Northern Tampa Bay Phase II Local Technical Peer Review Group
SWFWMD Tampa Service Office, Hwy 301N, Tampa

Meeting 11
March 6, 2002 - 9:30AM

Summary

The following were in attendance: **Gordon Leslie, Jr.**, Hillsborough County EPC; Peter Owens, Hillsborough Counthy EPC, **Dave Slonena**, Pinellas County; **Rich McLean**, Pinellas County; Doug Keesecker, Tampa Bay Water; **R. Warren Hogg**, Tampa Bay Water; Chris Shea, Tampa Bay Water; **Ralph Craig**, City of St. Petersburg; **Richard Voakes**, City of St, Petersburg; **Andy Smith**, Hillsborough County; Scott Emery, EHI for Hillsborough County; Ross McWilliams, Hillsborough County; **Cliff Harrison**, Schreuder, Inc. for WRWSA; **Michael Hancock**, SWFWMD; Adam Munson, SWFWMD; **Ted Rochow**, SWFWMD; **Doug Leeper**, SWFWMD; Don Ellison, SWFWMD; John Emery, SWFWMD; Ron Basso, SWFWMD; Mark Barcelo, SWFWMD; Marty Kelly, SWFWMD; Robert Peterson, SWFWMD; and David Carr, SWFWMD. Names in bold are designated representatives for the LTPRG.

Michael Hancock reported that an updated Scope of Work and Progress Report is currently being written, and should be available soon. Mr. Hancock also reported that the Peer Review and wetlands well construction processes were ongoing, and there was nothing new to report.

As planned, the remainder of the meeting was dedicated to continuing discussions of comments received on the Category III Lake MFL methodology. Discussions occurred at the last meeting on those comments received previously, and Tampa Bay Water has sent additional comments to the District in February. Mr. Hancock suggested that we discuss each of the Tampa Bay Water comments at this meeting since they encompass most of the concerns raised by others. Comments not encompassed in the Tampa Bay Water letter could be discussed toward the end of the meeting. All agreed that the suggestion would be a reasonable means of discussing the issues.

The first question concerned the definitions of “current” and “historic”, how P10s were determined, and how changes during the period chosen as “current” could effect levels. Don Ellison replied that the terms “current” and “historic” are defined in the rule, and are discussed in detail in the “white paper” on reference lake water regime. Mr. Ellison explained that District staff did their best to evaluate potential impacts on lakes with the available data. However, Mr. Ellison restated that if anyone has specific information

documenting structural changes of which District staff is not aware, or if anyone has analyses that quantify changes to lake levels caused by land use alterations, the District will assess the information. Without such information, the assumptions listed in the white paper will be utilized in the development of the MFLs. Mr. Hancock stated that he felt reasonable assessments had been made of any structural changes in the lakes, but that minimum levels could be adjusted if new data or analyses become available in the future. Mr, Hancock said that the District has proposed a project for FY2003 to perform a very detailed assessment of the effects of land development in the Lake Starvation watershed. Anyone interested in participating (including with funding) is invited to contact the District.

The second question inquired about the definition of "long-term water levels". Mr. Ellison said that the definition of long-term is provided in the rule. However, the definition includes professional judgement, and District staff have initiated some discussions internally as to how we will determine when a lake should be expected to meet its minimum level. For example, District staff believes that the definition should capture a full wet and dry climatic cycle. Also being discussed is the use of background lakes to determine if the level should be met given the current climatic conditions. The District is open to any suggestions and agrees that discussions on this issue would be beneficial. Mr. Hancock suggested that this topic should be the topic of a future LTPRG meeting.

The third question involved the concept of Reference Lake Water Regime (RLWR). Tampa Bay Water asked if control structure modifications were assessed in the development of the RLWR, and if the reference lakes could be subdivided by type. Tampa Bay Water also expressed concern about using just one lake, Crews Lake, to determine the RLWR for Big Fish Lake. Mr. Ellison responded that other sources of water level impacts, such as control point modifications and lake interconnections, were considered. Drainage basin modifications would be considered if they resulted in a change that could be quantified. District staff's review of lakes for the RLWR did not reveal any obvious elements to warrant sub-division of lakes at the time the RLWR was developed. However, the District is funding a study with the USGS that examines this issue in detail, and the results of this study should be available some time in 2004.

Mr. Ellison added that the current MFL methodology adopts the current P10-P50 difference for a lake if it is less than the RLWR of one foot. As a result, half of the lakes are already sub-divided. If a lake has historic data, the water level fluctuation derived from that data would be used.

Mr. Ellison also stated that the District has explored further subdivision of the lakes into flow-through and isolated lakes. A significant issue encountered was the definition of "flow through". Staff's preliminary results did not yield a RLWR value significantly different from one foot. Another issue is the limited number of lakes in each class of lake sub-division if more criteria were employed.

Finally, Mr. Ellison said that the District staff believes that Crews Lake is the best lake to use for the development of a RLWR for Big Fish Lake. There are other lakes to the east

and south of Big Fish Lake that could potentially be used to increase the number of RLWR lakes for Big Fish Lake. However, there are obvious differences in the geomorphology of these areas. District staff would consider any lake that had a reasonable and logical case made in its behalf justifying its inclusion in the reference set.

District staff asked the LTPRG if they had any thoughts on using other lakes for Big Fish Lake's RLWR calculation. Warren Hogg wondered if a sensitivity analysis would help with the analysis, but District staff could not see how such an assessment would help with the development of a RLWR. Ross McWilliams suggested that Big Fish Lake could be considered to be a wetland. All agreed that Big Fish Lake was an unusual lake for the area, but District staff felt the process of determining lake levels for Big Fish Lake was necessary.

Question four related to the "bird species richness standard". Chris Shea outlined Tampa Bay Water's concerns regarding the proposed use of a significant change standard based on bird species richness for development of minimum lake levels. Major concerns and issues included perceived methodological problems associated with the published scientific study of bird species richness at Florida lakes that was used to develop the proposed standard, development of a new study to refine the proposed standard, and development of a standard based on a published relationship between fish species richness and lake area rather than the bird species richness/lake area relationship. In response, Mr. Leeper noted that District staff considers use of the bird species richness/lake area relationship to be appropriate for development of minimum lake levels, based on accepted ecological theory and the information presented in the published paper. Mr. Leeper also noted that the paper was subject to peer review prior to publication in the scientific journal *Hydrobiologia*, and the District's proposed use of data from the study for development of minimum lake levels is supported by the peer review panel that was recently convened to evaluate minimum lake level methodologies.

Question five involved the minimum level proposed for Starvation Lake. Mr. Hogg and Doug Keesecker outlined Tampa Bay Water's position regarding the control point elevation for Starvation Lake, noting that they believe the control point should be established at a spot in the ditch that connects Starvation Lake to Lake Crum. Mr. Leeper noted that staff from the District's Engineering Section have recently evaluated the control point identified for the lake and determined that the originally proposed elevation is the appropriate control point. Mr. Hancock added that the manner in which the control point was chosen was consistent with that used for all other lakes, including the Category 1 and 2 lakes. For lakes with structural alterations, the goal of the methodology is to achieve a level that comes as close to the level that would have been chosen without the structure, but is achievable with the existing alterations. Richard Voakes and Dave Slonena stated that they did not agree with the level that was chosen for Lake Starvation.

Mr. Hogg explained the next question, noting that Tampa Bay Water supports the District's position that the proposed minimum level methodology should be used as a starting point to develop minimum levels, but that relevant site-specific information (*e.g.,* floor slab

elevations, road elevations) should be reviewed to ensure that compliance with minimum levels does not result in undue problems, such as flooding. He further noted that for development of minimum levels for Lake Rogers and Lake Raleigh, it may be reasonable to consider establishing the levels at elevations that would minimize the potential for corrosion of two existing pipelines located in the vicinity of the lakes. Based on the known low elevation of the pipelines in the vicinity of the lakes (36 ft NGVD), Mr. Hogg proposed establishment of a minimum level for the Lakes Raleigh and Rogers at 35 ft NGVD. Mr. Leeper concurred that District staff does seek elevation information on structures such as buildings and major roads, and does propose adjusting the level if a flooding situation could result. However, after distributing a hydrograph showing water levels in Lake Rogers from the 1930s to the present date, Mr. Leeper noted that the 36 ft elevation identified as the low spot for the pipelines in the vicinity of the lake has frequently been exceeded. He further suggested that a more thorough review of the potential for corrosion of the pipelines should be conducted and reviewed by the LTPRG. Mr. Hogg indicated that he would pursue this issue with appropriate Tampa Bay Water engineering staff. Mr. Hancock added that District staff believe that it is appropriate for them to propose adjustments to MFLs if flooding to major structures is found to be likely. He also agreed that any information on potential flooding of various man-made features should be collected as part of the MFL assessments. However, due to the many man-made features that could be involved, ranging from hiking trails to pipelines, it becomes very difficult for technical staff to weigh the importance of each feature. Therefore, Mr. Hancock suggested that parties explain these features to the District Governing Board for their consideration during the Board's deliberations in setting the MFLs.

Question seven inquired as to how operable structures were considered in MFL determinations and in implementation. Mr. Ellison felt this was an implementation issue since operation of structures based on the prediction of future rainfall conditions is problematic. The District's intent is not to penalize water suppliers for the Districts operation of structures that results in lower levels than intended. Mr. Hancock added that the past operations were short-term, but would have been included in the assessment. He added that it does make sense to bring the MFLs to the attention of the District staff that operate structures. This concept will be included in the implementation discussions at a future meeting.

Mr. Hogg raised the issue of use of the control point elevation for development of minimum lake levels (Question 8). He expressed concern that the control point and the drainage feature(s) associated with lake control points may reduce the probability that some lakes will stage above their established control point elevation and that achievement of minimum level compliance will be compromised. Mr. Leeper noted that based on current minimum level rules, the High Guidance Level, which is used for development of minimum levels, is established at the normal pool elevation, the current P10 elevation or the control point elevation. He further noted that the High Guidance Level is rarely established at the normal pool elevation, as many lake systems no longer stage to previously attained levels, due to structural alterations. For most lakes, the High Guidance Level is established at the control point elevation. For systems with a proposed High Minimum Level above the control point

elevation, the High Guidance Level would have been established at the current P10 elevation. This means that under current conditions, during a period when structural alterations and hydrologic stresses have been stable, the water level at these lakes has exceeded the control point elevation more than ten percent of the time. Use of the current P10 elevation for minimum levels development for these systems therefore accounts for the capacity of the control point/drainage feature(s) to lower lake water levels and will not decrease the likelihood that compliance with established minimum levels can be achieved.

Tampa Bay Water's final question involved the effects of land development on lakes, such as Lake Starvation on the Section 21 wellfield. This issue was covered previously during the discussion of question one.

One concern raised by Pinellas County that was not covered by Tampa Bay Water's questions was the use of the average palmetto elevation as the indicator of the normal pool elevation at Big Fish Lake. Mr. Slonena felt that the lowest elevation of palmetto should be used, rather than the average. Mr. Leeper stated that he did not agree, and felt that the use of the average was appropriate and consistent with other methods. Mr. McWilliams stated that he agreed with the use of the average palmetto level for a normal pool indicator, although some evidence indicates that it may actually be a little low.

Mr. Hancock asked if anyone had any further issues concerning the Category III Lakes that had not been discussed in this or the previous meeting, but none were raised.

Mr. Hancock asked the group if anyone had suggestions for future discussions at LTPRG meetings. The concept of MFL implementation was raised, as was the desire to hear a presentation on the related USGS studies that have been referenced. A more detailed discussion of impacts on Lake Starvation was suggested, including a discussion of the drainage study being proposed for FY2003. Mr. Hancock said that these topics would be included on the agenda for upcoming meetings.

The next regular LTPRG meeting will be held at 9:30 AM on May 1, 2002. The meeting will take place at the SWFWMD's Tampa Service Office.

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1. January Meeting Follow-up

2. Miscellaneous Updates
    1. Update Scope of Work
    2. Update Wetlands network
    3. Update Peer Review

3. Category III Lakes MFL discussion (Doug Leeper)

4. Other issues

5. Issues for the Next Meeting - May 1, 2002 (at the Tampa Service Office)