

**Northern Tampa Bay Phase II Local Technical Peer Review Group (LTPRG)
Keystone Civic Center, 17926 Gunn Highway, Odessa**

**Meeting 26
February 2, 2005 - 9:30AM**

Summary

The following were in attendance: **Mike Coates**, Tampa Bay Water; Doug Keesecker, Tampa Bay Water; Chris Shea, Tampa Bay Water; **Annemarie Hammond**, Pasco County; **Andy Smith**, Hillsborough County; **Cliff Harrison**, EnHydro for WRWSA; Peter Schreuder, Schreuder, Inc.; **Rich McLean**, Pinellas County; Stuart Dawson, Pinellas County Utilities; Donald Herndon, USGS; Terrie Lee, USGS; Doug Trudeau, USGS; **Michael Hancock**, SWFWMD; **Ted Rochow**, SWFWMD; Robert Peterson, SWFWMD; Mark Barcelo, SWFWMD; Adam Munsom, SWFWMD; Marty Kelly, SWFWMD; John Emery, SWFWMD, and **Doug Leeper**, SWFWMD. Names in bold are designated representatives for the LTPRG.

Donald Herndon gave a presentation entitled "Comparing the flooded-area frequency distribution of isolated freshwater wetlands: a tool to assess wetland health and restoration goals". Mr. Herndon explained that the patterns and frequency of inundation are recognized as important controls on the distribution of wetland vegetation. Isolated, freshwater wetlands are a characteristic feature of the Northern Tampa Bay area and are the subject of extensive regulatory attention and environmental monitoring. Wetlands located on and near municipal well-fields have been monitored regularly since the mid 1980's. Using bathymetric data, daily stage observations for three wetlands were translated into spatial data representing weekly average flooded area for a two year period. The weekly flooded areas from each wetland were also used to describe long term annual flooded-area frequency distributions over a 16 year period. Flooded-area frequency distributions were compared and contrasted for three isolated marsh wetlands with similar climatic and geologic conditions. One of the wetlands is a natural marsh that has not been impacted by human activities. The second is an augmented marsh located on a municipal well-field. The water levels of this marsh are augmented with groundwater from the municipal well-field. Water levels and ecology of the third marsh are impaired by well-field pumpage, and it is not augmented. The relationships demonstrated that wetland with different topographic characteristics had different percentages of flooded area, even with similar number of days of water measured at the staff gage. The results emphasize the importance of considering flooded area of the wetland when assessing wetland health or impact versus just depth of water at the staff gage.

Marty Kelly, manager of Ecologic Evaluation Section at SWFWMD, gave a presentation entitled, "Development of MFLs on Freshwater River Segments with Emphasis on the Alafia River." The purpose of the presentation was to provide an overview of the

approach that the District will be using on unregulated freshwater river segments to develop legislatively mandated minimum flows and levels. Dr. Kelly's presentation covered the approach, the tools and the application of the tools using the Alafia River as an example. Dr. Kelly discussed the concept of the flow regime versus the idea of a single minimum flow. The District intends to address the entire flow regime and has divided the water year into three building block periods (the low flow period, the high flow period and the medium flow period). An important step in the MFL development process is the establishment of a benchmark period. Dr. Kelly discussed the identification of two possible benchmark periods as the result of a natural climatic oscillation in rainfall. Specific tools discussed included the HEC-RAS model, the Physical Habitat Simulation (PHABSIM) model system, and the generation of a "flow prescription." HEC-RAS is a hydrologic model used to relate flows and elevations at any transect site on the river to a gage site. It is used for a number of analyses including "wetted perimeter" and "fish passage" which are evaluated to establish a low flow threshold. PHABSIM considers the habitat requirements of specific fish species and macroinvertebrate diversity and is used to evaluate how flow reductions reduce habitat availability. PHABSIM modeling is used to help determine allowable flow reductions during low flow and medium flow periods. An analysis of historic inundation patterns (number of days of connection between the river and floodplain) is used to establish allowable reductions during the high flow period. Essentially, MFLs are developed to address seasonality, and a percent of flow reduction is used to preserve the natural hydrograph of the river.

Michael Hancock gave a brief update on the status of the revisions to the Wetland Assessment Procedure (WAP). The Wetlands Subcommittee of the LTPRG has been meeting regularly, and progress is still on pace to bring the revisions to the April meeting of Tampa Bay Water's Board for approval. The most challenging task remaining involves the re-establishment of hundreds of monitoring transects in order to apply the new methodology in the May/June time frame. Other tasks include the finalization of the WAP manual, and training on the methodology..

The next regular LTPRG meeting is scheduled for 9:30 AM on April 6, 2005. Location to be announced.

AGENDA

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1. December meeting follow-up
2. Miscellaneous updates
 - Lake MFL Update
3. "Comparing the flooded-area frequency distribution of isolated freshwater wetlands: a tool to assess wetland health and restoration goals", Donald Herndon, USGS
4. Alafia River MFLs, Marty Kelly, SWFWMD
5. Update on Wetland Assessment Procedure revisions, Michael Hancock, SWFWMD
6. Issues for Next Meeting – April 6, 2005