

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

**Meeting 21  
February 4, 2004 - 9:30AM**

## **Summary**

The following were in attendance: **Mike Coates**, Tampa Bay Water; Kathleen Coates, Tampa Bay Water; Doug Keesecker, Tampa Bay Water; Patty Fesmire, Tampa Bay Water; **Richard Voakes**, City of St. Petersburg; **Andy Smith**, Hillsborough County; Scott Emery, Hillsborough County; **Cliff Harrison**, Schreuder, Inc for WRWSA; **Gordon Leslie**, Hillsborough County Environmental Protection Commission; **Annemarie Hammond**, Pasco County; Stuart Dawson, Pinellas County Utilities; Terrie Lee, USGS; Kim Haag, USGS; Elie Araj, Berryman & Hennigar; Daniel Smith, Berryman & Hennigar; Hans Zarbock, Berryman & Hennigar; **Michael Hancock**, SWFWMD; Jill Hood, SWFWMD; Adam Munson, SWFWMD; **Ted Rochow**, SWFWMD; Mark Barcelo, SWFWMD; Robert Peterson, SWFWMD; and **Doug Leeper**, SWFWMD. Names in bold are designated representatives for the LTPRG.

Michael Hancock announced that all of the LTPRG meetings for 2004 will be held at either the Keystone Civic Center (17926 Gunn Highway, Odessa) or the Brooker Creek Education Center (3940 Keystone Road, Tarpon Springs). The April meeting will be at the Keystone Civic Center. The meetings cannot be held in the SWFWMD office in Tampa due to construction activities.

Mr. Hancock also announced that a field trip to tour the Gulf Coast pilot desalination plant is being planned, tentatively in March. An announcement of the tour will be distributed to the LTPRG at the appropriate time.

Terrie Lee gave the group a presentation entitled "Moving Targets: How The Changing Area And Volume Of Wetlands Affect The Error In Wetland Water Budgets". The information presented represents the first results of a study assessing the water budgets, water quality, and biology of wetlands augmented with water from the Floridan aquifer. Ms. Lee reported that the water budget approach is commonly used to seek answers to fundamental questions about the source and fate of water and solutes in lakes and wetlands. In lakes, because of their depth and permanence, seasonal changes in stage typically cause small relative changes in lake surface area over a budget period. For this reason, changes in lake surface area are rarely considered a significant source of error to the water budget. The surface area of wetlands, in contrast, can undergo comparatively large changes within a monthly or even weekly budget time frame because of their shallow depths (often <1 m) and the seasonal oscillation between flooded and dry conditions. Changes in the ponded surface area continuously reshape the boundaries of the system being budgeted. Errors in

determining the ponded surface area affect the calculated volume entering and leaving the system through rainfall and evapotranspiration, as well as the estimated change in the stored water in the wetland. The rigor of wetland water budgets, and the meaningfulness of the residual term, therefore, can hinge on our ability to accurately describe wetland bathymetry.

Bathymetric data and water-budget calculations for isolated wetlands were presented to examine the potential effect of errors in volume and area on the calculated residual term – in this case, wetland leakage to the deeper aquifer. Bathymetric data were collected at high resolution in the study. Subsets of the bathymetric data points were analyzed to determine the optimal density needed to calculate accurate stage/area and stage/volume relationships. Hydrologic data, collected for 18-24 months at most sites, were used to explore whether water-budget calculations should exclude periods when the ponded surface area is making large, rapid changes. Errors in the wetland water budgets were compared to the magnitude of residual term to indicate how large the residual term should be to be physically meaningful and interpretable. The results of the assessment demonstrate how different accuracies of bathymetric data affect our ability to 1) describe flooded area in wetlands over time, and 2) to accurately apply the water budget method to estimate ground-water exchanges with wetlands.

Doug Leeper provided an update on the status of minimum lake levels development. He indicated that he will continue to distribute draft memoranda outlining proposed minimum and guidance levels for lakes to the LTPRG, and noted that he would be willing to discuss the proposed levels with individual parties or the entire group. He noted that following public workshops on the proposed levels, he expects to present the levels to the Governing Board for adoption into District rules in May or June of this year. He also noted that proposed levels for the seven lakes scheduled for minimum levels adoption in 2004 will likely be developed by mid-year, and presented to the Governing Board for adoption by the end of the year. On the subject of minimum lake level methods refinement, Mr. Leeper noted that the District is currently pursuing two projects. The first, involving the relationship between bird species richness and lake area is underway. The second project, which will involve the collection and analysis of user-perception survey data pertaining to lake water levels, is currently in the scope development phase.

Mr. Hancock asked the group if there were any issues on which they would like to see presentation, or any issues or projects on which they would like to present. Ms. Lee mentioned that an update on the current status of Tampa Bay Water's Operations Plan and wellfield operations would be useful. Others in the group agreed.

Mr. Hancock presented an update on the ongoing review of the Wetland Assessment Procedure. Mr. Hancock said that the review has found that the existing methodology has not been consistently implemented in the field, so a thorough assessment of the methodology using the existing data is not possible. Much of the inconsistency is due to the imprecise direction in the existing instruction manual. However, Mr. Hancock feels that through the use of extensive interviews with nearly all experience users of the existing system, extensive reviews of the collected data, and the results of various other analyses, a much-improved revision of the methodology is possible. A draft of the proposed revision should be available for review in late-February or Early March. Once

comments have been received and reviewed, a LTPRG subcommittee meeting will be held to discuss all comments. The current goal is to have a proposed revision prepared for the approval of Tampa Bay Water's Board in June, and to apply the method for the Fall 2004 data collection period. A period of field-testing and field training is also proposed before implementation in the fall.

The next regular LTPRG meeting is scheduled for 9:30 AM on April 7, 2004 at the Keystone Civic Center.

# **AGENDA**

## **Northern Tampa Bay Phase II Local Technical Peer Review Group**

### **Meeting 21 Keystone Civic Center, 17926 Gunn Highway, Odessa February 4, 2004 - 9:30AM**

1. December meeting follow-up
2. Miscellaneous updates
  - Lake MFL Update
  - Future presentation/field trips
3. Wetlands presentation – "Moving targets: how the changing area and volume of wetlands affect the error in wetland water budgets" (Terrie Lee, USGS)
4. WAP assessment – timeline and status report (Michael Hancock)
5. Issues for Next Meeting – April 7, 2004 (at the Keystone Civic Center)