. The report data focuses on the water year ending April 30, 2000. Data cut off date was April 30.

Redfield reminded TOC that he sent out a letter requesting other data and findings to be analyzed for inclusion in the report. He said that such data will be considered if it is received on time. He added that last year's report is available on CD by calling Trudy Morris at (561) 682-6569.

Redfield briefed the TOC on other major changes to the Everglades Consolidated Report: This year, the DEP is taking the lead on Chapter 3, nutrient effects, Chapter 4, water quality, and Chapter 7, the mercury chapter. The basic chapter order and content of report will be the same as last year's.

Peer review: Redfield said that some of the same panelists are coming back as well as some new people, but no decisions have been made yet. He asked TOC if anyone feels strongly about someone they would like on the panel to please e-mail him. He added that the District is going to have additional one-day peer review workshop on Chapter 3 -- nutrients, a major issue in Everglades -- and maybe an additional peer review on the mercury chapter to be sure the areas of emphasis get the attention they need.

Frank Nearhoof of the DEP said that the DEP looks at the Everglades Consolidated Report for rule-making support. He said that the DEP is taking this document through the most technical and scientific scrutiny, and subjects it to the most rigorous review the DEP can.

Redfield said that the main criterion for a panelist is outstanding expertise in an appropriate area and freedom from any association with any organizations in South Florida to ensure an unbiased review. For continuity, most panelists from last year will be asked to participate.

After a discussion of the Advanced Treatment Technologies research chapter, Jennifer Jorge of the SFWMD said that the chapter would summarize all ATTs whether they are finalized or not. Mike Chimney of the SFWMD added that information on ATTs is in transition and nothing is complete. Jorge said they don't have to wait until report is complete to form a standard of comparison.

### **C. Water Quality Conditions Report and Letter to TOC principals on water quality excursions in the ARM Loxahatchee Wildlife Refuge - Tim Bechtel and Garth Redfield**

Tim Bechtel of the SFWMD briefed the TOC on the Quality Assessment Report for Water Quality Monitoring, October-December 1999 (**attachment 1**).

Bechtel noted Figure 1 -- Loxahatchee National Wildlife Refuge monthly total phosphorus (TP) concentrations and limits -- and pointed out that the cause of higher means than limits on four occasions over the past four months is uncertain.

After a discussion about possible reasons for the higher values -- such as Hurricane Irene impacts or water going through the ENR that was cut back and moving through untreated -- Tom Fontaine of the SFWMD suggested reviewing the letter that the TOC instructed the District to write at the Jan. 25, 2000, TOC meeting. The letter is directed to the principals of the TOC and addresses water quality excursions from interim limits in the Refuge, June through December 1999 (**attachment 2 and 2a**). Fontaine added that it's

important for people to recognize why those excursions occurred; the letter could be used to give a head's up to the chain of command for possible action.

Bill Walker, a consultant to the Dept. of the Interior, suggested adding a paragraph about water going through S5A. After a discussion of the excursion table in the letter, Walker said that variability of data should be given a closer look. He suggested to rephrase the letter to stress how variability is factored in so nobody is misled. Anything within 7 percent is expected. Walker also cautioned about interpreting the numbers at the second decimal place.

After a discussion about rounding numbers off to the first or second decimal place, the issue was tabled so other reports, such as the SWIM Plan, could be checked for the method of reporting data and to be consistent. Fontaine added that the TOC needs to get clarity on what we mean by "excursion" and report it the way people want for all structures. We don't want people to think we're hiding an excursion, he added. Cheol Mo of the SFWMD offered to check the SWIM plan and report findings later in the meeting.

Bill Walker suggested adding a sentence to the effect of any change in the relative amount of water going through Everglades Nutrient Removal Project (ENR) versus directly into the Refuge. Redfield said he would ask Gary Goforth of the SFWMD to follow up on that matter.

Maxine Cheesman added that as long as sampling is conducted in water depths greater than 10 centimeters, water-sampling variability is not affected.

Redfield noted that right now, the ENR is the only online treatment system that's actually working to hold phosphorus back from the Refuge.

Laura Brandt of the Loxahatchee National Wildlife Refuge (Refuge) questioned high water levels in flow stations LOX12, LOX11 and LOX4 and asked if flow patterns of flow stations impact excursions. After a discussion, it was determined that it's hard to tell where the water is coming from. Redfield said that the letter could be modified with language to clarify stations to show no real pattern because of variability in data.

After a discussion of longer-term assimilation issues as a possible explanation for the excursions, Redfield reminded TOC that letter is supposed to give people a head's up on the issues, whether or not TOC has good explanation on the cause and effect.

Nearhoof suggested to change the paragraph that begins with "Second, excursions for October and November. . ." to say something like, "Second, excursions of October and November are possibly associated with marsh drawdown dryout followed by an indication in higher phosphorus levels that result from that phenomenon, and it is not unexpected and has been seen in other analysis. It's a factor that's potentially effecting it."

After a discussion of sampling at various water levels in the water column between the National Audubon Society's Charles Lee and TOC members, Nearhoof reminded everyone that the issue has been addressed before, and TOC came to the consensus that sampling above 10 cm provides the most reliable results. Walker added that variability in the sampling process is independent of water levels. Redfield said the bottom line is all the sources of variability with a few centimeters difference in sampling depth is not a major consideration, and the difference in phosphorus levels 5 cm apart is trivial compared to variability between stations and variability through time and so forth. It's not relative to other sources of variability.

Nearhoof recommend revising the last paragraph (Recommended Actions) and deleting the sentence about the recession of Lake Okeechobee because the letter summarizes historical information that happened prior to the lake recession, which is happening now; the two are not connected. The Lake Okeechobee recession effects are something to look at in the future, Nearhoof said.

Fontaine said to delete "currently" in the next to last paragraph since we don't know what "currently" means.

Redfield concluded the discussion of the letter by saying he needs any other specific changes as soon as possible, will make the recommended changes, then e-mail the revised letter back to TOC members for review. He stressed the TOC doesn't want more two drafts with the final letter completed by mid-June.

Tim Bechtel continued reviewing the Water Quality Conditions Report. He noted Figures 4 and 5 in the report (**attachment 1**) -- the S332 and S174 spillways. The structures are parallel, and when one is working, the other is off. Bechtel said that Figure 5 illustrates that we're discharging twice as much water as S332 and S175 than we're bringing in through S174 and S332D pump stations. Bechtel said that this is attributed to seepage. The question is, "What flows should we use for the flow-weighted means calculation?"

Walker commented that using just S332D flow for the calculation was because the water that goes through S332D goes into the Park one way or another and that was the reason for proposing agreeing to using the flow and concentration at S332D to measure the compliance.

Lisa Smith of the SFWMD said the operation at S332D is going to change from what we originally intended it to do. It was originally intended to replace 332. "I do not know now if we're modifying the operation to deal with an error issue," she said.

Frank Nearhoff added that what still holds consistent is the water going through the S332 is water that the S332D pushed over there. So when you capture the quality of the water coming out of the S332D, you should capture what's going over to the Park for the Settlement Agreement requirements. Otherwise, he said, you have double-dipping going on for quality and volume.

After a discussion of calculation protocols and the Proposed Weighted Mean Concentration Calculations for Shark River Slough and Taylor Slough/Coastal Basins (**attachment 1a**), the TOC agreed on these revisions to current calculations:

### **Shark River Slough**

- Subtract S334 flow from S333 flow.
- Add S355A and S355B flows when they start to discharge. USCOE will monitor the flow for S335A and S335B. District will monitor total phosphorus for S335A and S335B (biweekly grab sampling).

### **Taylor Slough and Coastal Basin**

- Add S332D, S174 and S18C.

## General

- All values will be rounded to the first decimal point in parts per billion (ppb) units.
- If the rounded values for the limits and the flow-weighted means are the same, the District is in compliance.

**Agenda Items:** Walker said that instead of subtracting S197 in the equation, he suggested to report the S197 loads separately on a quarterly basis. After a discussion about using composite versus grab samples at S197, TOC decided to make the S197 issue an agenda item for the next meeting.

Walker said that you can analyze data to see if there's a correlation with flow and concentration. In the meantime, Walker suggested to try using all the S332 data and bring it the table and show what it looks like, then TOC can discuss it and decide if it wants to keep doing it that way. The issue was noted as an agenda item for next meeting.

### **D. Water quality sampling at S332D and S332B by the District and USACE; Issues of QA, integration of sampling efforts and potential cost-sharing -- Bob Barron and District Staff**

Bob Barron of the U.S. Army Corps of Engineers briefed the TOC about what the U.S. Army Corps of Engineers was doing at S332D and S332B.

Barron said that for the purposes of the DEP permit, the Corps is monitoring different stations along the L31 canal (**attachment 3**). After a discussion of split samples the Corps was doing with the District, Barron noted that there are lot more discreet curves going up and down from the non-sampling area. He added that the Corps is trying to characterize quantity and timing, as well as where loads are coming from so the Corps can refine the design of these areas.

Redfield asked about the reporting process.

Barron said that it is not available for the meeting but might be on the Web. He said that the bottom line is Corps had an emergency and scrambled to put monitoring in place and will revise authorization to include the revised monitoring. There's an agreement between the Corps and the District to have the operating budget funded 100 percent by the Corps.

**Agenda item:** After a discussion of the types of data being collected, general reporting and reconciling issues, the TOC asked the three parties involved -- the Corps (Jim Riley), the District (Lisa Smith) and the DEP (Frank Nearhoof) -- to hold a conference call and decide who will write up the report on these variability data issues and present it at the next TOC meeting.

## **E. Proposed reductions to the trace metals, mercury and other water quality sampling -- Bahram Charkhian**

Bahram Charkhian presented the proposed reductions to trace metals, mercury and other water quality sampling (see **attachments 4a, 4b and 4c**) to the TOC.

After the presentation, Maxine Cheesman said that what the District is looking for from the TOC is to confirm letting the proposal stand since the TOC made the decision last time on the mercury monitoring. "We want the buy-in of TOC," Cheesman said. "The TOC instructed us last time to go back to DEP to work out the trace metals in detail. We've done that. This is the program we want to go forward with. We're looking for a nod from everybody."

After a discussion among the agencies present who asked for more time to spot check the proposal with their water quality people, TOC decided that Cheesman will respond to comments by close of business next Friday, May 19, on any issues on the stations or proposed changes. If she doesn't receive comments, then she will proceed with the proposal and implement the changes step by step.

**Addendum:** No comments to proposal were received on or before May 19; Maxine Cheesman was instructed to implement changes, which are outlined in attachment 4.

## **F. Proposed work plan for field studies on atmospheric deposition of phosphorus -- Garth Redfield**

Garth Redfield reviewed the history of the proposed work plan for field studies on atmospheric deposition of phosphorus. In a nutshell, the District hosted a conference about 2 1/2 years ago on atmospheric deposition. As a result of a panel report from this conference, the District concluded that it doesn't have good ways to measure atmospheric deposition. So the District invested \$75,000 in having a group of experts review available information on methods, phosphorus data from other systems, and a number of other items that all relate to atmospheric deposition of phosphorus South Florida. The experts put together a work plan to do a study that will take the District down the road in developing better methods to measure atmospheric deposition. The handout (**attachment 5**) is an outline of the study. Redfield added that the District has a draft of the work plan now, but modifications are being made to it. The final draft will be done in about three weeks to a month (late June). Redfield said that he will mail it out to the TOC members, asking for comments and inputs. The District is also looking for partnerships among other agencies to help fund the proposed \$1.2 million, two-year study. The price tag precludes the District from doing the project alone.

Charles Lee expressed his concern about the project: "The difficulty I'm having with this is that doing this has an effect and presents a set of available arguments. If the District and other agencies making decisions to invest in the atmospheric deposition issue in light of current financial situation decide it's worth \$1.2 million, I can assure you that in discussions of whether and when to set the phosphorus standard, there are going to be parties that will come forward and say that now there's a reason to delay action because the District and/or

name the agency have just committed \$1.2 million because they think it's serious enough of an issue. Therefore, Environmental Regulation Commission or Secretary Struhs may opt to await the outcome of this study before moving on setting the phosphorus criterion. Before you commit to this, everyone needs to know that that dynamic is real. Doing this will not be a benign academic exercise. You will be seeing references to the fact you are doing this in briefs and arguments that are presented to agencies."

"My second concern," Lee said, "is asking questions. I was familiar with what happened with some of the earlier efforts and contamination of sampling devices by critters out in the Everglades. I see here in this diagram the design of another sampling device that receiving bottles will be deployed just above the water surface. Anything that is sticking up out there, birds will rest on will usually poop. I'm interested to know how this sampling device is any less susceptible to contamination than the earlier efforts. I don't see that it's any less susceptible."

Redfield said it's something they need to address and will include it in the comments.

Tony Federico of MacVicar, Federico and Lamb Inc. said, "I don't think we want to embark on something that's going to cause problems later, but it's something we need to continue this dialog and then reach out and make a decision. We probably need to talk to other principles and get some feedback."

Nick Aumen of the Everglades National Park said, "I like it where it is. I just want to comment on the policy thing. We battle this all the time in South Florida -- this fear of more science. It's pervasive. We're scheduling an Everglades Restoration Science Conference December. (Rescheduled from September at the request of the Interior so it doesn't conflict with end of budget year). One of the complaints was that we called it 'Defining Success,' and they're going, 'Oh, you don't know what success is and we're going to spend \$8 billion?' We're just on that level of paranoia on the policy side about science and need to continually improve our understanding of the system. I think we as a technical committee, we need to be able to make a statement on the rainfall thing. Question I had is this both wet and dry atmospheric deposition?" Redfield responded that it is mostly dry.

Aumen added, "I go back to the early years of the Lake Okeechobee Study when we had the USGS do a study trying to look at both wet and dry atmospheric deposition out in the lake versus surrounding the lake. Basically, after several hundred thousand dollars, USGS said we're not sure if you can solve this problem. It comes back to the question of 'What is the sensitivity of all of what we do in South Florida in terms of phosphorus budgets and looking at inflows of phosphorus moving through the system?' What is the sensitivity to the difference between say 5 and 30? Have we worked through that kind of analysis? If we say it were 5, this would be different and that would be different. If it were 30, it would be this. And that tells you if you do that kind of sensitivity analysis, it gives you a feel for what level of investment might be warranted to solve that problem. I don't know how to do that sensitivity analysis."

Redfield responded, "There's been some modeling down of phosphorus and the bottom line is that it does make a difference out at very pristine areas because they are getting almost all of their loading from the atmosphere and very little surface loading. So you change that number where the mean of phosphorus in the water column is only 5 micrograms, it can make a difference, but still subtle and not dramatic."

Redfield added, "Charles, your argument is interesting and can be used as a delay, but that argument can be turned around and have the same result. Someone could say, 'If you don't know this, I'm going to take you to court and say how dare you say to tell me to clean up to such and such a level without being able to account for atmospheric inputs.'"

Charles Lee responded, "Looking at it from a standpoint of a policy and litigation strategy, I'm a lot less worried about that argument because you'll always have that argument. However, from a political standpoint and an agency policy, the fact that you just embarked on a \$1.2 million study on a particular thing is a powerful thing to throw into the pot as saying why you should delay something."

Charles Lee asked what TOC was going to do about atmospheric deposition as source of phosphorus, assuming it is a huge problem? What's the fix and how are we going to implement it? "There's not a lot you can do to control the rainfall," Lee said. "In the final analysis, we're studying something we can't do much about anyway. It's the background. It's always present."

Sharon Trost responded and said that there are incinerator controls from the Clean Air Act that have reduced mercury atmospheric deposition, for example.

Charles Lee said that that's a worldwide strategy.

Garth Redfield said, "Your argument is heard loud and clear and when you listen to people talk about the phosphorus budgets and the Okeechobee watershed, atmospheric deposition is not invisible, especially in agricultural lands where it's over 100 milligrams per square meter per year. If it's worth \$1.2 million or if it will cause other problems, that's an issue we need to address."

Bob Barron asked if there any way we could get some options. "For example," he said, "for a half a million dollars, a scientist could give us the answer to this question or to this tolerance. What are the questions I'm answering with this money or what if I don't want that question answered?"

Redfield responded, "If you look at the outline, you will see that we already cut this down. We already went out and said go out and reduce the uncertainty and give us some methods. And that's all they're doing. Remember, this is a different approach than Nick's USGS example. We are using atmospheric sciences to approach particle size distributions and doing modeling to get deposition rates. And then doing follow-up studies to try to calibrate those. It's not using the same approach as the USGS. That's why it costs so much because you end up with hundreds and hundreds of samples the minute you do this approach. Remember the history here, the District was trying to be responsive to a need identified in a public workshop."

Redfield reminded the TOC that when the final work plan is ready, he would mail it out to everyone on the TOC mailing list. In the meantime, he said anyone can e-mail comments to him now and doesn't have to wait until the final work plan. The target is to have the final work plan ready in time for the August District Governing Board meeting.

Laura Brandt asked if the sawgrass sites are satellite sites? Redfield said that the work plan scientists will clarify that and will call Brandt about visiting the Refuge.

## **G. Public Comments**

There were no comments from the public.

## **H. Adjournment**

The meeting was adjourned at 12:30 p.m.

*A video tape of the meeting is saved with the minutes for the record.*