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

Meeting 30
January 4, 2006 - 9:30AM

Summary

The following were in attendance: Chris Shea, Tampa Bay Water; Patty Fesmire, Tampa Bay Water; Doug Keesecker, Tampa Bay Water; **Annemarie Hammond**, Pasco County; **Andy Smith**, HCWRT; Scott Emery, EHI/Hillsborough County; **Dave Slonena**, Pinellas County Utilities; Rich McLean, Pinellas County Utilities; Kim Haag, USGS; Shannon Gonzalez, BRA; Doug Durbin, BRA; Lee Walton, BRA; Zach Adcock, BRA; Jackie Guzy, BRA; Erin Brown, BRA; Kym Rouse Campbell, BRA; Ron Concoby, Mosaic Fertilizer, LLC.; Henry Mushinsky, USF; David Sumpter, PEER, Inc.; Todd Campbell, Univ. of Tampa; Gina Gardner, Hillsborough River Watershed Alliance; **Gordon Leslie**, EPC/Hillsborough County; Cindy Hodgman, EPC/Hillsborough County; **Michael Hancock**, SWFWMD; **Ted Rochow**, SWFWMD; Mikel Renner, SWFWMD; John Emery, SWFWMD, Ken Weber, SWFWMD; Len Bartos, SWFWMD; and **Doug Leeper**, SWFWMD. Names in bold are designated representatives for the LTPRG.

Doug Leeper provided an update on the status of minimum flows and levels development for priority District lakes. He noted that at their November 2005 meeting, the Governing Board approved adoption of minimum and guidance levels for Lake June in Winter in Highlands County, Lake Parker in Polk County and Lakes Allen, Harvey and Virginia in Hillsborough County. He indicated that staff expects to present proposed levels for priority Citrus, Levy and Sumter County lakes to the Board for adoption in March 2006. Doug also indicated that a District-funded report entitled, "Source of radium to Saddleback Lake: a groundwater-augmented lake", was available for distribution.

The goal of the meeting was to discuss the status of wildlife monitoring in the northern Tampa Bay area – data that may be used to help assess minimum flows and levels. To date, wildlife monitoring has been mostly limited to anurans (frogs), since they are generally known to be good indicators of ecologic health, and they are readily monitored by listening for their calls during the night time hours. Slides used by all presenters can be found on the NTB II website.

Michael Hancock and Dr. Ted Rochow gave an overview of the District's Minimum Flows and Levels Program, and discussed how anuran assessments relate to the general program. Dr. Rochow Included was a brief history of the District's effort to collect and assess wildlife data.

Dr. Henry Mushinsky reported on the status and current activities in his project to collect anuran data in northern Tampa Bay wellfield areas. Dr. Earl McCoy of USF is working

with Dr. Mushinsky on the study. In this project, researchers are collecting anuran counts at several wetlands in wellfield by tracking frog calls. So far, the researchers have detected the vast majority of expected residents species, with all species found in reference sites and wellfields. Variation of species has been high. The study is designed with the goal of collecting long-term data. Initial efforts have shown a good relationship between hydrologic health in wetlands, and the health of native frog populations.

Dr. Todd Campbell and Kym Rouse Campbell discussed the research they are involved in at the Morris Bridge Wellfield. Dr. Stephen Johnson of the University of Florida is also working with them on this research. Their work is somewhat similar to that of Dr. Mushinsky, but they are also interested in the status of the Cuban treefrog – an invasive species. So far the researchers have found that the Cuban treefrog is abundant throughout the wellfield, but that the invasion is recent. Although the effect of the Cuban treefrogs on the native frog species is not fully known at the wellfield, their presence is generally suspected to be detrimental to the other species. Work is continuing on assessing techniques of removing the Cuban treefrogs.

David Sumpter gave the group a presentation on the Hillsborough River Greenways Task Force's Frog Listening Network. This project seeks volunteers to become trained in the ability to identify various frog species by listening to their calls. This skill is used to monitor frog species over fairly large areas. This information can be used by experts to monitor the general health of native frogs species in the Tampa Bay area. Mr. Sumpter gave the group examples of the type of training that is involved.

Collective summary points provided by the presenters are as follows:

1) The success of frog breeding efforts naturally varies with seasonal and annual climactic fluctuations. To establish a good reference (baseline) data set will require a study that lasts numerous years.

2) Breeding efforts by frogs are seasonal; dry conditions in spring and early summer reduce the potential "window of breeding opportunity" for many species, but some are more likely to be affected than others. Surveys conducted during drier years will illustrate this quite effectively. Establishing correlations between water levels (hydrological conditions) and breeding frogs should be done over a time span of years, not months.

3) Breeding (calling) males usually translates into abundant tadpoles, but tadpoles do not necessarily equate to metamorphosed frogs, especially after successive wet years during which wetlands may retain water all year and support large fish populations. Fish prey on tadpoles.

4) In this region, the Cuban treefrog is an invasive nuisance species; it may be reducing numbers of some native treefrogs, particularly in areas where dispersal has been unintentionally facilitated by humans (e.g., hitchhiking frogs).

5) No evidence exists, however, that Cuban treefrogs have any marked affect on our native anurans.

6) The marine toad has been known from Temple Terrace and many other areas in the northern Tampa Bay area since the 1950's and has not invaded into any of the well fields to date. Currently, no records exist of the marine toad being established in natural systems in Florida (Meshaka 2004). Nevertheless, it this is a species that we need to continue to monitor.

7) Habitat generalists such as the Cuban treefrog may not be reliable indicators of habitat "health". Using the entire suite of species offers a better indication of habitat suitability.

8) While wetlands make convenient study sites for frogs because of breeding aggregations, caution should be used when collecting data on non-breeding adults at these sites. There is little information on the movements of these animals and there is no evidence that these study units (wetlands) are discrete.

In summary, the researchers feel that monitoring frog populations and equating species richness and abundance to the "hydrologic health" of a wetland over time is a viable and appropriate method to evaluate wetland health. A consistently elevated species richness in anuran populations at any given site (there will be good years and bad years) suggests that conditions are optimal for early spring as well as late summer and winter breeders. It also suggests that suitable upland habitats exist to support a variety of species for the non-breeding portion of their life cycle.

Long-term monitoring program will assist us in evaluating anuran populations, both tied to specific monitoring sites and in the public at large (in efforts like the Frog Listening Network). *Anurans are clearly an early indicator of hyrologic conditions.* Furthermore, the researchers concur that more research related to the Cuban treefrog, its rapid dispersal, and its impacts to anuran populations is prudent and will assist us in better understanding the species' overall impacts to the local wetland ecology.

A wetland subcommittee meeting is scheduled for March 1, 2006 at the SWFWMD's Tampa Service Office. The next regular LTPRG meeting is scheduled for 9:30 AM on May 3, 2006 at SWFWMD's Tampa Service Office.

AGENDA

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Local Technical Peer Review Group

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1. September and November meetings follow-up

2. Miscellaneous updates
   - Lake MFL Update

3. Introduction – Wildlife, Minimum Flows and Levels, and Recovery (Michael Hancock and Ted Rochow, SWFWMD)

4. Calling anurans at MFL wetlands at three well fields (Henry R. Mushinsky and Earl McCoy, University of South Florida)

5. Long-term effects of water use, surrounding land use, and introduced species on native frogs and toads at Morris Bridge Wellfield (Kym Rouse Campbell, Todd S. Campbell, and Steven A. Johnson, Biological Research Associates, Inc., University of Tampa, and the University of Florida)

6. The Frog Listening Network (David Sumpter, the Frog Listening Network)

7. Issues for Next Meeting – March 1, 2006